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Decoding IPO: Essays on Influential Factors for Going Public Firms

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Decoding IPO: Essays on Influential Factors for Going Public Firms

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IN MEMORIAM

"The legacy of heroes is the memory of a great name and the inheritance of a great example." John Adams

To my father, Reynaldo Jardim, whose wisdom and guidance laid the foundation of my intellectual journey long before the dawn of the internet age. Your legacy of knowledge continues to inspire me.

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DEDICATORY

"Where there is love, there is life." Mahatma Gandhi

To my beloved wife, Mikaelly, and my daughter, Leticia, both of whom became part of my life during this PhD journey. While I may say I do it for you, I don't. You are not a weight holding me back, but the fuel that drives me. Your love and support have been my greatest strength.

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"I can do all things through Christ who strengthens me." Philippians 4:13.

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PREFACE

"Ad astra per aspera"

The journey towards completing this PhD thesis has been both challenging and rewarding, marked by significant academic achievements, professional development, and personal growth. Reflecting on this journey, I am grateful for the experiences and opportunities that have shaped my intellectual and personal development.

During my PhD, I published two papers: one based on my master's thesis, the other, a case study I did to understand details of the IPO process. These research endeavors have deepened my understanding of my field and contributed valuable insights.

I was fortunate to visit Florida International University (FIU) for three months in the USA, which broadened my academic horizons and allowed me to collaborate with esteemed scholars.

In addition to the excellent courses offered by FGV, I complemented my education with additional coursework. I completed a Course in Panel Data Analysis with R, and a course on Measuring Causal Effects in Social Science from the University of Copenhagen, both via Coursera. These courses enriched my methodological toolkit and enhanced my research capabilities.

I actively contributed to the academic community by reviewing six papers for the Academy of Management (AOM) 2024 Annual Meeting and three papers for the journal Long Range Planning. My efforts in peer review were recognized as I became a certified peer reviewer for Elsevier. These experiences enhanced my critical thinking skills and provided a deeper appreciation for the peer review process.

As a Teaching Assistant, I supported four courses in Finance and an international course in Strategy. These teaching roles not only honed my instructional abilities but also reinforced my commitment to education and mentorship.

Throughout my PhD, I acquired essential technical skills, including data collection using Bloomberg, Refinitiv, and the World Bank databases. I also delved into Natural Language Processing (NLP) using Python, learning how to clean data, conduct statistical analysis, and interpret results effectively. These skills have been invaluable in advancing my research and ensuring rigorous analysis.

Additionally, I had the opportunity to be part of at the European International Business Academy (EIBA) conference, where I engaged with global scholars and received constructive feedback on my work.

This journey has not been without its challenges, but each obstacle has strengthened my resilience and determination. I am profoundly grateful to my advisors, colleagues, friends, and family for their unwavering support and encouragement.

As I conclude this chapter, I carry forward the knowledge, skills, and experiences gained during my PhD journey with a renewed sense of purpose and anticipation for future endeavors.

DECLARATION OF AI USAGE

"Technology is at its best when it is invisible.
When you're not aware of it, it means it's working." Nassin Taleb

During the preparation of this work, the author used ChatGPT in order to assist with generating ideas, refining language, and ensuring clarity of expression. Grammarly was used to check for grammar, punctuation, and stylistic consistency. After using these services, the author reviewed and edited the content as needed and takes full responsibility for the content of the publication.

THESIS INTRODUCTION

"A journey of a thousand miles begins with a single step." Lao Tzu

Initial Public Offerings (IPOs) are significant events in the lifecycle of firms, serving as a gateway to public markets and broader investor bases. The decision to go public is influenced by a myriad of factors, each playing a crucial role in determining the success and performance of the IPO. This thesis delves into the complexities surrounding IPOs through a series of four comprehensive essays. Each essay explores different dimensions and influential factors that shape the outcomes of IPOs, contributing to the broader understanding of the IPO process and its implications.

Anchored in the principles of signaling theory and market timing theory, the first essay investigates the relationship between underwriter prestige, IPO timing, and underpricing. It posits that the waiting time of an IPO is a critical factor that modulates the influence of underwriter prestige on underpricing. Through empirical analysis of 765 IPOs from the United States between 2011 and 2021, this study reveals that prestigious underwriters reduce the time to market, thereby reducing IPO underpricing. This essay provides a fresh perspective on the role of underwriter prestige, emphasizing the importance of market timing in optimizing IPO outcomes.

The second essay examines the dynamics and influence of various stakeholders, including underwriters, auditors, and venture capitalists, on IPO performance. Focusing on IPO waiting time as a performance metric, the analysis uncovers how these stakeholders mitigate information asymmetry and contribute value beyond mere certification. This essay highlights the synergistic interactions between underwriters and venture capitalists, showing that their combined efforts significantly shorten IPO waiting times, thus enhancing the overall performance of the IPO.

In the third essay, the focus shifts to the influence of venture capital presence and underwriter prestige on the sentiment expressed in IPO prospectuses. Guided by Impression Management Theory, this study explores how these factors impact investor perceptions and market outcomes through corporate communication strategies. Utilizing sentiment analysis and natural language processing, the findings indicate that venture capital presence and underwriter prestige positively affect the sentiment in IPO prospectuses, thereby influencing investor sentiment and enhancing IPO success.

The fourth essay addresses the motivations behind pursuing foreign IPOs with a low likelihood of success. Through a detailed case study, this research investigates the strategic reasons behind such decisions, revealing that companies may use the IPO process as a signaling strategy to enhance market position and achieve other strategic objectives, in other words, entering a lost game to win other games played in parallel.

Collectively, these essays provide a detailed examination of the factors influencing IPO outcomes, offering valuable insights for academics, practitioners, and policymakers. By decoding the complexities of the IPO process, this thesis contributes to the ongoing discourse on the optimal strategies and practices for going public, ultimately aiming to enhance the success and performance of firms in the public markets.

EXPLORING THE CAUSAL MECHANISM ON HOW UNDERWRITER PRESTIGE AFFECTS IPO UNDERPRICING

Abstract

Anchored in the principles of signaling theory and market timing theory, this study proposes that the waiting time of an Initial Public Offering is a pivotal factor that modulates the influence of underwriter prestige on the degree of underpricing. It is shown that more prestigious underwriters reduce the time it takes to launch stocks in the stock market, and this reduction in time reduces IPO underpricing. The effect of IPO timing in reducing underpricing, traditionally attributed to signaling higher quality, now gains a new perspective. Empirical evidence supports that the primary role of the IPO is to launch the company at the optimal time, benefiting from favorable market conditions and thereby bolstering the significance of the Market Timing Theory. This aspect suggests that the role of underwriter prestige extends beyond direct influence, impacting underpricing indirectly through the modulation of IPO duration. We analyze 765 IPOs from the United States from 2011 to 2021 to empirically investigate this phenomenon. The analysis used regression techniques to measure the mediation effect, such as Sobel and Effect Ratio regression, with multiple control variables to discern patterns and relationships within the data. Ultimately, we find that more prestigious underwriters expedite the stock launch process in the market, which in turn diminishes IPO underpricing

Keywords: Initial Public Offerings (IPO), Underwriter Prestige, Waiting Time, Underpricing, Market Timing Theory, Signaling Theory.

Introduction

The distinction of an underwriter could spell the difference between a successful Initial Public Offering (IPO) launch and a suboptimal debut. While the direct impacts of underwriter prestige on IPO pricing are widely recognized, its subtle influence on the timing and subsequent underpricing of these market entries presents a compelling facet of financial strategy that merits closer scrutiny.

This study investigates the influence of underwriter prestige on the waiting time and subsequent underpricing of IPOs. While previous research has extensively examined the direct impacts of underwriter prestige on IPO pricing, the nuanced effects on the time taken to bring an IPO to market and its consequential underpricing remain underexplored. This leads us to our research question: How does underwriter prestige influence the waiting time and subsequent underpricing of IPOs?

This paper highlights the relationship between an underwriter's influence on IPO timing and its subsequent effect on underpricing. It argues that for firms aiming to go public, a swifter IPO process is advantageous for its immediate benefits of earlier capital raising and its role in reducing IPO underpricing. The empirical evidence presented advocates that distinguished banks could use their track record of average time to market for previous IPOs as a testament to their superior service, thereby underscoring their added value to the IPO process. Although the study stops short of declaring this metric as paramount, it does reveal its significant statistical impact, advocating for its recognition beyond the marginal attention it currently receives.

Underwriter prestige serves as a quality signal to the market, potentially reducing the need for underpricing (Binay et al., 2007; Carter & Manaster, 1990; Liu & Ritter, 2011). Furthermore, prestigious underwriters, with their superior information

processing capabilities, can streamline the IPO process (Mumtaz & Smith, 2021), thereby indirectly influencing underpricing through the duration of the IPO. This dual mechanism approach offers a fresh perspective on the interplay between underwriter prestige, IPO duration, and underpricing, enriching the existing literature and providing valuable insights for practitioners.

Sundarasen et al. (2018) reveal that reputable underwriters significantly reduce underpricing and positively influence the long-term performance of IPOs, which establishes that this can be a positive signal for potential investors. Additionally, Carter et al. (1998) provide a comparative evaluation of measures of underwriter prestige in the context of initial returns and the three-year performance of IPOs. IPO duration and underpricing enrich the existing literature and provide valuable insights for practitioners.

This paper advances IPO literature in two significant ways. First, we show that the underwriter has a vital role in reducing underpricing, and it can be done by reducing the waiting time to list the company, thus corroborating the market timing theory. Second, this study contributes to the literature on IPO by indicating a causal mechanism overlooked in previous studies.

The paper progresses as follows: we first contextualize our study within existing literature and theory, setting the groundwork for our hypotheses. We then concisely articulate these hypotheses, structured into an introduction and three focused subsections. The methodology section details our empirical approach, including sample selection, variables, and data sources. We then analyze and interpret our results, offering insights into the dynamics between underwriter prestige, IPO duration, and underpricing. The final section outlines our study’s limitations, discusses its

implications for theory and practice, and suggests avenues for future research to enrich the discourse on IPO strategies and outcomes.

Literature Review

IPO duration is crucial in mediating the relationship between underwriter prestige and the degree of underpricing in IPOs. The reputation of underwriters has been found to have a negative relationship with IPO initial return, indicating that underwriter prestige helps reduce IPO underpricing (Carter et al., 1998), which is a direct cost for the issuing firm (Albada et al., 2023). Additionally, the underwriter's prestige significantly affects the underpricing level of IPOs (Kenourgios et al., 2007).

Underpricing in IPOs is recognized as a consequence of information asymmetry in the market, a core issue highlighted by adverse selection theory (Akerlof, 1970). This situation is addressed through signaling, where underwriters play a crucial role in communicating firm quality to balance informational disparities (Spence, 1973; Stiglitz, 1985). The reputation of underwriters is utilized to mitigate the adverse selection problem, often leading to underpricing as a strategic signal to attract investors and suggest firm quality (Allen & Faulhaber, 1989; Beatty & Ritter, 1986). Additionally, the prestige of underwriters is shown to influence the efficiency of the IPO process, potentially reducing its duration (Carter & Manaster, 1990). These insights collectively indicate that underwriter reputation affects IPO pricing and bears upon the time to list and success of the IPO, highlighting the dual impact on financial outcomes and process efficiency.

Building on the discussion of process efficiency, the strategic implications of underwriter prestige extend into market timing decisions, which are critical for maximizing IPO success.

Furthermore, the integration of Market Timing Theory into our analysis underlines the complex role of underwriter prestige in optimizing IPO timing. Ritter (1984) identifies sector-specific 'hot' markets, indicating that the optimal timing for IPOs can vary significantly across different industries. This variability suggests that underwriter prestige may enable firms to better navigate these 'hot' market conditions, capitalizing on periods of high investor optimism, as noted by Helwege & Liang (2004), who found that hot markets do not necessarily coincide with better growth prospects but reflect investor sentiment. Baker & Wurgler (2002) discuss how firms attempt to time their equity issues based on high market valuations, which aligns with the strategic use of underwriter prestige to access capital under favorable conditions. Dong et al. (2011) extend this concept by showing that market timing and financial strategies interact, especially in how firms issue equity based on valuation states. Together, these studies underscore that prestigious underwriters may help firms exploit favorable market conditions effectively, but broader economic factors and industry-specific dynamics influence the benefits of such timing. To illustrate, Johnston & Madura (2002) show that the underpricing of Internet firm IPOs is positively related to underwriter prestige and pre-IPO market conditions.

The decision of underwriter participation in an IPO is influenced by the underwriter's prestige level (Bae et al., 1999). Recent research has also examined the relationship between investment banks' market shares and IPO underpricing, indicating that IPO underpricing is associated with investment banks' market shares (Fung et al., 2010). Additionally, the influence of underwriter prestige on IPO valuation is

significant, albeit weaker, indicating that investors still have confidence in well-known underwriters (Xu & Xie, 2014).

In conclusion, IPO duration mediates the relationship between underwriter prestige and the degree of underpricing in IPOs. Underwriter prestige significantly influences IPO underpricing, and when combined with the duration of the IPO process, it plays a crucial role in determining the degree of underpricing in IPOs.

The efficiency and performance of IPOs are critical metrics for assessing the overall success and impact of these financial instruments in the capital markets. In the context of IPOs, efficiency can be gauged through the IPO duration, which represents the time elapsed from the filing for an IPO to the actual launch day. This study pioneers the examination of IPO efficiency in developed markets, as previous research, such as that by Zanib & Mumtaz (2022), focused on Pakistan and did not establish a link between efficiency and performance.

Performance, on the other hand, encompasses a broader range of metrics. Notably, IPO underpricing has been extensively studied and is often highlighted as a primary measure of IPO performance (Bell et al., 2008; Francis et al., 2010; Moore et al., 2010). Other significant performance metrics include the firm's proceeds (Amin et al., 2019; Blass & Yafeh, 2001; Francis et al., 2010), the first-day initial return (Bruner et al., 2006), price premium (Li et al., 2016), long-term benefits (Bell et al., 2012; Blass & Yafeh, 2001; Cai & Zhu, 2015; Tupper et al., 2018), survival (Bell et al., 2016), valuation (C. Wu, 2012), and liquidity (Banti et al., 2017). These metrics offer a comprehensive view of an IPO's performance from various perspectives, including immediate financial returns, long-term growth and sustainability, and the overall health and liquidity of the stock post-IPO.

The novelty of this study lies in its exploration of IPO efficiency as a measurable attribute and its correlation with performance outcomes, particularly the reduction in underpricing. By focusing on IPO duration as a critical efficiency metric, this research contributes to the existing literature by providing empirical evidence that shorter IPO durations, facilitated by prestigious underwriters, can lead to a decrease in underpricing. This finding is significant as it underscores the importance of efficient IPO processes not only for the speed of access to capital but also for improving the financial outcomes of the IPO, thereby offering a new perspective on the strategic planning and execution of IPOs.

In conclusion, this study contributes to the theoretical understanding of how underwriter prestige influences IPO waiting time and underpricing through Market Timing Theory. We demonstrate that while prestigious underwriters can reduce information asymmetry, their impact on strategic market timing is also significant. These findings complement existing literature by showing that the benefits of precise timing are contingent upon broader economic factors and industry-specific dynamics, thus offering a nuanced view of how underwriter prestige shapes IPO success.

Theory and Hypotheses Development

Signaling theory, as proposed by (Spence, 1973), suggests that individuals or entities convey information about their quality or characteristics through specific signals, which can influence the perceptions and behaviors of others. In the context of underwriters in IPOs, the signaling theory can be applied to understand how elements of the firm, launch, or overall scenario influence the IPO performance. One relevant element is the underwriter. The bank builds a bridge between the launching firm and the stock market. Top-tier underwriters use their networks and reputation to signal trust,

credibility, and expertise to investors and other financial players (Booth & Smith, 1986).

On the other hand, network theory examines relationships and connections between various actors in a system and how these connections influence behavior, information flow, and outcomes (Granovetter, 1973). In the context of underwriters, network theory can be used to analyze the impact of their strong networks on the speed and efficiency of the IPO process and the perceptions and actions of investors and analysts (Owen-Smith et al., 2015).

Reilly & Hatfield (1969) and Rock (1986) emphasize the significance of top-tier underwriters' networks and strong reputations as magnets for investors and big financial players. This aligns with the signaling theory as these underwriters use their networks and reputation to signal trust and credibility to potential investors. The trust and credibility associated with these underwriters act as signals that can influence investor behavior and expedite the IPO process, as noted by Swaminathan & Purnanandam (2001).

Furthermore, the network theory comes into play as these underwriters' strong networks enable them to speed up the IPO process by leveraging their connections and relationships in the financial industry. This aligns with the findings of Ritter & Welch (2002) and Yong (2007), who highlight the role of prestigious underwriters in easing investors' doubts and cutting down on marketing time through their network-based signaling.

In addition, the network theory also sheds light on the expertise and experience of high-ranking underwriters, as emphasized by Baron (1982) and Muscarella & Vetsuypens 1989). Their extensive networks signal credibility and provide them with

the necessary knowledge and connections to navigate regulatory mazes and price IPOs effectively, as discussed by Beatty & Ritter (1986) and Welch (1989).

However, it is crucial to consider the potential drawbacks of having a big-name underwriter, as highlighted by Allen & Faulhaber (1989). The signaling and network theories can help understand how these underwriters' reputations and connections may lead to higher expectations and scrutiny, potentially affecting the IPO timeline. Nonetheless, as Grinblatt & Hwang (1989) argued, the track record and network-based signaling of prestigious underwriters often result in smoother approvals and fewer hiccups in the IPO process.

Underwriter Prestige Influence on IPO Underpricing

Prestigious underwriters are perceived as signals of higher quality and credibility, which can substantially reduce underpricing in IPOs. This effect is primarily rooted in reducing information asymmetry and enhancing signaling, as suggested by signaling theory.

Prestigious underwriters have access to extensive networks and possess deep market insights, which help in accurately valuing an IPO and disseminating reliable information to potential investors. These underwriters reduce the uncertainty and perceived risk associated with new issues by mitigating the information asymmetry that typically plagues IPO transactions. According to Beatty & Ritter (1986), the reputation of an underwriter serves as a quality signal in itself, reassuring investors about the legitimacy and potential of the IPO. Studies by Akkus et al. (2014) further substantiate that underwriter reputation plays a significant role in endogenously matching IPOs to investors, thereby reducing underpricing.

The involvement of a reputable underwriter is a solid signal to the market about the quality of the issuing firm. Spence's (1973) signaling theory applies here, where the underwriter's quality reflects on the IPO's quality, thus influencing investor perceptions and behaviors. When an underwriter known for stringent due diligence and successful past IPOs backs a new issue, it significantly allays investor concerns, leading to less underpricing. Carter & Manaster (1990) found that the more prestigious the underwriter, the lower the initial underpricing required to attract investors. This is supported by Liu & Ritter (2011), who note that local underwriter oligopolies are associated with reduced IPO underpricing due to enhanced market dominance and reputation.

Further studies, such as those by Arora & Singh (2019), observe that both the auditor and underwriter reputations significantly affect the underpricing of small and medium-sized companies' IPOs in India, highlighting the global applicability of these findings. Bakar & Uzaki (2014) also emphasize that underwriter reputation is crucial in determining the degree of underpricing in Sharia-compliant companies, suggesting a broad relevance across different types of IPOs.

Moreover, empirical studies support the linkage between underwriter prestige and reduced IPO underpricing. Ruud (1993) and Walker (2008) provide additional evidence that underwriter prestige directly correlates with lower levels of IPO underpricing across various markets, reinforcing the role of underwriter prestige in optimizing economic outcomes by minimizing underpricing.

Hence, we hypothesize that:

H1. The prestige of an underwriter is inversely related to IPO underpricing.

In summary, the direct influence of underwriter prestige on IPO underpricing highlights the relevance of signaling and network theories in the IPO context.

Underwriter Prestige Influence on IPO Duration

Elite underwriters are more experienced and capable than their counterpart (D. P. Baron, 1982). Their history of navigating regulatory challenges and their record of successful IPO executions promote smoother regulatory clearances (Grinblatt & Hwang, 1989). Leveraging their broad experience, prestigious underwriters can foresee and address potential obstacles, preventing the delays that might impede less experienced firms (Ritter & Welch, 2002). Their skill in dealing with complex regulatory requirements and their knack for accurate IPO pricing contribute to a more efficient process (Beatty & Ritter, 1986).

This superior quality is aligned with a more extensive network, and its inherent status reduces the time a company needs to be launched in the stock market. Underwriters with a high level of prestige maintain extensive networks within the investor and financial communities, which can significantly speed up the IPO process (Rock, 1986). Their well-established market reputation serves as a magnet, drawing interest and trust from key market participants (Reilly & Hatfield, 1969; Zanib & Mumtaz, 2022), a factor critical to accelerating IPO timelines (Zanib & Mumtaz, 2022). When investors and analysts recognize an underwriter's proven track record, they are more likely to participate actively and swiftly in the offering, thereby shortening the marketing and book-building phases (Swaminathan & Purnanandam, 2001). The high credibility associated with prestigious underwriters reduces investor skepticism (Abdul-Rahim et al., 2016), and their endorsement of an IPO acts as an implicit signal of quality (Akkus et al., 2014; Chemmanur & Paeglis, 2005), which facilitates a quicker IPO

process. This quality certification lessens the information asymmetry, signaling a higher investment quality that traditionally leads to reduced underpricing (Akkus et al., 2014; Ruud, 1993).

The presence of a prestigious underwriter is associated with a higher degree of information processing capability, leading to a reduction in information asymmetry (Beatty & Ritter, 1986) since they are able to leverage their reputational capital to ensure a more informed investor base (Ljungqvist & Wilhelm, 2003).

To conclude, the role of prestigious underwriters in an IPO significantly reduces the timeline needed for a company to go public. Not only do they bring enhanced prestige to the IPO, but they also improve its perceived quality through effective signaling. Therefore, we hypothesize that underwriter prestige is inversely related to the time required for a company's IPO listing.

H2. There is a negative association between the prestige of underwriters and the IPO Duration.

To summarize, we hypothesize that the prestige of underwriters is inversely related to IPO duration due to their extensive networks and market credibility. With their robust experience and proven track records, elite underwriters can effectively reduce delays associated with regulatory processes and market preparation.

IPO Duration Influence on IPO Underpricing

The duration of an IPO plays a critical role in determining the level of underpricing (Loughran & Ritter, 2004b), a critical factor in the IPO's financial success and market reception (Booth & Chua, 1996). Underpricing, while traditionally viewed as a strategy to attract investors (Rock, 1986) and ensure the success of the IPO

(Westfall & Omer, 2018), also presents considerable financial implications for the issuing company (Jain & Kini, 1994). Two primary mechanisms that explain the relationship between IPO duration and underpricing have been identified, grounded in Signaling Theory and Market Timing Theory.

According to Signaling Theory, an extended IPO process may inadvertently signal potential issues or concerns about the company. Investors can interpret the extended duration as a sign of underlying problems, either operational or financial, that the company might be struggling to resolve. The perception increases uncertainty and risk (Beatty & Ritter, 1986; Hanley & Hoberg, 2010), compelling investors to demand a higher risk premium (Lowry et al., 2010). As a result, companies must increase to attract investment under these conditions (Busaba et al., 2001). This relationship between prolonged IPO processes and increased underpricing is supported by the foundational works of Spence (1973) and Stiglitz (1985), who discuss how signals in the market can influence investor behavior and company strategies.

The Market Timing Theory provides another lens through which to view the impact of IPO duration. A prolonged preparation period for an IPO might cause a company to miss the optimal timing for entering the market, which is crucial for capitalizing on favorable market conditions (Baker & Wurgler, 2002; Dong et al., 2012). As noted in the research done by Ritter (2003) and corroborated by Batnini & Hammami (2015), effectively timing the market is pivotal for maximizing IPO since IPOs are highly dependent on the market moment (Ritter, 1984). In addition, after a long IPO preparation, there might be increased pressure to proceed with the IPO despite suboptimal conditions due to sunk costs (Chemmanur & Fulghieri, 1999) and strategic commitments (Dunbar & Foerster, 2008). Consequently, firms may accept higher levels of underpricing as a compromise to ensure the completion of the IPO.

We draw from the existing literature that delineates how underwriter prestige and the efficiency of the IPO process can influence underpricing through both the signaling of firm quality and the timing of market entry (R. B. Carter et al., 1998b; Kenourgios et al., 2007; Walker, 2008). We propose a direct association between the length of the IPO process and the degree of underpricing required to attract investors, reflecting the market's compensatory response to a prolonged period.

H3. There is a direct relationship between IPO waiting time and the level of underpricing for IPOs.

In conclusion, we hypothesize that longer IPO processes are associated with increased underpricing through the combined effects of signaling and market timing. Extended durations can raise perceived risks, necessitating higher underpricing to attract investors.

Mediating Role of IPO Duration

We argue that IPO duration mediates the effect of underwriter prestige on underpricing. The mediation effect is grounded in two principal argumentations: the signaling mechanism and the reduction of information asymmetry.

The mediation effect of IPO duration on underpricing, modulated by underwriter prestige, can be elucidated using Market Timing Theory and Signaling Theory. Shorter IPO durations, orchestrated by prestigious underwriters with deeper market insights, allow firms to minimize their exposure to unfavorable market conditions and volatility. This strategic timing, as discussed by (Ritter, 2003a), and reducing the uncertainty linked with extended durations, thus diminishes the need for significant underpricing to attract investors (Johnson & Miller, 1988).

On the other hand, a condensed IPO timeline heightens information asymmetry as it limits the dissemination of comprehensive information to investors (Carter et al., 1998). This increased asymmetry prompts investors to demand a higher risk premium, reflecting greater underpricing. Beatty & Ritter (1986) highlight that prestigious underwriters usually mitigate such asymmetries by acting as a quality signal to the market, yet shorter durations can complicate this effect (Islam, 2014). Moreover, the quick pace of the IPO process can ambiguously affect investor sentiment. It might signify underwriter efficiency and boost investor confidence, or it might be seen as a hasty market entry, potentially before adverse developments are revealed, causing investors to incorporate a higher risk premium in their pricing (Boehmer & Fishe, 2000; Loughran & Ritter, 2002). Thus, necessitating empirical evidence.

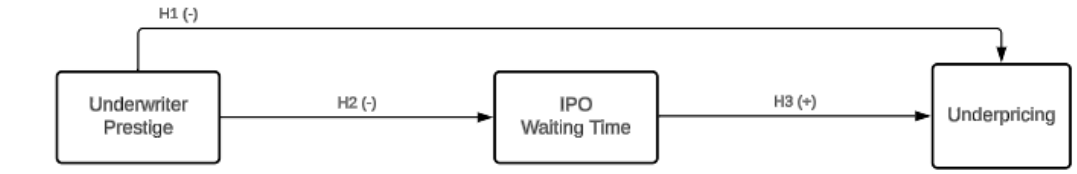
Consequently, the duration of an IPO encapsulates strategic market timing and acts as a pivotal signal to investors, influencing their perceived risk and the resulting level of underpricing. This dual impact highlights the intricate role that IPO duration plays in the dynamics of IPO pricing, influenced by underwriter prestige (Allen & Faulhaber, 1989).

H4. The waiting time of the IPO mediates the relationship between the underwriter prestige and the underpricing.

This relationship underlines the critical impact of IPO timing on market reception and investor confidence, reinforcing the importance of managing the IPO process efficiently to minimize underpricing. Below, we present the previously detailed model, illustrating the mediating role of IPO duration in the relationship between underwriter prestige and the level of underpricing.

Figure 1

IPO Waiting Time as Mediator between Underwriter Prestige and Underpricing



We have laid a structural framework that delineates the relationships between underwriter prestige, IPO duration, and underpricing. The proposed model suggests a mediation effect where the prestigious underwriters are posited to reduce the IPO duration, which is hypothesized to lower the necessity for underpricing.

Research Method

Subsequent subsections will detail the sample selection, measurement approaches, and data collection techniques for the variables involved in the regression analyses. To investigate our hypotheses, we apply regression models with multiple control variables to clearly distinguish the effects of the variables of interest. Robust standard errors were employed to account for adjusting the standard errors of the estimated coefficients to provide more reliable inference in the presence and satisfy the condition of heteroscedasticity for the variables presented in the model. Then, we tested the mediation effect using the Sobel Test and the Effect Ratio techniques.

In results, we will show four models we have run to test hypothesis one to three and to be important inputs for hypotheses four. The models consist of the following regressions:

The first model investigates the relationship between underwriter prestige and IPO underpricing, controlling for various factors:

$$Underpricing_{\mathrm{it}} = \beta_0 + \beta_1 UnderwriterPrestige_{\mathrm{it}} + \Gamma Controls_{\mathrm{it}} + \varepsilon_{\mathrm{it}}$$

The second model explores the association between underwriter prestige and IPO duration, incorporating the same control variables:

$$Duration_{\mathrm{it}} = \beta_0 + \beta_1 UnderwriterPrestige_{\mathrm{it}} + \Gamma Controls_{\mathrm{it}} + \varepsilon_{\mathrm{it}}$$

The third model tests the direct relationship between IPO duration and underpricing:

$$Underpricing_{\mathrm{it}} = \beta_0 + \beta_1 Duration_{\mathrm{it}} + \Gamma Controls_{\mathrm{it}} + \varepsilon_{\mathrm{it}}$$

The fourth model evaluates the mediating effect of IPO duration on the relationship between underwriter prestige and underpricing:

$$Underpricing_{\mathrm{it}} = \beta_0 + \beta_1 UnderwriterPrestige_{\mathrm{it}} + \beta_2 Duration_{\mathrm{it}} + \Gamma Controls_{\mathrm{it}} + \varepsilon_{\mathrm{it}}.$$

Sample

This study meticulously examines a dataset consisting of 765 IPOs launched on the premier stock exchanges in the United States, including both the New York Stock Exchange (NYSE) and Nasdaq, spanning from 2011 to 2021. In line with the approach of (Liu et al., 2019), our analysis excludes companies domiciled in jurisdictions considered tax havens to mitigate data distortion by ostensibly foreign entities that primarily seek tax advantages through overseas listings. Moreover, this research filters out privatizations, Exchange-Traded Funds (ETFs), trusts, funds, instances of cross-

listing, Secondary Equity Offerings (SEOs), and Special Purpose Acquisition Companies (SPACs) alongside all direct listings. The rationale for excluding direct listings stems from their trading activity before the offering date, which deviates from the typical IPO process.

Adopting a comprehensive time frame enhances our capacity to discern underlying trends and mitigate the influences of anomalous events, such as wars, pandemics, or natural disasters, aligning with the findings of (Boeh & Dunbar, 2021).

The primary data for our exploration is sourced from Eikon Refinitiv, augmented by IPO prospectuses retrieved from the Edgar database (EDGAR, 2024), including Forms F-1 and S-1. To incorporate the broader economic context that might affect IPO duration, our model also integrates macroeconomic variables obtained from the World Bank (2024) and Central Intelligence Agency (2024) provided by the CIA. This comprehensive approach allows for a nuanced understanding of how underwriter prestige and IPO duration interplay to influence the degree of underpricing, thereby extending the current body of literature on IPO dynamics.

Measures

In this section, we describe the measures used to operationalize the variables in our study, detailing the sources from which the data were obtained, and the methods employed for data collection and validation.

Duration is measured in days, from the IPO filing to the market debut, with data extracted from the IPO prospectus. Underpricing is calculated as the percentage difference between the launching price and the first day closing price, sourced from Eikon.

To measure underwriter prestige, we applied the tombstone metric developed by Carter & Manaster (1990) and further elaborated by Loughran & Ritter (2004). Data was gathered from Ritter's website, which is well-regarded in the field for its comprehensive data on IPOs. Tech status is identified through SIC codes listed in the prospectus, indicating whether the company belongs to the technology sector (Hursti & Maula, 2007). Venture Capital (VC) backing is noted as a binary variable, identifying whether the firm had venture capital investment before the IPO, with this information also gathered from the prospectus (Brau et al., 2010; Lian & Wang, 2009).

Financial metrics such as EBITDA (Carpenter et al., 2003) and Total Asset (Ibbotson et al., 1988) were collected from Eikon and work as a measure of profit.

CEO Education level is categorized from high school diploma to PhD and was manually collected from CEO biographies as presented in the prospectus and categorized in a scale (1 for High School, 2 for Bachelor's, 3 for Master's, 4 for PhD) as it is relevant for the success of the launch (Bhagat et al., 2010).

The Founder CEO variable, indicating whether the CEO is also the founder (Tupper, 2016) and the proportion of Independent Directors (Ind. Board) on the board (Certo, 2003) were similarly sourced from the prospectus.

IPO Year refers to the year in which the IPO occurred (Baker & Wurgler, 2002; Dong et al., 2011), Local (Tourani-Rad et al., 2016; Z. Wu & Salomon, 2016) indicates whether the IPO was conducted in the company's home country. The Hotness (Helwege & Liang, 2004; Ritter, 1984) of the market at the time of the IPO was evaluated internally, measured by the number of IPOs that happened in a particular month, sourced from Bloomberg.

The data collected from the prospectus was meticulously handled by two research assistants, achieving a convergence rate of 98%. The authors subsequently double-checked this data to ensure accuracy. This rigorous data collection and validation approach ensures that our analysis is based on reliable and precise measurements, allowing for robust empirical inquiries into the dynamics between underwriter prestige, IPO duration, and underpricing.

Results

This section is structured to provide a detailed view of each variable's behavior within our dataset, facilitating a deeper understanding of their interrelationships and individual impacts.

Table 1 presents the correlation matrix along with descriptive statistics for all variables involved in our study, including Duration, Underpricing, Underwriter Prestige, Tech, VC, EBITDA, Total Assets, CEO Education, Founder CEO, Independent Board, IPO Year, Local, and Hotness.

The descriptive statistics portion of Table 1 summarizes each variable's mean, standard deviation, minimum, and maximum values. These statistics provide a quantitative overview of our data distribution, highlighting our dataset's central tendencies and variability. The correlation coefficients included in Table 1 help identify preliminary relationships between variables and check for multicollinearity, which could influence the interpretation of our multivariate analyses.

The correlation analysis in Table 1 indicates no significant multicollinearity among variables, ensuring the stability and reliability of our regression analyses. This

foundational understanding confirms that our dataset is robust and suitable for further detailed investigation into the dynamics of underwriter prestige in IPO processes.

Table 1

Correlation Matrix and Descriptive Statistics

	Duration	Underpricing	UW Pres.	Tech	VC	EBITDA	Assets	CEO Ed.	Founder CEO	Ind. Board	IPO year	Local	Hotness
2	.0918*	1											
3	-.251***	.0292	1										
4	.0230	-.0704	.0964**	1									
5	-.236***	-.0914*	.309***	.0199	1								
6	.0194	.0369	.0612	-.0161	-.266***	1							
7	.232***	.0406	.160***	.0868*	-.165***	.415***	1						
8	-.157***	-.0389	.0671	-.158***	.339***	-.0279	-.0562	1					
9	-.0126	-.0443	-.0121	.140***	.159***	-.125***	-.0701	.0453	1				
10	-.143***	-.0452	.0175	-.00438	.365***	-.192***	-.239***	.227***	.152***	1			
11	-.149***	-.0967**	-.119***	.0133	.00659	-.136***	-.0799*	.0572	.0479	.0762*	1		
12	.0185	-.0121	.0507	-.0189	.0547	-.000693	.0290	.0161	-.0668	.176***	.0318	1	
13	-.0218	-.00305	.00530	.0349	.0987**	-.113**	-.0258	.0260	.000469	.107**	.361***	.00388	1
Mean	75	7.9	0.56	0.22	0.56	18.7	677	1.74	0.33	0.60	2017.6	0.88	44.45
Std. Dev.	106	1.81	0.50	0.41	0.50	219.24	2391	0.88	0.47	0.29	3.05	0.33	20.94
Min	15	2	0	0	0	-2789	0.1	0	0	0	2011	0	0
Max	1055	9	1	1	1	2724	36179	3	1	1.5	2022	1	100

* $p < .05$, ** $p < .01$, *** $p < .001$

We ran four regression models to test our four hypotheses. Following Baron & Kenny (1986), we combine these regressions to test the proposed mediation hypothesis. Table 2 presents the results of the regressions, which will be discussed later.

Table 2 comprehensively examines the relationships between underwriter prestige, IPO duration, and underpricing through four regression models. Each model addresses specific aspects of these relationships, offering a detailed look at how underwriter prestige impacts IPO underpricing and duration, both independently and in conjunction. Model 1 explores the direct effect of underwriter prestige on IPO underpricing, suggesting the potential for prestigious underwriters to reduce the extent of underpricing. Model 2 shifts focus to examine the impact of underwriter prestige on the duration of the IPO process, testing the hypothesis that higher prestige could streamline the IPO timeline. Model 3 returns to underpricing but excludes the influence of IPO duration to isolate the effects of underwriter prestige. Model 4 incorporates IPO duration and underwriter prestige, providing insight into how these factors influence underpricing. Results from these models are meticulously presented with corresponding coefficients and standard errors, reflecting the statistical rigor and precision underlying the study's findings. This analytical structure is crucial for understanding the multifaceted impact of underwriter prestige on IPO dynamics and helps draw nuanced conclusions about its role in the IPO process.

Table 2

Results of regression analysis

Variables	Model 1 Underpricing	Model 2 Duration	Model 3 Underpricing	Model 4 Underpricing
Duration			0.0292**	0.0396***
			(0.0134)	(0.0139)
Underwriter Prestige	-2.465**	-16.12***		2.283
	(1.051)	(3.346)		(2.049)
Tech	-9.499***	2.925	-9.272**	-10.05**
	(3.651)	(8.579)	(4.387)	(4.411)
VC	-9.440***	-24.13***	-7.727	-10.44**
	(2.736)	(7.234)	(5.252)	(5.106)
EBITDA	-0.00260	-0.0674**	-0.000199	-0.000706
	(0.00358)	(0.0263)	(0.00380)	(0.00401)
Total Assets	0.000472	0.0127***	0.000310	-7.79e-05
	(0.000528)	(0.00473)	(0.000622)	(0.000576)
CEO Education	-0.339	-8.331**	-0.662	-0.492
	(1.831)	(3.698)	(2.318)	(2.276)
Founder CEO	-4.145	5.644	-1.921	-1.598
	(3.032)	(7.867)	(4.333)	(4.383)
Independent on board	-6.284	-15.79	0.304	1.281
	(4.646)	(15.79)	(10.16)	(10.28)
IPO year	-0.495	-6.736***	-1.755**	-1.559**
	(0.482)	(1.141)	(0.885)	(0.771)
Local	-7.152*	15.14	-1.514	-2.110
	(4.160)	(9.278)	(8.546)	(8.279)
Hotness	0.0321	0.295	0.113	0.107
	(0.0657)	(0.230)	(0.129)	(0.127)
Constant	1,018	13,794***	3,520**	3,107**
	(971.4)	(2,305)	(1,777)	(1,539)
Obs	759	765	759	759

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

We applied the Sobel test Sobel (1982) to analyze the mediation type (Fritz, 2015). There are three possibilities: No significant indirect effect happens when the Z-value is below 1.96, meaning it is not statistically significant. In this case, there is no need to evaluate the Effect Ratio

(since there is no effect). When the Z-value is significant, one can analyze the effect. If the effect ratio is under 0.8, complete mediation if the effect ratio exceeds 0.8 (Fritz, 2015). The Sobel test results are outlined in Table 3.

Table 3

Results of Sobel Test[a] (Z) and Effect Ratio[b, c]

Mediator: Duration		Explanation
c	0.0292	Measures the direct effect of Underwriter Prestige on Underpricing
a	-16.12	Measures the direct effect of Underwriter Prestige on Duration
SEa	3.346	Measures the Standard Variation of Underwriter Prestige on Duration
b	0.0396	Measures the direct effect of Duration on Underpricing controlling for Underwriter Prestige
SEb	0.0139	Measures the Standard Variation of Underwriter Prestige on Duration
Z*	-2.45	$\mathrm{Z} = \frac{a * b}{\sqrt{(SE_b{}^2 * \mathrm{a}^2) + (SE_a{}^2 * b^2)}}$
Effect ratio*	-21.86	$\text{Effect Ratio} = \frac{a * b}{\mathrm{c}}$

* $p < 0.05$; all two-tailed tests.

The negative Z-score of -2.45 indicates a significant deviation from the null hypothesis of no mediation, surpassing the critical value of 1.96 either positive or negative. Suggesting that as the independent variable (Underwriter Prestige) increases, the mediator (Duration) decreases, impacting the dependent variable (Underpricing). Similarly, the negative Effect Ratio of -21.86, surpassing the threshold of 0.8 positive or negative, reflects a strong negative indirect effect compared to the total effect. Implying that as Underwriter Prestige increases, the mediation

through Duration significantly influences Underpricing in an inversely proportional manner. In other words, it was shown that Underwriter Prestige influences underpricing by decreasing the time necessary to perform an IPO.

The regression analysis presented in Table 2 examines the relationships posited in our hypotheses regarding the effects of IPO duration, underwriter prestige, and underpricing. Model 1 focuses on underpricing and shows a significant negative association with underwriter prestige, supporting the hypothesis that underwriter prestige is inversely related to IPO underpricing. Model 2 assesses the impact of underwriter prestige on IPO duration and reveals a significant negative effect, indicating that more prestigious underwriters are associated with shorter IPO durations, which aligns with the hypothesized relationship. Model 3 revisits underpricing without IPO duration as a control, providing a baseline effect of underwriter prestige on underpricing. Model 4 integrates both underwriter prestige and IPO duration in examining underpricing. This model's positive coefficient for duration confirms the hypothesis that longer IPO durations are associated with increased underpricing. Additionally, including both predictors allows for assessing the mediating role of IPO duration in the relationship between underwriter prestige and underpricing.

To ensure the reliability of the estimates, robust standard errors are employed, and the analysis includes controls for other potentially confounding variables such as technology sector involvement, venture capital backing, and various financial metrics, offering a comprehensive understanding of the factors influencing IPO outcomes.

Further substantiation of the mediation effect is provided through the Sobel test, detailed in Table 3. This statistical test measures the indirect effect of underwriter prestige on

underpricing through IPO duration, with a significant Z-score indicating that the mediation effect is statistically meaningful. The negative effect ratio quantifies the proportion of the total effect mediated, suggesting a strong mediation pathway.

These results validate the proposed hypotheses and enrich our understanding of the IPO, particularly highlighting the crucial roles of underwriter prestige and IPO duration in determining underpricing.

Discussion

This paper has examined the significant roles that underwriter prestige and IPO duration play in the pricing dynamics of IPOs. We have detailed the influence of these factors on IPO underpricing, drawing on a comprehensive analysis supported by empirical evidence. The results underscore the importance of underwriter prestige not only as a marker of quality but also as a pivotal factor in reducing both the duration of the IPO process and the degree of underpricing.

Our analysis confirms that underwriter prestige is inversely related to IPO underpricing, supporting our first hypothesis. This relationship highlights the capacity of prestigious underwriters to leverage their reputation and market knowledge to secure more favorable terms for their clients, thus reducing the need for significant underpricing. Furthermore, we find a robust negative association between underwriter prestige and IPO duration, suggesting that more reputable underwriters can expedite the IPO process, which aligns with our second hypothesis.

The third hypothesis posited a positive relationship between IPO duration and underpricing, which was also supported by our findings. Longer IPO processes tend to be associated with higher underpricing, likely due to increased market uncertainty and the risks

associated with prolonged exposure to volatile market conditions. Most notably, our fourth hypothesis regarding the mediating role of IPO duration in the relationship between underwriter prestige and underpricing was confirmed. This mediation indicates that the advantageous effects of underwriter prestige on underpricing are significantly channeled through their ability to shorten the IPO timeline.

Our findings support the established notion that prestigious underwriters reduce IPO underpricing (Carter et al., 1998; Albada et al., 2023; Kenourgios et al., 2007). This aligns with the signaling theory (Spence, 1973; Stiglitz, 1985), which suggests that reputable underwriters convey firm quality to potential investors, thereby reducing information asymmetry and the necessity for high underpricing.

However, this study goes further by highlighting the significant role of IPO duration as a mediator. This supports the argument by Carter and Manaster (1990) that underwriter prestige influences not only IPO pricing but also the efficiency of the IPO process. The findings are consistent with the notion that reputable underwriters, with their superior networks and experience, can navigate regulatory requirements more effectively, thus shortening the IPO timeline (Ritter & Welch, 2002; Zanib & Mumtaz, 2022).

The theoretical contributions of this study are twofold. First, it corroborates the impact of underwriter prestige in reducing IPO underpricing through the mechanism of reduced IPO duration, supporting the relevance of Market Timing Theory. Second, it introduces a nuanced understanding of how underwriter prestige can indirectly influence IPO underpricing by optimizing the timing of the IPO. These findings not only enrich the existing literature by

providing empirical support for these theoretical perspectives but also offer valuable insights for practitioners in the financial markets.

In practical terms, the insights from this study could guide firms in selecting underwriters, emphasizing the strategic benefits of choosing highly prestigious underwriters to enhance IPO outcomes. Additionally, our findings suggest that regulators and policymakers should consider the dynamics of underwriter influence and IPO duration to ensure fair and efficient market practices.

As with all research, this study has limitations, including the potential for unobserved confounding variables that could influence the relationships examined and the context that considers a single country instead. Future research could expand on this foundation by exploring the conditional effects of market conditions or the role of international markets in shaping IPO outcomes.

Conclusion

In conclusion, this research underscores the critical interplay between underwriter prestige, IPO duration, and underpricing, providing a clearer picture of the mechanisms at play in the complex market environment of public offerings. By highlighting the strategic importance of these factors, this study contributes to a more informed and nuanced understanding of IPO execution and its financial implications.

SYNERGISTIC EFFECTS OF UNDERWRITERS, AUDITORS, AND VENTURE CAPITAL ON IPO WAITING TIME: BEYOND CERTIFICATION

Abstract

This study investigates the dynamics and influence of underwriters, auditors, and venture capitalists on the performance of Initial Public Offerings (IPOs) on the Nasdaq and NYSE, specifically focusing on IPO waiting time as a performance metric. Our analysis investigates how stakeholders such as underwriters, auditors, and venture capitalists influence IPO outcomes by mitigating information asymmetry and contributing value beyond merely certifying the offering, thereby minimizing agency problems. The research addresses a gap in the existing literature by exploring the individual contributions of these stakeholders and their synergistic interactions. Our data comprises 765 IPOs in the United States between 2011 and 2021, providing a thorough dataset for investigation. We utilize regression models and implement multiple control mechanisms to evaluate the impact of underwriter prestige and their interactions with venture capitalists and auditors on IPO waiting time. Additionally, we conduct five robustness analyses to validate the reliability of our findings. Our findings reveal that prestigious underwriters significantly shorten the IPO waiting time. However, this effect is amplified when venture capitalists are involved due to their ongoing interactions, which foster a shared understanding and common language, consequently mitigating agency problems. Interestingly, the presence of a Big 4 auditing firm does not moderate this relationship, suggesting that auditors are unable or unwilling to actively support underwriters in expediting the IPO process. Our study underscores the pivotal role of the relationship between the firm and underwriters in determining IPO success. It highlights that the value underwriters provide transcends their certification role,

as the involvement of other stakeholders, such as venture capitalists, can influence their effectiveness.

Keywords: Initial Public Offerings, Underwriter Prestige, Venture Capital, IPO Waiting Time, Resource-Based View, Signaling Theory.

Introduction

In the accelerated business world, the concept of "time to market" has long indicated a crucial determinant of success, particularly in the product market (Swink, 2003). Its implications extend beyond the product market, permeating into the world of capital markets (Yan & Williams, 2021), with positive impacts on Initial Public Offering (IPOs) (Zanib & Mumtaz, 2022). This study draws comparisons between efficiently launching products and quickly taking companies public. We focus on how 'time to market' can be applied to reducing IPO waiting times. By doing so, we uncover major factors that boost IPO time efficiency, which offers new insights into a process that notably affects our economy's financial structure.

In this study, we concentrate on a pivotal question: How do financial investors like venture capitalists (VCs), auditors, and underwriters improve the efficiency of the IPO process, especially in reducing IPO time? We investigate their specific roles and how they enhance or hinder this efficiency. This inquiry is vital because it explores the complex interactions among crucial financial players in the IPO scene and their effect on the overall process. The study also fills a gap in the existing literature about IPOs, examining if their contributions improve IPO outcomes because of certification or higher quality.

Studies worldwide show that IPO waiting time depends on the local market characteristics, regulations, and characteristics related to involved stakeholders. For example, Guo & Brooks (2009) found that in the Chinese market, the prestige of underwriters significantly affects how long an IPO takes. The issuance procedures are also fundamental, showing that the location matters greatly. Likewise, Brooks et al. (2009) noted that IPOs with shorter waiting times and higher issue prices often involve well-known underwriters or accounting firms in Australia. Additionally, Zanib & Mumtaz (2022) pointed out that in Pakistan, the rules set by authorities, the prices of offers, and the market conditions are crucial.

Moreover, Colaco et al. (2017) found that reputable underwriters and auditors could reduce IPO waiting times in their data from the United States from 1986 to 2011. However, their studies did not show that venture capital influenced waiting times. They also did not examine how different IPO stakeholders interact. This lack of information suggests that more research is needed on the relationships among crucial IPO participants, particularly in recent U.S. market conditions and varying regulatory and economic environments. A more comprehensive study of these interactions could help understand the role of financial stakeholders in the IPO process.

The core of this research revolves around three main propositions. First, we examine the direct relationship between underwriter prestige and the Waiting Time for IPO listings. Second, we explore how VC involvement can amplify the impact of underwriter prestige on IPO Waiting Time. Finally, we investigate the role of auditor as a moderating factor, enhancing the positive effects of underwriter prestige on IPO Waiting Time. It is widely accepted that the leading global auditors – KPMG, EY, PricewaterhouseCoopers, and Deloitte – known as Big 4 are regarded as having superior capabilities compared to others (e.g. Ananda & Faisal, 2023; e.g. Ouyang et al., 2015).

We used data from companies that listed on the New York Stock Exchange (NYSE) and Nasdaq since they are considered to be the two biggest stock exchanges in the United States between 2001 and 2021, totaling 765 observations. Some facts justify using the United States capital market as the context for the present study. First, the prestige of the underwriter is influential on IPO performance in the United States (Tupper et al., 2018), whereas in Europe, this relation is not observable (Helbing et al., 2019). Second, while the same relation happens in other countries, such as India (Arora & Singh, 2020), the United States is the leading destination for foreign IPOs (Ritter, 2022), and third, the United States is the most developed capital market in the World (Obstfeld, 2021). Therefore, the choice of the United States enhances this study's contribution.

This paper aims to elucidate the distinct roles of venture capitalists, highlighting how their strategic involvement and alignment with shareholders' interests uniquely impact IPO outcomes. In contrast to auditors, whose primary role is to verify financial integrity, Venture Capitalists actively participate in governance and strategic decision-making processes, potentially expediting the IPO process by mitigating agency problems inherent in the relationship between the underwriter and the firm and contributing meaningfully to the ongoing discourse in the field of business management and offering fresh insights and practical implications for the structuring and Waiting Time of IPOs. Our empirical findings demonstrate that underwriter prestige reduces IPO Waiting Time, and this relationship is moderated by the presence of Venture Capital, indicating a relevant synergy between these key players.

This research actively contributes to the ongoing scholarly conversation on IPOs by examining the interplay between underwriter prestige, VC involvement, and the presence of a Big 4 firm in IPO Waiting Time. Our study extends the discourse initiated by (Ibbotson et al.,

1988) on the evolving dynamics of the IPO market and complements exploring external factors influencing IPO outcomes (Zhang & Yu, 2017). Furthermore, it builds upon the work of Chiang et al. (2019) insights into the role of underwriters in IPOs, offering a nuanced understanding of how these financial actors influence IPO efficiency. Our investigation into the impact of expertise resonates with Agrawal & Cooper (2010, Chang et al. (2008), and Westfall & Omer (2018) analyses of IPO and how involved firm financial service partners affect IPO performance.

The Signaling Theory, Agency Theory, and Network Theory provide a comprehensive theoretical framework for understanding the IPO process. They underscore the importance of credible signals to reduce information asymmetry, effective governance structures to align the interests of managers and shareholders, and the influence of networks on a company's access to resources and IPO success, respectively. These theories together underscore the complex interplay of credibility, governance, and relationships in determining IPO outcomes, incorporating contributions from researchers like Spence (1973), Ross (1977), Jensen & Meckling (1976), and Granovetter (1973) to deepen our understanding of the strategic and social dimensions of IPOs.

The study is structured as follows: the next section delves into the most relevant literature and theoretical foundations, followed by the development of three hypotheses, presented in four subsections - an introductory section and one dedicated to each hypothesis. The following section explains how we will conduct the empirical analysis. We indicate what the sample, methods, variables, and sources are. Following, we discuss the results, and finally, in the last section, we show the limitations of this research, discuss further managerial and theoretical contributions, and finally, we indicate research avenues to fill other gaps in the IPO literature.

Literature Review

The vast body of IPO literature reveals that many factors – from market conditions and regulatory aspects to company-specific elements – affect its performance indicators (Moore et al., 2010; Ritter, 2022). However, gaps remain in understanding the interplay of these factors across different market contexts and sectors. In the following paragraphs, we will explore set the proper foundational work to develop and test the hypothesis in the following sections. Swink (2003), for example, examines how accelerated management decreases time to market, while Griffin (1997) underlines the importance of best practices for a successful launch. Furthermore, (Ittner & Larcker (1997) link the speed of the development cycle to organizational performance, which is linked to the moment of the market (Griffin, 2002).

In the context of IPOs, an underwriter is a financial specialist, typically a bank, who facilitates the IPO process, guiding the issuing company through pricing, regulatory compliance, and the allocation of shares (Ritter & Welch, 2002). Underwriter prestige refers to these financial institutions' reputation and perceived quality, often linked to their historical performance, network, and expertise in successfully launching IPOs (Lattanzio et al., 2023). Johnston & Roten (2015) and Akkus et al. (2014) find a positive effect of underwriter prestige on American IPOs, enhancing value through improved media and analyst coverage, better corporate governance practices, and increased transparency. Thus, by lending reputation, prestigious underwriters can act as a quality stamp, reducing information asymmetry (Booth & Smith, 1986; Hanley, 1993; Stuart et al., 1999) and potentially speeding up the IPO process. However, Fernando et al. (2015) and Loureiro (2010) point out that more prestigious underwriters may demand higher fees and might engage in underpricing strategies that, while beneficial for their profits, could be detrimental to the issuing firm (Loughran & Ritter, 2004; Reuter, 2006). It is uncertain if an

underwriter's prestige always matches a firm's best interests. This mismatch might prolong the IPO process, which goes against the firm's goals. Moreover, the literature indicates that the IPO process, including book building and stock allocation (Chemmanur & Liu, 2019), is time-consuming, typically spanning four to six months (Nova, 2019).

Venture capital significantly impacts the time a company takes to go public, with research indicating both positive and complex effects. Sahlman (1990) and Gompers (1995) highlight VC's role in aligning interests and reducing agency costs, potentially speeding up the IPO process. Kaplan & Stromberg (2004) and Hsu (2005) note that VC involvement in governance and enhanced startup value can shorten the IPO timeline. Gompers et al. (2008) observe that VC-backed firms are more likely to undertake IPOs quickly. However, the relationship is not straightforward. Kortum & Lerner (2000) point out that while VC fosters innovation, attracting IPO investors, it might also prolong the IPO due to the complexity of innovations. Chemmanur et al. (2009) and Bernstein et al. (2016) discuss how VC reputation and innovation efficiency influence IPO timing. The specific impact of VC on factors like underwriter involvement remains unclear, indicating the need for further research into VC's role in IPO timing.

We establish a solid theoretical foundation by applying three theories: Signaling, Agency, and Network. The selection of these frameworks is rooted in their profound relevance to the domain of IPOs from previous literature that used signaling and agency theory (e.g., Amin et al. (2019), Tupper et al. (2018)) and the whole of network theory as described in Park et al. (2016).

A well-defined theoretical framework is essential as it guides the research process, providing a lens through which complex phenomena can be examined and understood. This theoretical grounding is crucial for developing robust hypotheses and interpreting empirical

findings, thereby contributing significantly to the extant literature in business management and, more specifically, in IPO.

As elucidated by Spence (1973) and Ross (1977), Signaling Theory underscores the importance of signals in reducing information asymmetry, and it can be applied to an IPO through the signals issued by the launching company and its potential investors. This theory is particularly relevant in understanding how companies use various strategies, such as underpricing (Allen & Faulhaber, 1989; Ritter, 1984) or the choice of prestigious underwriters (Carter & Manaster, 1990), to signal their quality and potential to the market. The role of Venture Capital as a quality signal (Chemmanur & Fulghieri, 1999; Hsu, 2005) further emphasizes the importance of perceived credibility in the IPO process. Auditors ensure financial compliance and enhance market readiness, reducing information asymmetry and signaling superior governance quality (Zhao et al., 2022).

Agency Theory, pioneered by (Jensen & Meckling, 1976), offers a lens to examine the conflicts of interest inherent in the separation of ownership and control in firms undergoing IPOs. This theory is crucial in understanding the governance structures (Adams et al., 2010; Shleifer & Vishny, 1997) and mechanisms (Bebchuk & Weisbach, 2010) that are put in place to mitigate agency problems and align the interests of managers and shareholders. The expansion of this theory to include stakeholder perspectives (Hill & Jones, 1992) and its application in various contexts like family firms (Wiseman et al., 2012) and executive compensation (Tosi et al., 2003) further enrich our understanding of the complex dynamics at play in IPOs. Venture capitalists are simultaneously stockholders and advisors well-positioned to reduce the agency problem that emerges between the firm and the underwriter. Their dual role allows them to align more closely

with shareholder interests, which can lead to more effective oversight and strategic guidance during the IPO.

Network Theory, initiated by Granovetter (1973) and expanded by Burt (1992) and Coleman (1988), provides a framework for understanding how the networks and relationships of a company influence its IPO journey. The strength of weak ties (Granovetter (1973), the concept of structural holes (Burt, 1992), and the value of social capital (Coleman, 1988) are instrumental in understanding how information flows and relationships impact a company's access to resources, decision-making, and ultimately, its IPO success. The role of networks in innovation (Baldwin et al., 2006; Powell et al., 1996) and the diffusion of information (Jackson & Rogers, 2007) are particularly pertinent in the context of technology firms and startups seeking to go public. The enhanced network connections provided by Venture Capitals, which often bridge ties across these structural holes, can significantly streamline the IPO process by leveraging their extensive networks.

The literature review has highlighted the complexities of IPOs through the perspectives of traditional theories. Integrating the insights from Network Theory, Agency Theory, and Signaling Theory offers a comprehensive framework for understanding the IPO process, particularly highlighting the influential role of Venture Capital. Network Theory underscores the importance of relationships and networks in accessing resources and facilitating decision-making, which is crucial for IPO success. Agency Theory focuses on mitigating conflicts between owners and managers, a gap effectively bridged by Venture Capitals through their dual role as investors and advisors, aligning interests and enhancing governance.

Theory and Hypotheses Development

Dynamics of IPO Waiting Time

This section explores the intricacies of the relationship between underwriter prestige and the time required for a company to be listed during an IPO. Through three hypotheses, we unravel how synergistic relationships can positively influence the efficiency of an IPO.

The initial hypothesis posits a direct relationship, suggesting that the prestige of an underwriter is intrinsically linked to a shorter waiting time for a company's listing during an IPO. This proposition is rooted in the understanding that prestigious underwriters, with their vast networks and market acumen, significantly streamline the IPO process, enhancing efficiency and reducing time to market. Building on this foundation, we then introduce the concept of Venture Capital as a moderating factor. The hypothesis here contends that the involvement of venture capital firms contributes positively to the IPO process and amplifies the impact of underwriter prestige. This synergistic effect is attributed to the unique combination of venture capital expertise and underwriter reputation, which collectively expedite the IPO timeline. The final hypothesis in this section explores auditor's as another moderating influence. It argues that a Big 4 auditor firm enhances the positive effect of underwriter prestige on IPO Waiting Time.

Jointly, these hypotheses provide a nuanced understanding of the factors influencing the time a company takes to list during an IPO. They highlight the crucial roles of underwriter prestige, Venture Capital involvement, and Big 4 presence in shaping the IPO landscape, broadening the understanding of the IPO process.

Impact of Underwriter Prestige on IPO Waiting Time

Prestigious underwriters possess an influential network of investors and financial institutions (Rock, 1986). Their established reputation in the market acts as a beacon, attracting attention and confidence from key market players (Reilly & Hatfield, 1969), which is vital in expediting the IPO process (Zanib & Mumtaz, 2022). Investors and analysts familiar with the underwriter's track record are more likely to engage with the offering, reducing the time spent in the marketing phase and hastening the book-building process (Swaminathan & Purnanandam, 2001). The credibility brought by a prestigious underwriter (Ritter & Welch, 2002) reduces investor skepticism (Abdul-Rahim et al., 2016), and its reputation serves as a tacit endorsement for the IPO (Chemmanur & Paeglis, 2005; Dewenter & Malatesta, 1997) what is to speed up the process. In other words, their certification role (Arora & Singh, 2019) reduces asymmetry (Bozzolan & Ipino, 2007) of information, signaling higher quality of the investment (Akkus et al., 2014), what is known to decrease underpricing (Khatami et al., 2023; Ruud, 1993).

Furthermore, the expertise and experience of high-prestige underwriters cannot be overstated (Baron, 1982; Muscarella & Vetsuypens, 1989). Their proficiency in navigating the intricacies of regulatory landscapes and their adeptness in pricing IPOs contribute to a more streamlined process (Beatty & Ritter, 1986) due to their proven ability to manage regulatory concerns and a history of successful IPO executions, leading to smoother regulatory approvals (Grinblatt & Hwang, 1989). Based on their experience, these underwriters are better equipped to anticipate and mitigate potential roadblocks, thereby avoiding delays that less experienced firms might encounter (Welch, 1989). Additionally, Guo & Brooks (2009) in China, Brooks et al. (2009) in Australia, and Colaco et al. (2017) in the United States showed that underwriter prestige is directly related to the reduction of waiting time.

While the possibility that the involvement of prestigious underwriters could attract closer scrutiny or higher expectations, potentially lengthening the IPO timeline (Allen & Faulhaber, 1989), it must not hinder their positive effect in reducing waiting time.

In essence, as highlighted, the involvement of a prestigious underwriter in an IPO can significantly compress the timeline of a company's public offering. They not only bring prestige to the IPO but also bring higher network and quality, which is explained by signaling theory and RBV Theory. Hence, we posit that the prestige of an underwriter is negatively associated with the waiting time required for a company to be listed during an IPO.

H1. The prestige of an underwriter is negatively associated with IPO Waiting Time.

In conclusion, prestigious underwriters expedite the IPO process by leveraging their networks, reputation, and expertise. Despite potential scrutiny, they generally shorten the timeline. Next, we will explore how the involvement of venture capital firms can influence this relationship between underwriter prestige and IPO waiting time.

Venture Capital as a Moderator between Underwriter Prestige and IPO Waiting Time

This subsection examines whether the presence of venture capital can moderate the effect of underwriter prestige on the waiting time for an IPO. VCs, distinct from underwriters, are intermediaries andquity holders (Espenlaub et al., 1999), influencing the IPO timeline due to their vested interests in the portfolio companies.

VCs are recognized for their certification role (Megginson & Weiss, 1991), which brings credibility to the firm (Bernstein et al., 2016), and for their tendency to bring companies to market earlier (Gompers, 1996). Research shows that VC-backed IPOs often secure larger first-

day returns than IPOs without VC backing (Francis et al., 2010; Lee & Wahal, 2004) and lower underpricing (Chahine & Filatotchev, 2008). The extensive due diligence conducted by VCs (Hsu, 2005) and their role in hastening the governance and professional maturity of startups (Hellmann & Puri, 2002; Kaplan & Stromberg, 2004) help prepare companies comprehensively for the public markets, potentially reducing the waiting time for IPOs.

However, this complex interaction (Armstrong & Vashishtha, 2012) requires further exploration. VCs and underwriters typically develop a symbiotic relationship (Yip et al., 2009), facilitated by their mutual understanding and shared financial background, which facilitates rapport building (Lange et al., 2010), which could enhance communication efficiency and negotiation speed during the IPO process (Granovetter, 1973; Uzzi, 1996). This relationship is crucial as it can mitigate potential frictions and misunderstandings (Burt, 1992; Coleman, 1988), contributing to a faster IPO timeline.

Nevertheless, it is not definite that VCs will consistently moderate the relationship between underwriter prestige and IPO waiting time. The agency problems highlighted by Shleifer & Vishny (1997) suggest that underwriters often face a conflict between their compensation interests and fair IPO pricing (Gompers & Lerner, 1999), which can influence the IPO pricing and allocation processes (Kojima, 2007). In other words, there are conflicting goals between the firm and the underwriter (Arthurs et al., 2008) that the presence of the VC can mitigate.

While VCs may streamline IPO preparations, their impact may not uniformly affect IPOs handled by less or more prestigious underwriters. For less prestigious underwriters, the rigorous groundwork by VCs might reduce the operational challenges, inadvertently benefiting these

underwriters disproportionately. Conversely, more prestigious underwriters might leverage the thorough preparation and governance framework established by VCs to enhance IPO outcomes, potentially accelerating the IPO process. This balance reflects the intricate interplay of network resources and governance mechanisms (Ahuja, 2000). Hence, the company will benefit from resolving agency problems (Shleifer & Vishny, 1997) and increase IPO efficiency through synergy between VC and underwriter.

The moderating effect of VCs on the relationship between underwriter prestige and IPO waiting time thus remains an empirical question. This examination is intended to expand on the certification role traditionally attributed to both VCs and underwriters in the IPO process and to explore how underwriter prestige might serve as a more significant operational resource within the firm's resource-based view, impacting the IPO timeline in conjunction with VC involvement.

The moderating effect of venture capitalists on the relationship between underwriter prestige and IPO waiting time remains an empirical question. This examination aims to build upon the traditional certification role attributed to both venture capitalists and underwriters in the IPO process. It seeks to investigate how underwriter prestige may act as a crucial operational resource from the firm's resource-based perspective, influencing the IPO timeline alongside VC involvement.

In conclusion, the hypothesis posits a synergistic relationship between Venture Capital involvement and underwriter prestige in the context of IPOs. Thus, we state:

H2. The presence of Venture Capital positively moderates the relationship between underwriter prestige and the time required for a company to be listed during an IPO.

The hypothesis suggests a potential moderating role of venture capital in accelerating IPO timelines through enhanced collaboration with underwriters. Moving forward, the focus shifts to the influence of the auditor on these dynamics.

Auditor as a Moderator between Underwriter Prestige and IPO Waiting Time

Auditors verify all financial books and firms' most important documents to certify financial and accounting compliance. For a firm untested in the capital market, they have unique value and can be the difference between make or break. We claim that when companies have a synergetic relationship between the underwriter and the auditor, it brings companies to market and increases their efficiency. Working together, they decrease information asymmetry by signaling governance quality (Elbadry et al., 2015), and network theory suggests they bring unique results to the firm (Zhao et al., 2022).

Experienced auditors possess superior knowledge and abilities (Bonner & Lewis, 1990), improve the quality of earnings in IPO prospectuses (Wu et al., 2021), and predict better IPO outcomes (Weber & Willenborg, 2003). Hence, we can conclude that more experienced auditors have superior quality and deliver superior results. Since improved auditing positively impacts the IPO (Kao & Chen, 2020), we can conclude that auditors bring value to the IPO process as a whole.

Investment bankers – in our cases represented by an underwriter – prefer working with credible auditors during the IPO process (Menon & Williams, 1991), thus reinforcing our assumption that there is a synergetic effect, which is corroborated by (Jamaani & Alidarous, 2023) who showed that the quality of auditors is related to the increased performance of the underwriter in the price, while Sundarasen et al (2021) conclude that reputable underwriters and

auditors jointly contribute to better IPO first-day returns. We intend to show that the effect goes beyond price and also affects efficiency.

Conversely, akin to potential issues in the interactions between VCs and Underwriters, the relationship between auditors and underwriters may also encounter challenges. These interactions could become redundant, thereby not expediting the IPO process. Auditors do not have direct incentives to speed up IPOs. However, research has shown that they play a crucial role in reducing the waiting times for IPOs. However, studies suggest auditors might not be as influential in the signaling process during IPOs (Colaco et al., 2017), potentially reflecting on the challenges in auditor-underwriter interactions (Arora & Singh, 2019).

Moreover, findings indicate potential collusion between auditors and underwriters, which could undermine the integrity of their interactions and compromise the IPO process (Du et al., 2018). Additionally, while auditors and underwriters can individually signal firm value, their combined interaction does not significantly enhance the IPO outcome beyond their separate effects, suggesting that the synergy between auditors and underwriters may not be effectively realized in every market context (Sundarasen et al., 2018). Auditors lack a natural incentive to speed up these processes. Therefore, it is not clear how much they can influence underwriters.

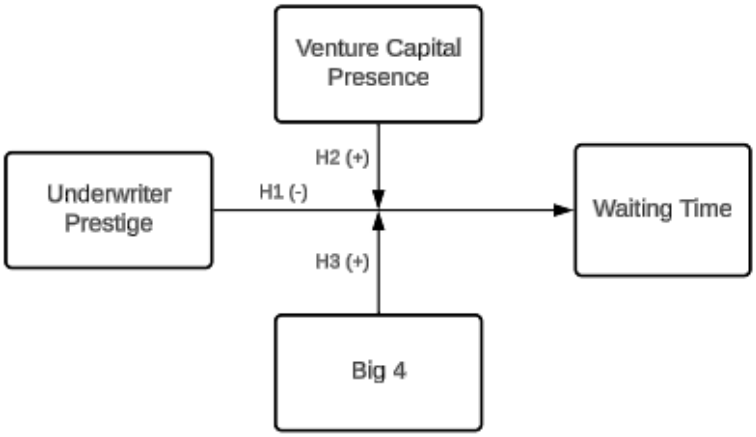
Therefore, it is essential to state that while preliminary findings indicate a potential alignment of auditor and underwriter roles in reducing IPO waiting times, the specific dynamics and the extent of their interaction are not definitively understood. This ambiguity underscores the necessity for rigorous empirical testing to elucidate the nature and effectiveness of this relationship in influencing IPO timelines. Hence:

H3. The presence of a Big 4 auditing firm positively moderates the relationship between underwriter prestige and the time required for a company to be listed during an IPO.

The model presented in Figure 1 encapsulates our study's core hypotheses and theoretical underpinnings, offering a visual representation of the proposed relationships and effects.

Figure 1

Proposed Model for the UW Prestige, VC, and Big 4 presence effect on IPO Waiting Time



Research Method

To assess our hypotheses, we employ an Ordinary Least Squares (OLS) model, incorporating multiple control variables to isolate the effects of our variables of interest. The following subsections detail the sample selection, measurement techniques, and data collection methods for the variables used in the regression analyses.

To test the hypotheses, we apply regression models with interaction terms to explore moderation effects. Specifically, we examine how the presence of venture capital and audit expertise influence the relationship between underwriter prestige and IPO waiting time. We

employ robust standard errors to account for heteroscedasticity and control for a variety of factors across all models.

The following equations describe the models used in this analysis:

The first model evaluates the direct effect of underwriter prestige on IPO waiting time, with control variables:

$$IPOWaitingTime_{it} = \beta_0 + \beta_1 UWPrestige_{it} + \Gamma Controls_{it} + \varepsilon_{it}$$

The second model introduces the main effect of venture capital presence alongside underwriter prestige:

$$IPOWaitingTime_{it} = \beta_0 + \beta_1 UWPrestige_{it} + \beta_2 VentureCapital_{it} + \Gamma Controls_{it} + \varepsilon_{it}$$

The third model adds an interaction term between venture capital and underwriter prestige to test for moderation (H2):

$$IPOWaitingTime_{it} = \beta_0 + \beta_1 UWPrestige_{it} + \beta_2 VentureCapital_{it} + \beta_3 (UWPrestige_{it} \times VentureCapital_{it}) + \Gamma Controls_{it} + \varepsilon_{it}$$

The fourth model introduces the interaction between audit expertise and underwriter prestige to assess the second moderation effect (H3):

$$\boldsymbol{IPOWaitingTime}_{it} = \boldsymbol{\beta^0} + \boldsymbol{\beta^1 UWPrestige}_{it} + \boldsymbol{\beta^2 VentureCapital}_{it} + \boldsymbol{\beta^3}(\boldsymbol{UWPrestige}_{it} \times \boldsymbol{VentureCapital}_{it}) + \boldsymbol{\beta^4 Big4}_{t} + \boldsymbol{\beta}_5 (\boldsymbol{UWPrestige}_{it} \times \boldsymbol{Big4}_{t}) + \boldsymbol{\Gamma\, Controls}_{it} + \boldsymbol{\varepsilon}_{it}.$$

Sample

Our methodology involves an analysis of a dataset comprising 765 IPOs launched in the United States between 2011 and 2021, covering the most important stock exchanges in the United States, NYSE and Nasdaq.

We started with a database of more than 5 thousand IPOs in the United States. Subsequently, we removed companies headquartered in tax haven countries since they possibly are not foreign companies but are only listed abroad for tax purposes. We also excluded privatizations, Exchange-Traded Funds (ETF), trusts, funds, cross-listing, Secondary Equity Offering (SEO), cross-listing, and Special Purpose Acquisition Company (SPAC). All direct listings should also be excluded, as all companies traded before the offer date do not follow the same process (e.g., Liu et al., 2019).

In Table 1, we present the distribution of our sample observations. The table presents data on the involvement of venture capitalists and underwriters in various cases. It categorizes underwriters based on their level of prestige (highly prestigious vs. not highly prestigious) and whether they are part of the Big 4 accounting firms. The presence or absence of venture capitalists is also noted. The data is organized to show the distribution of cases across these different categories, providing a comprehensive view of the characteristics of underwriters and venture capitalists in the observed instances.

Table 1

Distribution of IPO Companies by VC Presence, Underwriter Prestige, and Big 4

Venture Capitalist	*Not High Prestigious Underwriter*			*High Prestigious Underwriter*			*Total*
	Not Big 4	*Big 4*	*Total*	*Not Big 4*	*Big 4*	*Total*	
Present	*118*	*44*	*162*	*23*	*154*	*177*	*338*
Absent	*80*	*86*	*166*	*65*	*195*	*260*	*426*
Total	*198*	*130*	*327*	*88*	*349*	*437*	*766*

Table 1 categorizes the observations based on their engagement with venture Capitalists, the prestige level of their underwriters, and whether the auditor is one of the Big 4 auditing firms, thus providing a structured overview that allows for a nuanced understanding of the relationships and patterns within the IPO landscape that will be explored in the following section. The table distinguishes between cases involving highly prestigious and not highly prestigious underwriters, summing up to a total of 765 cases. Venture capitalists are more frequently present in cases with not highly prestigious, not Big 4 underwriters (117 out of 198). In contrast, cases with highly prestigious Big 4 underwriters often occur without VC presence (195 out of 349). This data highlights a pattern in VC involvement relative to the prestige and Big 4 status of the underwriters, suggesting differences in the characteristics of the financial backing in these scenarios.

Using a longer time frame, we are better equipped to understand the scenarios and decrease the impact of possible specific events such as wars, pandemics, or natural accidents (e.g., Boeh & Dunbar, 2021). To assess our hypotheses, we employ run regression models, incorporating multiple control variables to isolate the effects of our variables of interest. The primary data source for our analysis is Eikon Refinitiv, complemented by IPO prospectuses (Forms F-1 and S-1 and its updates F-1/A and S-1/A when necessary) obtained from the Edgar

database (EDGAR, 2024). Two research assistants gathered the data, achieving a 98% agreement rate. In instances of disagreement, the authors reviewed the documents to verify and correct the values. Additionally, macroeconomic variables are integrated into our model, sourced from the World Bank Open Data (2024).

Measures

This subsection will explore the independent, dependent, and control variables, explaining how they were operationalized and gathered to compose our dataset, starting with the dependent variable, *Waiting Time*.

IPO *Waiting Time* was measured by the difference in days between the first submission of the Prospectus and the day of the IPO.

We are interested in three independent variables: *underwriter prestige*, *venture capital*, and *Big4*. We measure the direct effect of the first and the indirect effect of the other two. For underwriters, prestige is a metric of both status signaling and the quality of the services provided. Carter & Manaster (1990) developed a metric to measure underwriter prestige. Then Loughran & Ritter (2004) adjusted this metric to capture better the underwriter's influence on the IPO's success. By doing so, they created the most used metric for underwriter prestige in literature: the tombstone. It indicates that the logo of the most prestigious underwriter is more prominent and better positioned in the document, while the least prestigious are smaller and not centralized. The values vary between 1 and 9; the data was sourced from Ritter's website. This metric size metric could be a valuable proxy for underwriter prestige, as we did in the present study. *Venture capital* accounts for whether the company was invested previously by venture capital, and Big 4 for whether it used one of the world's four most prestigious auditing companies. We operationalize two moderating variables: *venture capital* and *Big4*. Specifically, the *Venture Capital* variable is coded as 1 if the firm has received backing from a venture capitalist and 0 if not (Brau et al., 2010; Lian & Wang, 2009). The *Big4* variable is assigned a value of 1 when the firm's auditor is one of the Big 4 and 0 otherwise.

A major concern that must be addressed is self-selection bias. For example, more successful firms have a higher chance to follow on with their IPO, and the bank may also select them. Investment banks pre-screen the firms they work with (Fernando et al., 2015), and ty may use their superior prestige to choose the best clients (Slater, 2015). Consistently with prior IPO research, we control variables related to the firm and the environment. By doing so, we also avoid methodological problems of self-selection, endogeneity, and alternative explanations.

We control for multiple market and firm characteristics. *Total assets* represent the company's size before its launch, measured in millions of dollars (e.g., Ibbotson et al., 1988). *EBITDA* is used to control for firm's performance (Carpenter et al., 2003).

We use *board members* and *independent* to control for board and CEO characteristics. These metrics measure board effectiveness and can contribute to the IPO. Hence, we measure the number of members on the board and the percentage of independent members (from 0 to 1). *Time as CEO* measured in months from starting the CEO position until the IPO, it captures the fact that supposedly the more time the CEO has within the company, the more internal influence he has (e.g., Hamori & Koyuncu, 2015). About the CEO, some variables were included: *CEO Age*; *CEO Education* received four different values: 3 if the CEO had a PhD during the launch, 2 if he has a Master, JD or an MBA, 1 if he has an undergraduate degree or zero otherwise (e.g. Bhagat et al., 2010)*; Founder CEO* can also make a massive difference in the IPO performance, hereafter it was measured as 1 for the case when the CEO is also the founder and zero otherwise (Hsu, 2004; Tupper, 2016). The variable *Year* was included to indicate the year the company had its IPO. Besides the fact that other variables capture temporal effects because IPO is time-sensitive in a way, it is excessive to capture in its totality by using many different metrics since the performance of the IPO is highly dependent on maker conditions (Boeh & Dunbar, 2021) and

home country's economic stability (Chong & Puah, 2009), what justifies the inclusion of more two variables: *Interest Rate* and *Hotness*, that measures how many IPOs in a specific month. The variables used in the present study are presented in Table 2 with their sources.

Table 2

Variables used in the analysis

#	Variable	Type	Source
1	Waiting Time	Dependent Variable	EDGAR
2	Underwriter Prestige	Independent Variable	Eikon
3	Venture Capital	Moderating Variable	Eikon
4	Big 4	Moderating Variable	Prospectus
5	EBITDA	Controlling Variable	Eikon
6	Hotness	Controlling Variable	Bloomberg
7	Year	Controlling Variable	Prospectus
8	Interest rate	Controlling Variable	World Bank
9	Total assets	Controlling Variable	Eikon
10	CEO Education	Controlling Variable	Prospectus
11	Independent Board	Controlling Variable	Prospectus
12	Board Members	Controlling Variable	Prospectus
13	Time as CEO	Controlling Variable	Prospectus
14	Founder CEO	Controlling Variable	Prospectus

Results and Analysis

To initiate the empirical evaluation, we ran four regression models. These models were enriched with a set of control variables. This approach was designed to dissect the influence exerted by the focal variables within our investigation. The forthcoming subsections delineate the processes involved in sample curation, the metrics employed for variable quantification, and the strategies adopted for data aggregation pertinent to the regression analysis.

Table 3 presents the correlation matrix and descriptive statistics such as mean and standard deviation for the study variables. This table elucidates the interrelations among variables and offers a preliminary overview of their distribution characteristics within our dataset. Additionally, it confirms the absence of multicollinearity among the explanatory variables.

Table 3

Correlation Matrix and Descriptive Statistics

	Waiting Time	UW. Prest.	Venture Capital	Big4	EBITDA	Hotness	Year	Interest rate	Total assets	CEO Education	Independent Board	Board Members	Time as CEO	Founder CEO
2	-0.251***	1												
3	-0.236***	0.309***	1											
4	-0.0762*	0.468***	0.0776*	1										
5	0.0194	0.0612	-0.266***	0.0839*	1									
6	-0.0218	0.0053	0.0987**	0.0142	-0.113**	1								
7	-0.149***	-0.119***	0.00659	-0.0356	-0.136***	0.361***	1							
8	0.0323	0.00719	0.108**	-0.039	-0.0371	0.240***	0.309***	1						
9	0.232***	0.160***	-0.165***	0.139***	0.415***	-0.0258	-0.0799*	-0.0225	1					
10	-0.157***	0.0671	0.339***	-0.0326	-0.0279	0.026	0.0572	0.0751*	-0.0562	1				
11	-0.143***	0.0175	0.365***	-0.0518	-0.192***	0.107**	0.0762*	0.0359	-0.239***	0.227***	1			
12	-0.0763*	0.288***	0.247***	0.133***	-0.0327	0.0354	0.0576	0.0739*	0.0927*	0.107**	0.0659	1		
13	-0.042	0.0318	0.0795*	-0.0322	-0.0157	-0.0048	-0.0265	-0.0648	-0.0197	-0.028	0.0853*	0.0147	1	
14	-0.0126	-0.0121	0.159***	0.0155	-0.125***	0.000469	0.0479	0.0163	-0.0701	0.0453	0.152***	-0.0603	0.354***	1
Obs.	765	765	765	765	765	765	766	765	765	765	765	765	765	765
Mean	75	7.92	0.56	0.63	18.7	44	2016	0.56	677	1.74	0.60	6.61	60.30	0.33
SD	106	1.81	0.50	0.48	219.2	21	45	0.76	2391	0.88	0.29	2.04	59.03	0.47
Min	15	2	0	0	-2789	0	765	0.04	0.1	0	0	1	0	0
Max	1055	9	1	1	2724	100	2022	2.4	36179.3	3	1.5	18	336	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4 presents regression models analyzing the waiting time for IPO processes, focusing on the roles of *underwriter prestige* and *venture capital*. Model 1 includes only underwriter prestige, which shows a significant negative impact on IPO waiting time. Model 2 introduces *venture capital*, maintaining a significant negative effect and suggesting faster IPO processes with *venture capital* involvement. Model 3 adds an interaction term between *venture capital* and underwriter prestige to examine how *venture capital* might alter the influence of underwriter prestige on waiting times. The interaction is significant, indicating a complex relationship between these factors. Model 4 further incorporates the interaction between *Big4* and *underwriter prestige* to analyze their combined effect on IPO waiting time. These models progressively build a detailed understanding of the factors influencing IPO waiting time.

Table 4

Regression Models for Waiting Time

Variables	Model 1	Model 2	Model 3	Model 4
UW. Prest.	-18.13***	-16.97***	-19.31***	-16.24***
	(2.038)	(2.361)	(2.645)	(2.701)
Venture capital		-26.85***	-104.8**	-27.05***
		(8.687)	(40.98)	(8.699)
Venture capital X UW. Prest.			9.660*	
			(4.966)	
Big4		6.284	6.371	29.32
		(8.115)	(8.1)	(42.34)
Big4 X UW. Prest.				-2.836
				(5.116)
EBITDA	-0.0570***	-0.0692***	-0.0658***	-0.0690***
	(0.0177)	(0.018)	(0.018)	(0.018)
Hotness	0.18	0.208	0.208	0.203
	(0.18)	(0.179)	(0.179)	(0.18)
Year	-7.450***	-7.820***	-8.156***	-7.742***
	(1.272)	(1.271)	(1.28)	(1.279)
Interest rate	14.24***	15.75***	15.17***	15.78***
	(4.843)	(4.842)	(4.843)	(4.845)
Total assets	0.0132***	0.0128***	0.0128***	0.0129***
	(0.0016)	(0.0016)	(0.0016)	(0.0016)
CEO Education	-13.12***	-9.285**	-9.107**	-9.425**
	(4.051)	(4.202)	(4.196)	(4.212)
Independent Board	-20.77	-9.797	-11.26	-9.821
	(13.01)	(13.39)	(13.38)	(13.39)
Board Members	0.112	0.964	1.043	0.932
	(1.803)	(1.815)	(1.812)	(1.817)
Time as CEO	-0.061	-0.0522	-0.0507	-0.0533
	(0.0629)	(0.0628)	(0.0627)	(0.0628)
Founder CEO	5.398	7.549	6.54	7.49
	(7.971)	(7.988)	(7.991)	(7.993)
Constant	15,262***	15,990***	16,683***	15,827***
	(2,566)	(2,562)	(2,582)	(2,580)
Observations	765	765	765	765
R-squared	0.205	0.216	0.22	0.216

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

The outcomes from the regression models detailed in Table 4 present a systematic exploration of the impacts of Underwriter Prestige, Venture Capital Presence, and Auditor Firm

on the dependent variable. Model 1, which lacks moderating variables, already hints at the significant influence of underwriter prestige on the IPO process, showcasing its foundational impact. The coefficient for underwriter prestige across Models 1 to 4 ranges from -16.79 to -20.35, consistently significant at the 1% level, corroborating Hypothesis 1 by affirming the negative association between underwriter prestige and the time required on the IPO waiting list. This foundational insight sets the stage for further examination in subsequent models.

Model 2 further reinforces the direct effects identified in Model 1, excluding moderating variables to concentrate on these primary relationships. This approach confirms the significant, direct impact of Underwriter Prestige, Venture Capital presence, and other control variables on the IPO waiting time, emphasizing the robustness of these factors' effects.

Including moderating variables in Model 3 significantly advances our understanding, particularly concerning Venture Capital's role. The interaction term between *venture capital* and *underwriter prestige* is positive and significant at 5%, demonstrating that *venture capital* indeed positively moderates the relationship between *underwriter prestige* and the *waiting time*. Thus, we find evidence to support Hypothesis 2.

Regarding control variables, *CEO Education* and *Foreign* status were notably significant across models. CEO Education consistently showed a negative association with the IPO waiting time, significant at the 1% and 5% levels across models, suggesting that the educational background of the CEO plays a vital role in expediting the IPO process. Similarly, Foreign status was significantly positive in Models 2 through 4, indicating that foreign companies may experience a longer duration on the IPO waiting time.

The R-squared values above 0.20 across the models indicate a good level of explanatory power, highlighting the models' effectiveness in capturing the variation in the duration spent on the IPO waiting time. These values signify not only the models' robustness but also their relevance in explaining the complexities of the IPO process.

In sum, our analysis affirms the significant negative impact of underwriter prestige on the IPO waiting time, thus supporting Hypothesis 1. It also highlights the positive moderating role of Venture Capital in this relationship, which aligns with Hypothesis 2, as evidenced in Model 3. The tests did not confirm hypothesis 3.

Robustness Test

In the following subsection, we confirm the validity of our findings by applying several robustness tests to Model 3, the model that represents the main contribution of this study. We use sensitivity testing, quantile regression, and two different robustness regressions. Finally, we examine alternative metrics for assessing underwriter prestige. This way, we ensure the initial results are not artifacts of specific model assumptions or data conditions. In other words, the results are thorough and reliable.

Sensitivity Testing.

We perform sensitivity testing to evaluate how changes in model assumptions impact our results. This analysis helps to identify the robustness of our conclusions under different scenarios and parameter settings. We will perform this test by sequentially removing control variables, starting with the one with the highest p-value, until only those with a significance level of 1% remain. Results are shown in Table 5.

To assess the robustness of our findings, we conducted sensitivity analyses by gradually excluding control variables based on their significance levels, starting with the least significant. This approach ensures that only the most impactful variables (those significant at the 1% level) remain in the final models. Table 5 provides the results of this process.

The sensitivity testing involves the following regression models:

Model 3 includes all control variables and tests the interaction between venture capital presence and underwriter prestige on IPO waiting time:

$$
\begin{aligned}
IPOWaitingTime_{it} &= \beta_0 + \beta_1\, UWPrestige_{it} + \beta_2\, VentureCapital_{it} \\
&+ \beta_3\, (UWPrestige_{it} \times VentureCapital_{it}) + \beta_4\, Big4_{t} + \beta_5\, EBITDA_{it} \\
&+ \beta_6\, Hotness_{it} + \beta_7\, Year_{it} + \beta_8\, InterestRate_{it} + \beta_9\, TotalAssets_{it} \\
&+ \beta_{10}\, CEOEducation_{it} + \beta_{11}\, IndependentBoard_{it} \\
&+ \beta_{12}\, BoardMembers_{it} + \beta_{13}\, TimeAsCEO_{it} + \beta_{14}\, FounderCEO_{it} + \varepsilon_{it}
\end{aligned}
$$

In Model 3a, we remove *BoardMembers*:

$$
\begin{aligned}
IPOWaitingTime_{it} &= \beta_0 + \beta_1\, UWPrestige_{it} + \beta_2\, VentureCapital_{it} \\
&+ \beta_3\, (UWPrestige_{it} \times VentureCapital_{it}) + \beta_4\, Big4_{t} + \beta_5\, EBITDA_{it} \\
&+ \beta_6\, Hotness_{it} + \beta_7\, Year_{it} + \beta_8\, InterestRate_{it} + \beta_9\, TotalAssets_{it} \\
&+ \beta_{10}\, CEOEducation_{it} + \beta_{11}\, IndependentBoard_{it} + \beta_{13}\, TimeAsCEO_{it} \\
&+ \beta_{14}\, FounderCEO_{it} + \varepsilon_{it}
\end{aligned}
$$

In Model 3b, we remove *TimeAsCEO* and *FounderCEO*:

$$IPOWaitingTime_{it} = \beta_0 + \beta_1 UWPrestige_{it} + \beta_2 VentureCapital_{it} + \beta_3 (UWPrestige_{it} \times VentureCapital_{it}) + \beta_4 Big4_{t} + \beta_5 EBITDA_{it} + \beta_6 Hotness_{it} + \beta_7 Year_{it} + \beta_8 InterestRate_{it} + \beta_9 TotalAssets_{it} + \beta_{10} CEOEducation_{it} + \beta_{11} IndependentBoard_{it} + \varepsilon_{it}$$

In Model 3c, we remove *IndependentBoard*:

$$IPOWaitingTime_{it} = \beta_0 + \beta_1 UWPrestige_{it} + \beta_2 VentureCapital_{it} + \beta_3 (UWPrestige_{it} \times VentureCapital_{it}) + \beta_4 Big4_{t} + \beta_5 EBITDA_{it} + \beta_6 Hotness_{it} + \beta_7 Year_{it} + \beta_8 InterestRate_{it} + \beta_9 TotalAssets_{it} + \beta_{10} CEOEducation_{it} + \varepsilon_{it}$$

In Model 3d, we remove *Big4*:

$$IPOWaitingTime_{it} = \beta_0 + \beta_1 UWPrestige_{it} + \beta_2 VentureCapital_{it} + \beta_3 (UWPrestige_{it} \times VentureCapital_{it}) + \beta_5 EBITDA_{it} + \beta_6 Hotness_{it} + \beta_7 Year_{it} + \beta_8 InterestRate_{it} + \beta_9 TotalAssets_{it} + \beta_{10} CEOEducation_{it} + \varepsilon_{it}$$

In Model 3e, we remove Hotness:

$$IPOWaitingTime_{it} = \beta_0 + \beta_1 UWPrestige_{it} + \beta_2 VentureCapital_{it} + \beta_3 (UWPrestige_{it} \times VentureCapital_{it}) + \beta_5 EBITDA_{it} + \beta_7 Year_{it} + \beta_8 InterestRate_{it} + \beta_9 TotalAssets_{it} + \beta_{10} CEOEducation_{it} + \varepsilon_{it}$$

In Model 3f, we remove *CEOEducation*, leaving only the most significant control variables:

$$IPOWaitingTime_{it} = \beta_0 + \beta_1 UWPrestige_{it} + \beta_2 VentureCapital_{it} + \beta_3 (UWPrestige_{it} \times VentureCapital_{it}) + \beta_5 EBITDA_{it} + \beta_7 Year_{it} + \beta_8 InterestRate_{it} + \beta_9 TotalAssets_{it} + \varepsilon_{it}$$

Table 5

Sensitivity Testing Results

Variables	Model 3	3a	3b	3c	3d	3e	3f
UW Prest	-19.31***	-19.04***	-19.26***	-19.13***	-18.19***	-18.15***	-17.99***
	(2.645)	(2.602)	(2.588)	(2.583)	(2.366)	(2.366)	(2.372)
VC	-104.8**	103.5**	-105.0**	-104.9**	-105.0**	-104.4**	-112.2***
	(40.98)	(40.9)	(40.82)	(40.81)	(40.81)	(40.81)	(40.79)
VC X UW Prest	9.660*	9.596*	9.820**	9.569*	9.551*	9.560*	9.737**
	(4.966)	(4.963)	(4.947)	(4.937)	(4.936)	(4.937)	(4.95)
Big4	6.371	6.444	7.085	7.278			
	(8.1)	(8.095)	(8.061)	(8.056)			
EBITDA	-0.0658***	-0.0663***	-0.0674***	-0.0671***	-0.0666***	-0.0678***	-0.0712***
	(0.018)	(0.018)	(0.0179)	(0.0179)	(0.0179)	(0.0179)	(0.0179)
Hotness	0.208	0.205	0.199	0.189	0.193		
	(0.179)	(0.179)	(0.178)	(0.178)	(0.178)		
Year	-8.156***	-8.092***	-8.059***	-8.085***	-8.037***	-7.618***	-7.773***
	(1.28)	(1.275)	(1.273)	(1.273)	(1.271)	(1.211)	(1.213)
Interest rate	15.17***	15.27***	15.53***	15.69***	15.46***	16.17***	15.92***
	(4.843)	(4.837)	(4.821)	(4.816)	(4.809)	(4.764)	(4.777)
Total assets	0.0128***	0.0129***	0.0129***	0.0131***	0.0132***	0.0133***	0.0133***
	(0.00163)	(0.00162)	(0.00162)	(0.0016)	(0.0016)	(0.0016)	(0.0016)
CEO Education	-9.107**	-9.031**	-8.853**	-9.261**	-9.455**	-9.587**	
	(4.196)	(4.192)	(4.179)	(4.149)	(4.143)	(4.141)	
Independent Board	-11.26	-11.14	-10.9				
	(13.38)	(13.38)	(13.3)				
Board Members	1.043						
	(1.812)						
Time as CEO	0.0507	0.0494					
	(0.0627)	(0.0626)					
Founder CEO	6.54	6.07					
	(7.991)	(7.945)					
Constant	16,683***	16,560***	16,492***	16,538***	16,439***	15,603***	15,900***
	(2,582)	(2,572)	(2,569)	(2,568)	(2,565)	(2,446)	(2,450)
Obs	765	765	765	765	765	765	765
R-squared	0.22	0.219	0.219	0.218	0.217	0.216	0.21

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Quantile Regression.

Quantile regression is used to examine how our independent variables affect various points of the distribution of the dependent variable, not just the mean. This method allows for a more nuanced understanding of how relationships may differ across the distribution. Results are shown in Table 6 for the 25th, 50th, and 75th percentiles.

The model is the same for the three groups as follows:

$$
\begin{aligned}
IPOWaitingTime_{\mathrm{it}} &= \beta_0 + \beta_1\, UWPrestige_{\mathrm{it}} + \beta_2\, VentureCapital_{\mathrm{it}} \\
&+ \beta_3\,(UWPrestige_{\mathrm{it}} \times VentureCapital_{\mathrm{it}}) + \beta_4\, Big4_{\mathrm{t}} + \beta_5\, EBITDA_{\mathrm{it}} \\
&+ \beta_6\, Hotness_{\mathrm{it}} + \beta_7\, Year_{\mathrm{it}} + \beta_8\, InterestRate_{\mathrm{it}} + \beta_9\, TotalAssets_{\mathrm{it}} \\
&+ \beta_{10}\, CEOEducation_{\mathrm{it}} + \beta_{11}\, IndependentBoard_{\mathrm{it}} \\
&+ \beta_{12}\, BoardMembers_{\mathrm{it}} + \beta_{13}\, TimeAsCEO_{\mathrm{it}} + \beta_{14}\, FounderCEO_{\mathrm{it}} + \varepsilon_{\mathrm{it}}
\end{aligned}
$$

Table 6

Quantily Testing Results

Variables	Quantile 25%	Quantile 50	Quantile 75
UW. Prest.	-3.680***	-11.59***	-26.13***
	(0.54)	(1.139)	(3.598)
Venture Capital	-23.48***	-77.15***	-178.7***
	(8.367)	(17.64)	(55.75)
Venture Capital X UW. Prest.	2.448**	8.071***	18.45***
	(1.014)	(2.138)	(6.756)
Big4	-0.19	0.215	0.125
	(1.654)	(3.487)	(11.02)
EBITDA	-0.00162	-0.00309	-0.0483**
	(0.00368)	(0.00776)	(0.0245)
Hotness	-0.0273	-0.0237	-0.0469
	(0.0365)	(0.0771)	(0.243)
Year	-1.801***	-2.842***	-6.440***
	(0.261)	(0.551)	(1.742)
Interest rate	-0.581	-0.342	3.91
	(0.989)	(2.085)	(6.588)
Total assets	0.00166***	0.00607***	0.0171***
	(0.000333)	(0.000703)	(0.00222)
CEO Education	-0.607	-1.559	-6.982
	(0.857)	(1.806)	(5.708)
Independent Board	1.118	0.479	-9.494
	(2.733)	(5.762)	(18.21)
Board Members	0.0504	0.473	-0.246
	(0.37)	(0.78)	(2.465)
Time as CEO	0.00533	-0.00447	-0.0225
	(0.0128)	(0.027)	(0.0852)
Founder CEO	0.246	0.298	4.276
	(1.631)	(3.44)	(10.87)
Constant	3,695***	5,872***	13,306***
	(527.2)	(1,112)	(3,513)
Observations	765	765	765

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Robustness and Robust Regression.

Table 7 presents two additional regression models alongside Model 3, which has been discussed. The Robust Regression Model (or Robustness for Variance-covariance matrix of the estimators) mitigates the influence of out-of-range values. It adjusts the weights of observations based on their leverage and residual size, thus minimizing the distortion these values might cause in the estimated coefficients. The second model, employing Robust Standard Errors, also known as heteroscedasticity-consistent standard errors, compensates for variations in error variance across observations. This approach ensures that our inferences remain valid even when the assumption of constant error variance (homoscedasticity) is violated. The equations are similar of other presented previously; hence they are omitted for the following model.

Table 7

Robust and Robust Standard Errors Results

Variables	Model 3	Robust Regression Model	Robust Standard Errors
UW. Prest.	-19.31***	-4.521***	-19.31***
	(2.645)	(0.398)	(4.611)
Venture Capital	-104.8**	-13.52**	-104.8**
	(40.98)	(6.168)	(42.3)
Venture Capital X UW. Prest.	9.660*	1.177	9.660*
	(4.966)	(0.748)	(5.158)
Big4	6.371	0.459	6.371
	(8.1)	(1.219)	(9.098)
EBITDA	-0.0658***	0.00208	-0.0658***
	(0.018)	(0.00271)	(0.025)
Hotness	0.208	-0.0353	0.208
	(0.179)	(0.0269)	(0.218)
Year	-8.156***	-2.530***	-8.156***
	(1.28)	(0.193)	(1.252)
Interest rate	15.17***	-0.666	15.17***
	(4.843)	(0.729)	(5.126)
Total assets	0.0128***	0.00591***	0.0128***
	(0.0016)	(0.00025)	(0.0046)
CEO Education	-9.107**	-0.299	-9.107**
	(4.196)	(0.632)	(3.773)
Independent Board	-11.26	0.403	-11.26
	(13.38)	(2.015)	(15.25)
Board Members	1.043	0.214	1.043
	(1.812)	(0.273)	(1.657)
Time as CEO	-0.0507	0.00311	-0.0507
	(0.0627)	(0.00943)	(0.0582)
Founder CEO	6.54	-0.148	6.54
	(7.991)	(1.203)	(7.996)
Constant	16,683***	5,178***	16,683***
	(2,582)	(388.6)	(2,537)
Observations	765	765	765
R-squared	0.22	0.617	0.22

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

In our analysis of IPO waiting time influenced by underwriter prestige and venture capital, we utilized various regression models to ensure the robustness of our results against potential data irregularities. By applying the Robust Standard Errors model (VCE), we show that heteroskedasticity does not compromise our dataset. This finding is critical as it confirms the consistency of variance among residuals, reinforcing the validity of our estimates.

Despite concerns over the unusually high R-squared value in the robust regression model – 61.7%, which far exceeds typical standards for this type of research – we believe the model remains reliable. This high R-squared might initially suggest overfitting; however, considering it in conjunction with a p-value of 11.6%. It seems more indicative of the model's effectiveness in capturing the variability in *waiting time* rather than a statistical anomaly. The presence of out-of-range values, while impactful, is minimal and does not present a significant number of outliers, as verified in Table 1. This aspect of our findings highlights a unique contribution to our understanding of IPO dynamics, suggesting that certain rare yet influential factors can significantly affect IPO timing.

Furthermore, the robustness of our findings is supported by multiple tests, which confirm that outliers or other potential irregularities do not compromise our model's integrity. This comprehensive validation ensures that our theoretical propositions are sound and that the insights derived can significantly aid in developing informed financial strategies and policies.

Alternative metrics.

We explore alternative metrics for underwriter prestige to assess the robustness of our results. This analysis ensures that our conclusions are not sensitive to the specific measures of underwriter reputation used in our previous study. We used the Frequency of IPO, which means

the transaction volume in IPO performed by the bank as an alternative measure for underwriter prestige (e.g., Walker, 2008) as the primary independent variable to test the same hypotheses.

We created an alternative variable to measure underwriter prestige based on the transaction volume in the represented years. The data metric was developed based on data collected in Bloomberg. For this variable, we observed a mean value of 57.4 with a standard deviation of 45.7, indicating a significant variance among the underwriters' frequency of involvement in IPOs. The minimum and maximum values for this variable are 1 and 122, respectively. This range highlights the diverse extent of underwriter engagement in IPO activities, from minimal to extensive involvement. Table 8 shows the previous Models 2 and 3 and the new models based on the new proposed operationalization for underwriter prestige. The equations are similar to those presented previously, and hence they are omitted for the following models.

Table 8

Alternative Metric for Underwriter Prestige Results

Variables	Model 2	Model 3	Model 2 – Alternative	Model 3 – Alternative
UW. Prest.	-16.97***	-19.31***	-0.162*	-0.373**
	(2.361)	(2.645)	(0.0953)	(0.167)
Venture Capital	-26.85***	-104.8**	-43.18***	-65.59***
	(8.687)	(40.98)	(8.226)	(13.42)
Venture Capital X UW. Prest.		9.660*		0.407**
		(4.966)		(0.173)
Big4	6.284	6.371	-13.97	-11.45
	(8.115)	(8.1)	(8.843)	(8.788)
EBITDA	-0.0692***	-0.0658***	-0.0753***	-0.0671***
	(0.018)	(0.018)	(0.0252)	(0.025)
Hotness	0.208	0.208	0.179	0.196
	(0.179)	(0.179)	(0.227)	(0.226)
Year	-7.820***	-8.156***	-6.489***	-7.064***
	(1.271)	(1.28)	(1.125)	(1.161)
Interest rate	15.75***	15.17***	15.39***	14.80***
	(4.842)	(4.843)	(5.56)	(5.413)
Total assets	0.0128***	0.0128***	0.0121***	0.0122***
	(0.00164)	(0.00163)	(0.00457)	(0.00461)
CEO Education	-9.285**	-9.107**	-9.929**	-9.337**
	(4.202)	(4.196)	(3.961)	(3.965)
Independent Board	-9.797	-11.26	-7.568	-8.06
	(13.39)	(13.38)	(15.75)	(15.68)
Board Members	0.964	1.043	-0.957	-0.918
	(1.815)	(1.812)	(1.743)	(1.756)
Time as CEO	-0.0522	-0.0507	-0.0656	-0.0666
	(0.0628)	(0.0627)	(0.0586)	(0.0586)
Founder CEO	7.549	6.54	10.19	8.709
	(7.988)	(7.991)	(8.668)	(8.462)
Constant	15,990***	16,683***	13,215***	14,383***
	(2,562)	(2,582)	(2,268)	(2,342)
Observations	765	765	765	765
R-squared	0.216	0.22	0.166	0.172

Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

In the alternative metrics for underwriter prestige, Model 2 - Alternative shows a coefficient of -0.162, significant at the 10% level, and Model 3 - Alternative presents a coefficient of -0.373, significant at the 5% level. Thus, higher underwriter prestige correlates with reduced IPO waiting time, indicating a positive impact on IPO efficiency. Venture capital exhibits significant negative coefficients of -43.18 in Model 2 - Alternative and -65.59 in Model 3 - Alternative, both significant at the 1% level. This consistent result across models indicates that venture capital presence significantly shortens the waiting time of IPO processes. Additionally, the interaction term between venture capital and underwriter prestige in Model 3 - Alternative is significant at the 5% level with a coefficient of 0.407, pointing to a moderating effect of venture capital on the impact of underwriter prestige on IPO waiting time. the r-squared values for model 2 - Alternative and Model 3 - Alternative are 0.166 and 0.172, respectively, showing moderate explanatory power in capturing the variability in IPO waiting time.

The robustness tests validate our model's integrity and highlight the synergistic effects between the underwriter's prestige and the presence of venture capital to deliver a more efficient IPO.

Discussion

Our study's findings challenge and expand upon existing theories by examining the moderating role of venture capital in the relationship between underwriter prestige and IPO waiting times. The results indicate that venture capital uniquely influences this relationship, unlike other stakeholders such as auditors, who fill an essential gap in the literature of IPO and contribute to the Signaling, Agency, and Network theories.

The analysis shows that venture capitals serve not merely as financial backers but as an integral component of the governance framework that actively shapes strategic decisions. Their involvement tends to align more closely with shareholder interests than auditors, possibly due to their equity stakes and potential gains from a successful IPO. While auditors also play a critical role in enhancing governance quality and ensuring financial compliance, their influence on IPO timing appears limited. This distinction may stem from their primary function to verify and validate financial information without directly affecting strategic decisions or IPO timing.

Moreover, unlike auditors, venture capital investors often bring stronger networks that can expedite various IPO processes. These networks provide access to resources and strategic partnerships crucial during an IPO. While auditors contribute to reducing information asymmetry, their engagement does not extend to leveraging broad market networks that can influence the pace of the IPO process.

Contrary to our initial hypotheses, our analysis reveals that auditing firm expertise does not moderate the relationship between underwriter prestige and IPO waiting time. This finding suggests that although auditing firms are crucial for ensuring financial compliance and enhancing governance quality, their impact on IPO efficiency appears confined to their primary role of verifying financial integrity. This observation prompts further investigation into particular contexts where auditing firm expertise might intersect with other elements of the IPO process to enhance efficiency. The limited moderating effect might be due to prestigious underwriters' high quality of financial reporting, potentially rendering the auditors' role redundant.

For practitioners, our study offers valuable implications. Investment banks and venture capitalists can leverage these insights to refine their strategies and partnerships, emphasizing the

importance of underwriter prestige and venture capital involvement as critical factors in reducing IPO waiting times and enhancing market outcomes. Entrepreneurs, executives, and government policymakers can also benefit from understanding these dynamics as they navigate the complexities of the IPO process and seek to optimize their approaches for successful market entries.

One limitation of our study is the focus on the U.S. market, which may limit the generalizability of our findings to other geographical contexts. Additionally, the relatively low adjusted R-squared values suggest that other unexplored factors could influence IPO Waiting Time.

Conclusion

In conclusion, our research contributes to a more comprehensive understanding of the factors influencing IPO waiting time and how VC is important in reducing agency problems between underwriters and the firm. By bridging the gap between theory and practice, our findings not only advance academic discourse but also provide a valuable resource for industry practitioners looking to navigate the intricacies of the IPO process. Future studies should consider additional variables that may affect the time to list, such as market conditions, company size, and industry sector. Investigating these factors could provide a more comprehensive understanding of IPO efficiency. Further research could also explore the impact of these dynamics in different geographical markets to enhance the generalizability of our findings. The finding of the synergy between underwriter and venture capital is crucial, but it is also only one step forward in the direction of finding more synergies between players to build better and more effective organizations.

CRAFTING THE IPO NARRATIVE: HOW UNDERWRITER PRESTIGE SHAPES LANGUAGE IN THE PROSPECTUS

Abstract

This study explores the influence of venture capital presence and underwriter prestige on the sentiment expressed in IPO prospectuses, guided by Impression Management Theory. While it is known that both venture capital and prestigious underwriters play crucial roles in enhancing IPO success by reducing information asymmetry, the specific effect combined effect on text metrics remain unclear. This gap is significant because language can substantially impact investor perceptions and market outcomes. Analyzing data from 765 U.S. IPOs between 2011 and 2021, we employ mediation analysis with Sobel and Effect Ratio Tests to uncover the underlying relationships. Our findings reveal that venture capital presence positively affects total sentiment in IPO prospectuses, with this effect mediated by underwriter prestige. Meaning that the most relevant financial document companies use to go public are richer in emotion when there is involvement of venture capitalist and more prestigious underwriter. This research advances the understanding of corporate communication strategies by integrating advanced analytical techniques such as sentiment analysis and natural language processing. By addressing gaps in the literature, we provide practical insights for companies preparing for IPOs and investors assessing these offerings.

Keywords: Underwriter Prestige, Initial Public Offering (IPO), Impression Management Theory, Natural Language Processing (NLP), Sentiment Analysis.

Introduction

The initial public offering (IPO) landscape pulsates with fierce competition, where the nuances of corporate communication can significantly sway investor perceptions and ultimately determine the offering's success. This study explores the interplay between underwriter prestige and the language employed in IPO prospectuses. Guided by the established principles of Impression Management Theory, we aim to combine text analytics and IPO literature to explain how the underwriter's reputation and the presence of a venture capital firm shape the sentiment present in the IPO's most relevant document for investors, the Prospectus.

The ever-growing complexity of financial markets underscores the significance of this research. Credibility and trust are cornerstone principles for successful financial transactions in this dynamic environment (Armstrong, 2012; Whittington, 1999). During an IPO, the stakes are exceptionally high as companies strive to maximize their valuation and attract investment by strategically presenting their strengths while carefully addressing potential risks (Firth & Liau-Tan, 1998).

Impression Management Theory has been extensively applied in organizational contexts, where effective communication with investors and the public is vital (Goffman, 1959). The theory suggests that companies may highlight positive aspects of their operations to attract investment while also mentioning less favorable details to maintain a balanced and appealing image an appear legitimate. This careful management of information is especially critical during IPOs, a period of intense scrutiny where establishing credibility and trust is paramount (Gardner and Martinko, 1988).

NLP techniques, such as sentiment analysis, can quantify the tone and sentiment of communications in IPO prospectuses. Sentiment analysis evaluates the positivity and negativity within the text, helping to identify the strategic use of language in impression management. For example, the strategic positioning of positive and negative words in CEO letters is a subtle form of impression management (Boudt and Thewissen, 2019). Advanced NLP models have been used to detect impression management in corporate reports (Cherry et al., 2023). The model also effectively forecasts IPO performance based on the sentiment of prospectus texts (Ni, 2023).

Machine learning, specifically Natural Language Processing (NLP), is reshaping business management research by analyzing how text characteristics influence business performance and context. In finance, NLP tools like sentiment analysis help predict stock returns and market dynamics by assessing the emotional tone of texts. Studies suggest that financial communication, including the strategic use of language in IPO prospectuses, significantly impacts investor perceptions and market outcomes. Building on this, Singh et al. (2022) emphasize the potential of analyzing 'total sentiment' in paragraphs as a promising but underexplored area in sentiment analysis. This concept sets the stage for further exploring the roles of underwriters and venture capitalists in IPOs and startup success.

Drawing from Goffman’s seminal work (1959) that laid the foundation for Impression Management Theory and building upon subsequent research exploring corporate communication strategies, this paper seeks to bridge a gap in the existing literature. By integrating corporate finance, communication, and psychology insights, this research offers a multifaceted analysis of how language in IPO prospectuses can be wielded as a strategic tool to shape investor perceptions and ultimately impact outcomes.

Existing literature indicates that prestigious underwriters and venture capital firms, known for their credibility and reliability, can significantly influence the tone and content of IPO disclosures. They can use positive language to construct a favorable image and employing negative language cautiously to demonstrate transparency and thoroughness (Fraser, 2006; Galford and Drapeau, 2003).

Despite these insights, there is a notable gap in understanding the specific impact of underwriter prestige and venture capital presence on linguistic choices in IPO prospectuses. This research aims to fill this gap by systematically examining how underwriter prestige and venture capital presence correlates with using sentimental language in these documents. By addressing this gap, the study seeks to contribute to the academic literature on corporate communication and practical strategies for managing corporate image during IPOs. Ultimately, this research aims to provide new insights into the strategic use of language in financial communications, with significant implications for theory and practice in corporate finance and strategic communication.

This study investigates the relation between underwriter prestige, venture capital presence, and the total sentiment in IPO prospectuses. Specifically, it poses the research question: “How do underwriter prestige and the presence of a venture capital firm influence the total sentiment conveyed in the language of IPO prospectuses?” This question guides our exploration of the strategic linguistic choices made during IPOs and their potential effects on investor perceptions and behaviors.

Furthermore, the value of this study extends beyond the realm of academia, encompassing practitioners in the finance industry. Underwriters and corporate executives can

leverage the findings gleaned from this research to refine their strategic communication practices during IPOs. This paper contributes to a deeper understanding of the relationship between venture capital presence, underwriter prestige and the sentiment presented in the IPO prospectuses, offering valuable implications for theory and practice within corporate finance and strategic communication.

Our paper is structured to systematically explore the relationship between underwriter prestige and language use in IPO prospectuses. The following section comprehensively reviews existing literature relevant to our hypotheses. We detail the theoretical mechanisms that justify each hypothesis, explaining how underwriter prestige might influence the use of positive, negative, and ambiguous language within IPO prospectuses. Subsequently, we outline the empirical analysis plan, including the data collection methodology. We detail how we will utilize publicly available sources to gather IPO prospectuses and employ NLP techniques to analyze the language used within these documents. The final section acknowledges the limitations of this research while highlighting its potential contributions to theory and practice. To conclude, we suggest future research avenues to explore this topic further, potentially focusing on the international context of foreign IPOs, investor reactions to the information conveyed in prospectuses, and the broader application of NLP in analyzing corporate communication strategies.

Literature Review

Impression Management Theory, introduced by Goffman (1959), explores how individuals and organizations strive to control the perceptions others form about them. This theory posits that entities engage strategically to create and maintain desired public images. In

corporate communication, this theory is particularly relevant during preparing and disseminating of financial documents such as annual reports and IPO prospectuses (Gardner & Martinko, 1988). Companies often use impression management tactics to present information favorably, emphasizing positive aspects and downplaying negative elements to maintain an appealing image (Elsbach, 1994).

Building on impression management theory, Fombrun (1996) and Lakha (2004) discuss how organizations strategically manage information to cultivate a desired image that aligns with their goals. This theory particularly applies to IPOs, whose critical objective is to project a credible and attractive image to potential investors (Carter, Dark, & Singh, 1998). The strategic use of language in financial disclosures, supported by prestigious underwriters, can significantly influence investor perceptions and contribute to the success of the IPO.

The application of impression management in financial disclosures has been well-documented. Positive language in financial reports can enhance investor judgments, particularly when readability is low (Tan, Wang, & Zhou, 2014). Conversely, negative language can convey transparency and honesty, helping build investor trust by presenting a balanced view that acknowledges risks (Galford & Drapeau, 2003).

Machine learning have been used in business management academia (Choi et al. 2021) to understand how text characteristic affects performance outcomes and are affected by business characteristics or context. Natural Language Processing specifically has been used in corporate communication (e.g., Boudt & Thewissen, 2019; Ni, 2023) to explain marketing (Umashankar et al. 2022), innovation (Kaplan & Vakili, 2014), strategy (Carlon, 2022). Particularly, in finance, sentiment analysis – one element of NLP – helps predict stock returns and understand market

dynamics by quantifying the emotional tone of texts (Hájek, 2017). Studies have shown that ambiguous or less readable financial – other elements of NLP – statements can reduce information asymmetry between sophisticated and unsophisticated investors (Black et al. 2020). Furthermore, the use of positive and negative language in IPO prospectuses has been linked to various investor perceptions and market outcomes (Dorff et al., 2013; Rodríguez Bolívar et al., 2013).

Altogether, it is known that text characteristics undercover by NLP have consequences on business outcomes at the same way that business characteristics and context affect text characteristics.

Singh et al. (2022) highlighted the importance of analyzing the 'total sentiment' of paragraphs to decipher the nuanced connotations intended by authors in their textual outputs. This methodological approach is crucial as it provides a deeper understanding of sentiments beyond isolated sentence-level analysis. However, a comprehensive review of the literature reveals that there is scant research focusing on this aspect, suggesting that it is a relatively unexplored area. The relevance of 'total sentiment' analysis, as emphasized by Singh, combined with the limited research coverage it has received to date, presents a significant opportunity for future studies in sentiment analysis. Building on this, we now explore the significant role of underwriters and venture capitalists in IPOs and startup success.

The prestige of both underwriters and venture capitalists plays a significant role in shaping the outcomes of IPOs and the success of startup companies. Companies associated with prestigious underwriters are perceived as more credible and reliable, enhancing investor confidence and leading to higher valuations (Fraser, 2006). Similarly, startups backed by

reputable VCs are often seen as more credible, boosting investor confidence and potentially resulting in higher valuations (Smith, 2010). Both prestigious underwriters and VCs are more likely to engage in thorough due diligence, reducing the risk of post-IPO underperformance and poor post-investment performance, respectively (Carter, Dark, & Singh, 1998; Johnson, Baker, & Lee, 2003). The involvement of reputable underwriters and well-known VCs can mitigate information asymmetry between the issuing company or startup and potential investors, leading to more accurate IPO pricing and startup valuation, and reducing the likelihood of underpricing and mispricing (Beatty & Zajac, 1994; Robinson & Stuart, 2007).

Despite the extensive research on impression management and its application in financial disclosures, several inconsistencies and gaps remain. One significant gap is the lack of focus on how underwriter prestige or venture capital influences the linguistic choices in IPO prospectuses. While studies have examined the general impact of underwriter reputation on IPO outcomes, such as initial pricing and long-term performance (Carter, Dark, & Singh, 1998; Fraser, 2006), they have not sufficiently explored the nuanced ways in which prestigious underwriters shape the language used in these critical documents. Another under-researched area is the combined effect of venture capital backing and underwriter prestige on the language used in IPO prospectuses. Existing literature has primarily focused on the individual impacts of venture capital and underwriter prestige but has not thoroughly investigated their connection on strategic communication (Megginson & Weiss, 1991; Chahine & Filatotchev, 2008).

Additionally, while sentiment analysis and NLP have been applied to various financial documents, their application to IPO prospectuses, particularly in the context of underwriter prestige, is limited. Most studies utilizing these advanced methodologies have concentrated on other types of financial disclosures, such as annual reports and earnings announcements (Tan,

Wang, & Zhou, 2014; Black et al. 2020). This gap suggests a need for comprehensive analyses using sentiment analysis and NLP to evaluate how linguistic strategies in IPO prospectuses affect investor perceptions and decisions.

Addressing these gaps is crucial for advancing the understanding of impression management in IPO communications. By exploring how prestigious underwriters and venture capital backing influence the strategic use of language, researchers can uncover new dimensions of corporate communication that impact investor behavior and market outcomes. Filling these gaps will enhance theoretical frameworks and provide practical insights for companies preparing for IPOs and investors assessing these offerings. Integrating advanced analytical techniques in this context can offer a more nuanced understanding of how language shapes investor perceptions and decision-making processes, contributing to the broader literature on financial disclosures and market behavior.

We join the ongoing conversation on the impact of impression management and strategic communication in financial markets, contributing to a deeper understanding of how underwriter prestige and venture capital presence shape the language used in IPO prospectuses. Notably, we build upon the work of Gardner and Martinko (1988) on impression management in organizations, Elsbach (1994) on corporate communication strategies, Megginson and Weiss (1991) on the certification role of venture capital, Fraser (2006) on the credibility and reliability brought by prestigious underwriters, and Carter, Dark, and Singh (1998) on the due diligence and thoroughness associated with high-reputation underwriters. Additionally, this study leverages insights from Chahine and Filatotchev (2008) on the mutual benefits of venture capital and underwriter prestige, Tan, Wang, and Zhou (2014) on the influence of positive language in financial disclosures, Galford and Drapeau (2003) on the trust-building role of negative

language, and Black et al. (2020) on the role of ambiguous language in reducing information asymmetry. By integrating these perspectives, the current study aims to fill identified gaps and extend the understanding of linguistic strategies in IPO communications, offering practical implications for both companies and investors.

Theory and Hypotheses Development

This section explores how underwriter prestige shapes the language used in IPO prospectuses, guided by Impression Management Theory. This theory suggests that companies strategically manage the information they present to cultivate a desired public image, particularly during IPOs where attracting investors is crucial. Prestigious underwriters are associated with reliability and credibility, which can enhance the company's image. This positive association often leads companies to use language that enhances their appeal and strategically balances the portrayal of the company's prospects. Positive language is typically used to create favorable impressions, while negative language may convey transparency and realism, addressing potential risks directly to build investor trust.

VC Presence and Total Sentiment

The strategic communication expertise brought by venture capitalists is expected to enhance the total sentiment in IPO communications. Venture capitalists are adept at conveying both positive and negative emotions, understanding the importance of sentiment in influencing investor perceptions. Their involvement likely leads to a higher total sentiment in the documents, as they use their credibility and financial stability to strategically craft communications that resonate emotionally with investors. This strategic use of language, both positive and negative,

underscores the hypothesis that venture capital presence positively impacts total sentiment, making the investment more attractive to potential investors.

Sentiment indicators capture the tone of financial texts and are crucial for understanding market reactions and investor behavior. These indicators have been shown to explain significant portions of idiosyncratic volatility and capital asset mispricing (Liu et al., 2016). In the context of IPOs, sentiment analysis helps predict stock returns and enhance the understanding of market dynamics (Hájek, 2017).

Firms strategically adjust their disclosure policies based on investor sentiment, using optimistic or pessimistic language to shape market perceptions (Bergman & Roychowdhury, 2008). Venture capitalists, known for their strategic guidance and credibility, likely enhance the use of positive language to highlight a company's strengths and growth potential. Additionally, VC-backed companies may use negative language to convey honesty and transparency, building investor trust by acknowledging potential risks (Galford & Drapeau, 2003; Ashu et al., 2019).

Investor sentiment significantly impacts the cost of equity capital, with high optimism leading to overpriced stocks (Antoniou et al., 2014). In the context of IPOs, VCs are associated with thorough due diligence and credible backing, which can lead to the strategic use of positive and negative language in IPO prospectuses. Positive language emphasizes strengths and growth potential, while negative language can set realistic expectations and prevent future disappointments (Jucks et al., 2016; Dorff et al., 2013).

Therefore, the presence of venture capital is expected to impact total sentiment in IPO communications positively. By strategically using positive and negative words, influenced by the credibility and optimism brought by VC backing, companies can enhance the sentiment

expressed in their IPO prospectuses, making the investment opportunity more attractive to potential investors.

H1: The presence of venture capital investment has a positive influence on total sentiment.

This hypothesis will be tested in the following sections to determine the influence of venture capital on the sentiment expressed in IPO documents. Next, we will explore the relationship between VC presence and underwriter prestige.

VC Presence and Underwriter Prestige

Venture capital backing is a strong signal of quality and potential for companies seeking to go public (Megginson & Weiss, 1991). VC investors are known for their rigorous selection processes, extensive due diligence, and active involvement in the companies they fund (Lange et al., 2001).

This certification effect makes VC-backed firms more attractive to high-prestige underwriters who are selective about the companies they choose to underwrite (Colombo et al., 2016), then prestigious underwriters favor VC-backed companies (Megginson & Weiss, 1991),

Prestigious underwriters, such as top investment banks, are associated with successful IPOs and are selective in their engagements. They prefer to work with firms with strong growth prospects and credible endorsements (Chahine & Filatotchev, 2008). The involvement of venture capitalists can enhance a company's operational and strategic capabilities, providing further assurance to underwriters about the company's future performance. IPOs with affiliated venture capitalists and prestigious underwriters have been shown to have better market performance and lower underpricing, highlighting the mutual benefits of such partnerships (Chahine &

Filatotchev, 2008). Prestigious underwriters enhance affiliated VCs' effective screening, certification, and monitoring roles.

The relationship between venture capital and underwriter prestige is rooted in signaling theory, where the backing of reputable VCs serves as a positive signal to the market and potential underwriters about the company's viability and potential (Spence, 1973). IPOs backed by prestigious VCs are less likely to delist for performance failure and have longer listing durations than those without VC backing (Chou et al., 2013). This underscores the importance of VC reputation in attracting top-tier underwriters who seek to maintain their track records by partnering with credible companies (Chou et al., 2013).

Moreover, the synergistic effect of VC backing and underwriter prestige can significantly enhance company valuation and market performance. VC-backed internet and software companies taken public by top underwriters had higher market capitalizations and produced higher returns, demonstrating the benefits of such partnerships (Lange et al., 2001).

The combined effect of affiliations with prestigious universities, underwriters, and venture capitalists on the valuation of biotech ventures at IPO and their post-IPO performance further supports this relationship. Affiliations with prominent VCs and underwriters provide additive quality signals that significantly enhance IPO valuations (Colombo et al., 2016). Therefore, we propose the following hypothesis:

H2: The presence of venture capital positively influences a firm's ability to partner with prestigious underwriters.

Having established the influence of venture capital presence on underwriter prestige, we now turn to explore the relationship between underwriter prestige and sentiment.

Underwriter Prestige and Total Sentiment

Prestigious underwriters are viewed as more reliable and credible due to their reputation and experience (Fraser, 2006). In the context of IPOs, a critical objective is to project a credible and attractive image to potential investors (Carter, Dark, & Singh, 1998). This positive association can create a halo effect, where the underwriter's credibility enhances perceptions of the company. The language used in IPO prospectuses can significantly influence investors' perception of a company's risk and potential (Dorff et al., 2013). Companies may strategically use positive language to create a more favorable impression and mitigate perceived risk while ensuring compliance with regulatory standards (Rodríguez Bolívar et al., 2013).

Sentiment indicators capture the tone of financial texts and are crucial for understanding market reactions and investor behavior. These indicators have been shown to explain significant portions of idiosyncratic volatility and capital asset mispricing (Liu et al., 2016). In the context of IPOs, sentiment analysis helps predict stock returns and enhance the understanding of market dynamics (Hájek, 2017).

Positive language emphasizes strengths and growth potential, while negative language can set realistic expectations and prevent future disappointments (Jucks et al., 2016; Dorff et al., 2013). Firms strategically adjust their disclosure policies based on investor sentiment, using optimistic or pessimistic language to shape market perceptions (Bergman & Roychowdhury, 2008). The involvement of prestigious underwriters can influence the tone of the IPO prospectus by encouraging positive language to highlight the company's strengths and growth potential.

Additionally, negative language can convey honesty and transparency, building investor trust by acknowledging potential risks (Galford & Drapeau, 2003; Ashu et al., 2019). This

balanced approach aligns with impression management theory, which suggests that organizations manage information to cultivate a desired image that aligns with their goals (Fombrun, 1996; Lakha, 2004).

Prestigious underwriters bring a level of authority and trustworthiness that can significantly influence the tone and emotional content of financial disclosures. Their reputation for thorough due diligence and professionalism enables them to craft IPO narratives that effectively balance optimism and realism. This capability allows them to embed a richer sentiment in the text, harnessing both positive and negative language to sculpt investor expectations and perceptions. As such, the higher the prestige of the underwriter, the more nuanced and compelling the sentiment in the IPO communications, potentially enhancing the appeal of the offering to investors.

The presence of VCs, who are seen as knowledgeable and strategic investors, likely enhances this optimism, positively influencing overall market sentiment. This aligns with impression management theory, which suggests that organizations manage information to cultivate a desired image that aligns with their goals (Fombrun, 1996; Lakha, 2004). Hence, we propose the following hypothesis:

H3: Underwriter Prestige has a positive effect on Total Sentiment.

With the positive effect of underwriter prestige on sentiment established, we next investigate its mediation role.

Mediation by Underwriter Prestige

We propose that the relationship between venture capital presence and sentiment in IPO

prospectuses is mediated by underwriter prestige. Firms invested by venture capitalist attract better underwriters. Both institutions have an effect on increasing the sentiment on the IPO, but the effect of Venture Capital decreases with the presence of the underwriter, hence, the proposed mediation effect.

Venture capitalists are known for their rigorous selection processes, extensive due diligence, and active involvement in the companies they fund (Megginson & Weiss, 1991; Lange et al., 2001) adds financial resources and significant credibility to the company, making it more attractive to high-prestige underwriters (Chahine & Filatotchev, 2008). Prestigious underwriters, in turn, are selective about the firms they work with, preferring those with strong growth prospects and credible endorsements, such as VC backing (Fraser, 2006; Chou et al., 2013).

Prestigious underwriters enhance affiliated VCs' effective screening, certification, and monitoring roles, leading to better market performance and lower underpricing (Chahine & Filatotchev, 2008). The effect of VC backing, and underwriter prestige can significantly enhance company valuation and market performance (Lange et al., 2001; Colombo et al., 2016).

Furthermore, prestigious underwriters are likely to encourage the strategic use of positive and negative language to cultivate a credibility and attractive image. Positive language emphasizes strengths and growth potential, while negative language can set realistic expectations and build investor trust by acknowledging potential risks (Galford & Drapeau, 2003; Ashu et al., 2019). This balanced approach can enhance the overall sentiment in IPO communications, aligning with impression management goals (Dorff et al., 2013; Rodríguez Bolívar et al., 2013).

Sentiment indicators capture the tone of financial texts and are crucial for understanding market reactions and investor behavior (Liu et al., 2016). In the context of IPOs, sentiment

analysis helps predict stock returns and enhance the understanding of market dynamics (Hájek, 2017).

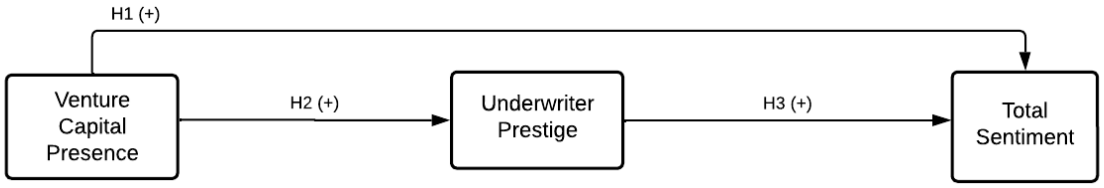
Given this context, the positive impact of venture capital presence on sentiment is likely mediated by underwriter prestige. Venture capital backing enhances a company's attractiveness to prestigious underwriters, who, in turn, influence the sentiment expressed in IPO prospectuses through strategic language use. Finally, we propose the following hypothesis:

H4: The impact of Venture Capital Presence on Sentiment is mediated by Underwriter Prestige.

With the positive effect of underwriter prestige on sentiment established, we next introduce the hypothesized model illustrating the relationships among venture capital presence, underwriter prestige, and sentiment in Figure 1.

Figure 1

Hypothesized Model of Venture Capital Presence, Underwriter Prestige, and Sentiment



In the subsequent sections, we will test this hypothesis to determine the mediating role of underwriter prestige in the relationship between venture capital presence and sentiment in IPO communications.

Research Method

This section outlines the methodological approach used to investigate the impact of underwriter prestige on linguistic choices in IPO prospectuses. By employing advanced NLP techniques and sentiment analysis, we aim to quantitatively assess how prestigious underwriters influence positive, negative, and ambiguous language use in these critical financial documents. Our comprehensive dataset, spanning a decade of IPO filings, provides a robust foundation for our analysis.

To test our hypotheses, we apply a series of regression models that incorporate multiple control variables to isolate the effects of the primary variables of interest. We employ robust standard errors to address potential heteroscedasticity and ensure more accurate estimates of coefficient significance. Additionally, mediation analysis was performed using the Sobel Test and Effect Ratio methods.

We present four models to evaluate our hypotheses. Each model is structured as follows:

The first model examines the relationship between venture capital presence and total sentiment, while accounting for control variables:

$$TotalSentiment_{\mathrm{it}} = \beta_0 + \beta_1 VC_{\mathrm{t}} + \Gamma\, Controls_{\mathrm{it}} + \varepsilon_{\mathrm{it}}$$

The second model explores the influence of venture capital on underwriter prestige, with the inclusion of the same control variables:

$$UnderwriterPrestige_{\mathrm{it}} = \beta_0 + \beta_1 VC_{\mathrm{t}} + \Gamma\, Controls_{\mathrm{it}} + \varepsilon_{\mathrm{it}}$$

The third model evaluates the impact of underwriter prestige on total sentiment, adjusting for relevant controls:

$$TotalSentiment_{\mathrm{it}} = \beta_0 + \beta_1 UnderwriterPrest_{\mathrm{it}} + \Gamma Controls_{\mathrm{it}} + \varepsilon_{\mathrm{it}}$$

The fourth model assesses the mediating role of underwriter prestige in the relationship between venture capital and total sentiment:

$$TotalSentiment_{\mathrm{it}} == \beta_0 + \beta_1 VC_{\mathrm{it}} + \beta_2 UnderwriterPrest_{\mathrm{it}} + \Gamma Controls_{\mathrm{it}} + \varepsilon_{\mathrm{it}}$$

Sample

We collected data from Bloomberg, Eikon, and the prospectuses filed with the U.S. Securities and Exchange Commission (SEC). To reduce complexity, we focused on IPOs listed on the Nasdaq from 2011 to 2021, capturing local and foreign offerings. All prospectuses were accessed through the SEC Edgar database to build our variables of interest, with financial data sourced from the IPO filings.

In line with Ferris et al. (2013), Hanley and Hoberg (2010), and Arnold et al. (2010), we excluded American Depositary Receipts/American Depositary Shares (ADR/ADS), Real Estate Investment Trusts (REITs), closed-end funds, limited partnerships, IPOs that did not raise proceeds, and significantly undervalued IPOs. Additionally, any already listed companies (not pure primary IPOs) were excluded. After cleaning and refining the data, our final sample comprises 763 IPO prospectuses. With this dataset, we conducted a panel analysis to explore the relationship between underwriter prestige and linguistic strategies in IPO communications.

Measures

Our study employs various variables to comprehensively analyze the impact of underwriter prestige on linguistic choices in IPO prospectuses. These variables include dependent, independent, and control variables, all critical to understanding the dynamics of IPO disclosures.

As the dependent variable, we used Total Sentiment derived from NLP techniques to represent the overall tone in IPO communications. Total Sentiment is calculated as the sum of normalized positivity and negativity values, providing a comprehensive measure of both positive and negative language in the prospectuses. Before normalizing, we excluded outliers for both metrics to avoid miss data representation. To generate the metrics for positivity and negativity, we used the Loughran & McDonald (2014) dictionary. Positivity is measured by dividing the number of positive words by the total number of words, excluding numerical data and tables, while negativity is measured similarly using negative words. Liu (2012) developed foundational methods for sentiment analysis, and Pang and Lee (2008) advanced these techniques, enabling more accurate assessments of text tone. Hanley and Hoberg (2010) applied sentiment analysis to IPO prospectuses to study its impact on IPO pricing, and Loughran and McDonald (2011) examined the tone of financial disclosures, including IPO documents, to understand market reactions. This comprehensive approach allows us to examine how factors such as underwriter prestige and venture capital influence the overall sentiment in IPO documents.

We assess one variable's direct impact and two others' indirect effects. Underwriter prestige serves as an indicator of both status signaling and the quality of services provided. Carter and Manaster (1990) initially developed a metric to measure underwriter prestige, which

was later refined by Loughran and Ritter (2004) to more accurately capture the underwriter's influence on the success of an IPO. This refinement resulted in the creation of the tombstone metric, which has become the most widely used measure of underwriter prestige in the literature. The tombstone metric signifies that the logos of the most prestigious underwriters are more prominent and centrally positioned in the document, while those of less prestigious underwriters are smaller and off-center. The values of this metric range from 1 to 9 and the data were obtained from Ritter's website. This size-based metric is a valuable proxy for underwriter prestige, as utilized in the present study.

Venture capital is a dichotomous variable that indicates whether the company has received prior investment from venture capital firms. It is coded as 1 if the company has received venture capital investment and 0 if it has not (Brau et al., 2010).

We include various control variables to account for factors that might influence the linguistic features of the prospectus and investors' reactions:

The variable CEO Education is derived from the information provided in the IPO prospectus. It is operationalized based on the highest level of education attained by the CEO. This variable is categorized as follows: 0 if the CEO does not have an undergraduate degree, 1 if the CEO has an undergraduate degree, 2 if the CEO has attended graduate school (such as obtaining a Law degree or MBA), and 3 if the CEO has a PhD (Bhagat et al., 2010); EBITDA (Earnings Before Interest, Taxes, Depreciation, and Amortization), serving as a proxy for the company's operating performance; IPO Year: The year in which the IPO took place, accounting for temporal effects and market conditions; Interest Rate: The prevailing interest rate at the time of the IPO, reflecting broader economic conditions; Total Assets: The total assets of the

company at the time of the IPO, indicating company size; Independent Board: The ratio of independent directors to total directors, representing the strength of corporate governance; Time as CEO: The number of years the CEO has served in their role, indicating leadership stability and experience (Hamori & Koyuncu, 2015); Founder CEO: A binary variable indicating whether the CEO is also the company's founder, which can influence strategic decisions and investor perceptions (Tupper, 2016); These variables allow us to conduct a thorough analysis of how underwriter prestige and various linguistic strategies impact IPO outcomes.

Results and Analysis

Table 1 presents the correlation matrix and descriptive statistics, including mean and standard deviation, for the study variables. This table elucidates the interrelations among variables and offers a preliminary overview of their distribution characteristics within our dataset. Additionally, it confirms the absence of multicollinearity among the explanatory variables.

Table 1

Correlation Matrix and Descriptive Statistics

	Total Sentiment	Venture Capital	CEO Education	EBITDA	IPO year	Interest Rate	Total Assets	Independent Board	Time as CEO	Founder CEO
2	0.0185	1								
3	-0.0336	0.341***	1							
4	0.0824*	-0.274***	-0.0353	1						
5	0.206***	0.0139	0.0609	-0.146***	1					
6	0.104**	0.118**	0.0791*	-0.0386	0.307***	1				
7	0.268***	-0.163***	-0.0735*	0.224***	-0.0890*	-0.0250	1			
8	-0.202***	0.367***	0.226***	-0.174***	0.0813*	0.0431	-0.228***	1		
9	0.0356	0.0724*	-0.0240	-0.0168	-0.0225	-0.0725*	-0.0268	0.103**	1	
10	-0.0931*	0.153***	0.0462	-0.124***	0.0500	0.00721	-0.0612	0.149***	0.359***	1
Obs.	765	749	765	765	765	766	765	765	765	765
Mean	75	0.84	0.56	1.74	18.71	2015.95	0.56	677.46	0.60	60.30
SD	106.139	0.25	0.497	0.88	219.244	45.360	0.761	2391.415	0.286	59.032
Min	15	0.05	0	0	-2789	765	0.04	0.1	0	0
Max	1055	1.72	1	3	2724	2022	2.4	36179	1.5	336

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The correlation matrix in Table 1 reveals several significant relationships among the study variables. Sentiment shows strong positive correlations with both EBITDA (0.206***) and Interest Rate (0.268***), indicating that higher sentiment is associated with higher EBITDA and interest rates. Sentiment also shows a significant positive correlation with IPO Year (0.104**), suggesting that more recent IPOs have higher sentiment. Venture Capital correlates positively with CEO Education (0.341***) and Independent Board (0.367***), indicating that venture-backed companies tend to have more educated CEOs and independent boards. Conversely, Venture Capital negatively correlates with EBITDA (-0.274***) and Total Assets (-0.163***), suggesting that companies with venture capital funding typically have lower EBITDA and total assets. EBITDA shows significant negative correlations with Independent Board (-0.174***) and Founder CEO (-0.124***), indicating that companies with higher EBITDA are less likely to have independent boards and founder CEOs. Additionally, Total Assets negatively correlate with Sentiment (-0.202***) and Venture Capital (-0.163***), suggesting that larger companies tend to have lower sentiment and are less likely to be venture-backed. IPO Year shows a positive correlation with Interest Rate (0.307***), indicating that IPOs in more recent years have been associated with higher interest rates. Time as CEO and Independent Board also positively correlate (0.103**), suggesting that longer-tenured CEOs are associated with more independent boards.

Multicollinearity is not a problem in this analysis because the correlations between predictor variables are generally low to moderate, indicating that the variables are not highly correlated. High multicollinearity can be problematic in regression models because it makes it difficult to determine the individual effect of each predictor variable. When predictor variables are highly correlated, their estimates can become

unstable and inflate the standard errors, leading to less reliable and less interpretable results.

We conducted four regression models to evaluate our hypotheses. Adhering to Baron and Kenny's (1986) methodology, we integrated these regressions to examine the proposed mediation hypothesis. Table 2 shows the regression results, which will be analyzed in the subsequent discussion.

We present the results of our regression analysis examining the relationship between underwriter prestige and sentiment. Specifically, Table 2 displays the coefficients and standard errors for the critical variables across four models.

Model 1 focuses on Sentiment, analyzing the direct impact of various factors on sentiment. Model 2 examines Underwriter Prestige, identifying the key determinants of underwriter prestige within the context of our study. Model 3 returns to Sentiment, incorporating underwriter prestige as a variable to explore its direct effect on sentiment. Model 4 also centers on Sentiment, further refining the analysis by considering both underwriter prestige and venture capital presence. These models form the basis for the mediation analysis.

Table 2 presents the regression results examining the relationship between underwriter prestige and total sentiment in IPO communications, providing insights into how underwriter reputation influences linguistic strategies. It is worth noting that the reduced number of observations in Model 1, 3 and 4 is due to the exclusion of outliers.

Table 2

Regression Models

Variables	Model 1 *Total* Sentiment	Model 2 Underwriter Prestige	Model 3 *Total* Sentiment	Model 4 *Total* Sentiment
Underwriter Prestige			0.0556***	0.0555***
			(0.00468)	(0.00505)
Venture Capital	0.0834***	1.422***		0.000769
	(0.0207)	(0.160)		(0.0196)
CEO Education	-0.00956	-0.0709	-0.00526	-0.00537
	(0.0100)	(0.0725)	(0.00901)	(0.00921)
EBITDA	7.68e-05**	0.000533	2.77e-05	2.81e-05
	(3.10e-05)	(0.000350)	(2.87e-05)	(3.00e-05)
IPO Year	0.0206***	-0.0547**	0.0236***	0.0236***
	(0.00281)	(0.0227)	(0.00252)	(0.00254)
Interest Rate	0.0121	0.0162	0.0110	0.0109
	(0.0125)	(0.0870)	(0.0112)	(0.0114)
Total Assets	3.17e-05***	0.000131***	2.19e-05***	2.19e-05***
	(6.13e-06)	(4.12e-05)	(4.74e-06)	(4.82e-06)
Independent board	-0.180***	-0.326	-0.164***	-0.165***
	(0.0370)	(0.240)	(0.0334)	(0.0337)
Time as CEO	0.000431***	0.000728	0.000394***	0.000394***
	(0.000163)	(0.00119)	(0.000147)	(0.000147)
Founder CEO	-0.0602***	-0.186	-0.0509***	-0.0510***
	(0.0200)	(0.141)	(0.0178)	(0.0178)
Constant	-40.69***	117.7**	-47.07***	-47.09***
	(5.669)	(45.69)	(5.076)	(5.115)
Observations	749	765	749	749
R-squared	0.187	0.162	0.316	0.316

Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

In Model 1, Venture Capital (0.0834***) shows a significant positive relationship with total sentiment, indicating that venture-backed companies tend to have more total sentiment. Other control variables like IPO Year (0.0206***), Total Assets (3.17e-05***), and Time as CEO (0.000431***) also exhibit significant positive effects on total sentiment. Conversely, the Independent Board (-0.180***) and the Founder CEO (-0.0602***) have significant negative relationships with total sentiment.

Model 2 highlights a significant positive relationship between Venture Capital (1.422***) and underwriter prestige, suggesting that venture-backed companies are

more likely to have prestigious underwriters. Other significant predictors include IPO Year (-0.0547**), showing a negative relationship, and Total Assets (0.000131***), showing a positive relationship with underwriter prestige.

In Model 3, underwriter prestige (0.0556***) significantly positively affects total sentiment, supporting the hypothesis that prestigious underwriters influence the language used in IPO communications to enhance the company's image. This aligns with theories suggesting that prestigious underwriters help companies use more positive language to cultivate a favorable image and attract potential investors. Significant control variables in this model include IPO Year (0.0236***), Total Assets (2.19e-05***), Independent Board (-0.164***), Time as CEO (0.000394***), and Founder CEO (-0.0509***).

Model 4 confirms the results of Model 3, with underwriter prestige (0.0555***) maintaining its significant positive effect on total sentiment. Control variables such as IPO Year (0.0236***), Total Assets (2.19e-05***), Independent Board (-0.165***), Time as CEO (0.000394***), and Founder CEO (-0.0510***) remain consistent.

The R-squared values indicate that these models explain a reasonable portion of the variance in total sentiment, with Model 3 and Model 4 explaining 31.6% of the variance. This suggests that underwriter prestige and other factors significantly impact the total sentiment expressed in IPO communications. While the R-squared for Model 1 and Model 2 are lower, but still acceptable.

In summary, the regression analysis supports the proposed hypotheses. Hypothesis 1, which posited that the presence of venture capital positively impacts the overall total sentiment in IPO communications, is confirmed. Hypothesis 2, suggesting that venture-backed companies are more likely to have prestigious underwriters, is also

validated. Finally, Hypothesis 3, which proposed that prestigious underwriters significantly enhance total sentiment in IPO prospectuses, is proven. These findings align with existing literature on impression management and corporate communication, revealing that prestigious underwriters play a crucial role in shaping the language of IPO communications, strategically using positive language to influence investor perceptions and achieve favorable outcomes.

Table 3 presents the results of the Sobel Test (Z) and the Effect Ratio, examining the mediation effect of Duration on the relationship between Underwriter Prestige and Underpricing. The table includes the coefficients and standard errors used to calculate these values, providing insights into this mediation analysis's direct and indirect effects.

Table 3

Results of Sobel Test[a] (Z) and Effect Ratio[b, c]

Value	Value	Explanation
c	0.0555	Measures the direct effect of Underwriter Prestige on Underpricing
a	1.422	Measures the direct effect of Underwriter Prestige on Duration
SEa	0.16	Measures the Standard Variation of Underwriter Prestige on Duration
b	0.0834	Measures the direct effect of Duration on Underpricing controlling for Underwriter Prestige
SEb	0.0207	Measures the Standard Variation of Underwriter Prestige on Duration
Z*	3.673	$\mathrm{Z} = \frac{a * b}{\sqrt{(SE_b{}^2 * \mathrm{a}^2) + (SE_a{}^2 * b^2)}}$
Effect ratio*	2.137	$\text{Effect Ratio} = \frac{a * b}{\mathrm{c}}$

* $p < 0.05$; all two-tailed tests.

We conducted a mediation analysis to investigate whether venture capital mediates the relationship between underwriter prestige and total sentiment. We

performed the Sobel test to test this proposed mediation hypothesis and calculated the effect ratio based on the coefficients and standard errors from the regression models. Table 3 presents the results of these calculations, providing insights into the mediation effect.

The positive Z-score of 3.673 indicates a significant deviation from the null hypothesis of no mediation, surpassing the critical value of 1.96. This suggests that as the independent variable (underwriter prestige) increases, the mediator (venture capital) also increases, which in turn impacts the dependent variable (total sentiment).

Similarly, the positive Effect Ratio of 2.137, exceeding the threshold of 0.8, reflects a strong positive indirect effect compared to the total effect. This indicates that as Underwriter Prestige increases, the mediation through Venture Capital significantly influences total sentiment proportionally. In other words, it was shown that Underwriter Prestige affects total sentiment by increasing the likelihood of venture capital involvement, which in turn enhances total sentiment. Thus, Hypothesis 4, which proposed that the influence of Venture Capital Presence on total sentiment is mediated by Underwriter Prestige, is empirically validated.

Overall, the mediation analysis demonstrates that venture capital plays a significant role in mediating the relationship between underwriter prestige and total sentiment, emphasizing the importance of venture capital in amplifying the positive impact of prestigious underwriters on reactivity in IPO communications.

Discussion

We aimed to study how underwriter prestige and venture capital involvement shape total sentiment in IPO prospectuses. Our findings align well with the existing

literature on impression management and corporate communication, adding empirical support to theoretical claims. The positive impact of venture capital presence on total sentiment, confirmed by Hypothesis 1, is consistent with previous studies highlighting the strategic role of venture capital in enhancing company perceptions (Megginson & Weiss, 1991; Hájek, 2017). The validation of Hypothesis 2, which shows that venture-backed companies are more likely to have prestigious underwriters, supports the certification role of venture capital and its attractiveness to top-tier underwriters (Chahine & Filatotchev, 2008; Fraser, 2006). Hypothesis 3's confirmation, indicating that prestigious underwriters significantly enhance the total sentiment in IPO communications, echoes prior research on the positive signaling effects of underwriter reputation (Carter, Dark, & Singh, 1998; Dorff et al., 2013). Additionally, the empirical validation of Hypothesis 4, demonstrating that the impact of venture capital presence on total sentiment is mediated by underwriter prestige, integrates insights from signaling theory and impression management (Fombrun, 1996; Lakha, 2004). These findings enrich our understanding of how underwriter prestige and venture capital synergistically influence linguistic strategies in IPO prospectuses, offering practical implications for enhancing investor perceptions and market outcomes.

This study contributes to the ongoing discourse on impression management and strategic communication in financial markets by examining the interplay between venture capital presence, underwriter prestige, and the total sentiment expressed in IPO prospectuses. Guided by Impression Management Theory, our research highlights the crucial role of prestigious underwriters in shaping the language used in IPO documents to cultivate a desired public image and attract investors.

Our findings indicate that venture capital presence positively influences the overall sentiment in IPO communications, aligning with the hypothesis that venture-

backed companies utilize their credibility and financial stability to influence investor perceptions through strategic communication. This effect is further enhanced by the involvement of prestigious underwriters, who contribute to a more favorable portrayal of the company's prospects through the strategic use of positive and negative language.

Moreover, the study confirms that the impact of venture capital presence on total sentiment is mediated by underwriter prestige. This mediation underscores the synergistic relationship between venture capital and prestigious underwriters, both of which are integral in enhancing the attractiveness of IPOs through effective communication strategies.

By applying advanced analytical techniques such as total sentiment analysis and natural language processing, this research provides a quantitative assessment of the emotional tone and linguistic complexity of IPO prospectuses. This methodological approach extends the current literature and offers practical insights for companies preparing for IPOs and investors evaluating these offerings.

Despite the significant contributions of this study, several limitations should be acknowledged. First, the analysis is based on IPO prospectuses from a specific period and market, which may limit the generalizability of the findings to other contexts or timeframes. Future research could expand the scope by examining IPOs from different countries and over extended periods to validate and extend the current findings.

Second, the study focuses on the textual analysis of IPO prospectuses and does not consider other forms of corporate communication, such as investor presentations or press releases, which might also influence investor perceptions. Future research could incorporate these additional sources of information to provide a more comprehensive understanding of how companies manage investor impressions.

Third, while total sentiment analysis and natural language processing provide valuable insights into the emotional tone and complexity of the language used, these techniques have inherent limitations in capturing the full nuance and context of the text. There is a natural limitation of considering only one language and one country, what can bias the results and reduce their generalizability. Future studies could enhance the analytical framework by integrating qualitative methods or advanced AI techniques to capture subtler aspects of language and communication strategies and exploring other countries and languages.

Finally, this study examines the immediate effects of venture capital presence and underwriter prestige on total sentiment in IPO prospectuses, but it does not investigate the long-term impacts on post-IPO performance and investor relations. Future research could explore these long-term effects to understand better the sustained influence of strategic communication on company success and investor trust.

In conclusion, while this study fills significant gaps in the literature by exploring how venture capital presence and underwriter prestige jointly influence the language used in IPO prospectuses, there is ample opportunity for future research to build on these findings and further advance our understanding of corporate communication strategies in financial markets.

Conclusion

This study highlights the vital role that venture capital presence and underwriter prestige play in shaping the language of IPO prospectuses. By demonstrating the significant impact these factors have on investor perceptions, our findings underscore the strategic value of fostering strong relationships with reputable underwriters and securing venture capital backing. These insights provide a roadmap for companies aiming to optimize their communication strategies during IPOs, enhancing their market appeal and investor confidence. As the financial landscape continues to evolve, leveraging these strategic partnerships can help companies navigate the complexities of IPO processes more effectively, ultimately contributing to their long-term success and growth.

THE MERITS OF ENTERING A LOST GAME: MOTIVATIONS BEHIND FILLING FOR AN IMPROBABLE FOREIGN IPO

Abstract

This study addresses the theme of motivations behind pursuing foreign IPOs with a low likelihood of success. The main objective is to investigate the reasons why companies opt to initiate seemingly unfruitful IPO processes. The methodology employed is a detailed case study, that analyzes data from a company that filed for and later withdrew its IPO application. The analysis includes assessing the timing of the market and the related documentation. The findings reveal that, although the organization was aware of the low probability of successful listing, the managers invested minimally in the IPO process, using it strategically to enhance the company's market position. This was achieved through acquiring other companies, hiring top-level executives, enhancing corporate governance, changing internal practices, and expanding the customer base. We conclude that these actions were primarily driven by a signaling strategy aiming at capitalizing on the perceived market value of the improvements associated with the IPO process. Our discoveries advance new theoretical propositions that may open new avenues for future research on corporate behavior in IPO engagements.

Keywords: case study; foreign IPO; PicPay; IPO withdraw; signaling theory.

Introduction

In 2021, PicPay announced its intention to go public through an initial public offering (IPO) in the United States, listing its shares on the NASDAQ stock exchange. The company's IPO was seen as a significant event in the Brazilian fintech industry, as it would provide a new source of funding for growth and help to raise the profile of Brazilian fintech companies globally.

However, in what seems a surprising turn of events, PicPay announced that it was withdrawing its IPO in February of 2023. This decision was met with a mix of surprise and disappointment by industry observers, as well as by the company's stakeholders. The withdrawal of the IPO raised questions about the company's financial health and its prospects for growth, as well as the broader impact on the Brazilian fintech industry. This case study aims to provide a comprehensive examination of the reasons for the withdrawal of the IPO from PicPay and its impact on the company and its stakeholders.

Since its launch, PicPay has become one of the leading players in the Brazilian mobile payment market, with millions of users and partnerships with a wide range of merchants and financial institutions.

The withdrawal of the IPO from PicPay an important event to understand foreign IPO because it helps us to understand the challenges faced by foreign companies in the United States: By examining PicPay's experience, we can gain a deeper understanding of the challenges that foreign companies face when going public in the United States, including regulatory hurdles, investor sentiment, and market conditions. We can also evaluate the motivations behind foreign IPOs: By exploring PicPay's motivations for filing for an IPO and its reasons for withdrawing, we can gain insights

into the factors that influence foreign companies' decisions to go public, including the benefits they seek to achieve and the risks they face. Finally, we assess the impact of foreign IPOs on companies: By examining the impact of PicPay's withdrawal on the company, we can evaluate the financial and operational consequences of foreign IPOs and the impact they have on companies' long-term performance and survival.

Our study contributes to the literature by providing a comprehensive examination of the withdrawal of the IPO from PicPay, one of the leading fintech companies in Brazil. The study provides valuable insights into the reasons for the withdrawal, the impact on the company and its stakeholders, and the implications for similar situations in the future. We delve into the intriguing decision made by PicPay to file for an IPO despite the potential risks and challenges associated with foreign IPOs. We aim to unravel the motives behind this move, which could be perceived as either naive or strategic. By examining the potential benefits that the company sought to attain through its unconventional IPO filing, such as improved corporate governance, favorable lender terms, customer and company acquisitions, top executive hires, media coverage, reduced government scrutiny, and international market expansion, we seek to evaluate PicPay's success in achieving these goals and uncover any challenges or adverse consequences that emerged during the IPO process. This analysis endeavors to provide valuable insights and contribute to future empirical research on the complex interplay between risks and rewards in the world of foreign IPOs. The analysis is based on a thorough review of secondary information sources, including news articles, company reports, industry reports, and academic studies, and provides a well-rounded perspective on the subject.

We build the paper as follows: in the next section, we get deeper into the literature on initial public offerings and the factors affecting their success, as well as

previous studies on the withdrawal of IPOs. In the results section, we present our findings on the reasons behind the withdrawal of the IPO from PicPay and its impact on the company and its stakeholders. The discussion section provides an interpretation of the results, including a comparison with the assessed literature. The conclusion section summarizes the findings, provides implications for practice, highlights the contributions of the study to the knowledge of the withdrawal of IPOs, and presents the limitations of the study and implications for future research. The paper ends with a list of references and any applicable appendices.

Theoretical Background

The study also highlights the importance of considering the challenges and opportunities faced by companies seeking to go public, both domestically and internationally. Overall, this case study provides valuable insights for companies, investors, regulators, and other stakeholders in the Brazilian fintech industry and the global financial market. This study has particular relevance for companies from emerging markets, as many foreign firms that have gone public in the United States are from such markets (Go *et al.*, 2021). Our study builds upon the existing body of literature on foreign firms' IPOs, which has been established by Blass and Yafeh (2001), Bruner et al. (2006), Hursti and Maula (2007), and further developed by Bell et al. (2008; Moore et al. (2010), Payne et al. (2013), and more recently matured by Gullapalli and Knyazeva (2020), Lee and Ko (2022), and Lu (2020). Our study contributes to this literature by providing a comprehensive examination of the withdrawal of the IPO from PicPay.

Companies seeking to go public must navigate a global IPO landscape fraught with challenges, including stringent listing requirements and evolving regulatory

pressures that shape strategic decisions regarding listing locations (Feng, Wei, Wu, & Yuan, 2024). The importance of savvy institutional stakeholders and experienced venture capitalists, particularly those with cross-border experience, cannot be overstated as they provide critical support during the IPO process (Haman, Lu, & Naidu, 2024; Yu, Wang, & Feng, 2023). Moreover, political uncertainties play a significant role in determining the timing and willingness to initiate IPOs, emphasizing the need for market and political stability for companies contemplating public listings (Jhawar & Seal, 2023). The experience of Polish firms further illustrates how government and institutional frameworks can either support or hinder the internationalization process, offering a pertinent comparison for Brazilian firms operating within a similar regional context (Anderson & Huang, 2017; Liu, 2023).

Going public is a significant milestone for a company (Waeyenberg and Hens, 2012). In their early stages of operation, companies may struggle to meet their financial obligations with just their sales revenues (Certo, Holcomb and Holmes, 2009), and therefore turn to the capital market to raise funds and finance growth (Zider, 1998). This is a costly but valuable process (Chemmanur and Fulghieri, 1999), that can have a lasting impact on a company's long-term performance (Allen and Faulhaber, 1989; Ritter, J., 1991) and survival (Bell et al., 2016; Jain and Kini, 1999).

Withdrawing from an IPO, however, can have negative consequences such as sunk costs (Dunbar and Foerster, 2008), damage to the company's reputation (Lian and Wang, 2009), and loss of future opportunities (Dunbar and Foerster, 2008). Despite this, between 12% (Boeh and Dunbar, 2021) and 34% (Helbing, 2019) of all IPOs end up being withdrawn. This can be avoided if the company can demonstrate its promise and trustworthiness to investors.

Many companies, particularly those from emerging markets (Go *et al.*, 2021), choose to go public in developed countries such as the United States (Ritter, 2022). Foreign IPOs offer several benefits, including increased credibility (Doidge, Karolyi and Stulz, 2004), improved transparency (Cai and Zhu, 2020; Lang, Lins and Miller, 2003), better access to key players (Ding, Nowak and Zhang, 2010; Purkayastha and Kumar, 2021; Reese and Weisbach, 2002), and reduced cost of capital (Caglio, Hanley and Marietta-Westberg, 2016; Hail and Leuz, 2009). Despite these benefits, several companies still withdraw from their IPOs (Certo, Holcomb and Holmes, 2009).

Foreign companies also face challenges with CMLOF, as investors tend to prefer domestic companies (French and Poterba, 1991) and are more likely to invest in firms from similar countries or countries with strong institutions. A company seeking capital abroad must overcome these extra challenges, incurring costs that local firms do not or offering discounts (Bell et al., 2012).

The timing of a company's decision to go public and the state of the market at the time can greatly impact the success or failure of an IPO. For example, companies may choose to delay their IPO if market conditions are unfavorable or if there is a lack of investor demand (Chemmanur and Fulghieri, 1999). On the other hand, companies may choose to go public during a market boom to take advantage of favorable conditions (Ritter, 1991).

The regulatory environment in the country where the company is going public can also play a role in the success or failure of an IPO. For example, some countries have more stringent regulations regarding financial reporting and disclosure, which can make it more difficult for companies to go public (Doidge, Karolyi and Stulz, 2004). Additionally, foreign companies may face challenges related to language and cultural

differences, which can make it more difficult to comply with local regulations (Lang, Lins and Miller, 2003).

The study of foreign IPOs has been a topic of interest in management since 2001, starting with Blass and Yafeh (2001), who aimed to explain why companies list abroad rather than in their home country. Over 40 studies have been published on the topic, with some seeking to explain specific mechanisms in foreign IPOs and others using foreign IPOs as context. For example, Wu (2012) examined the aftermarket performance of US-listed foreign IPOs, rather than attempting to understand the phenomenon of foreign IPOs.

Foreign IPOs are defined in the earliest literature as "Initial Public Offerings made by a company in a country that is not its home country" (Hursti and Maula, 2007, p. 835) or as "a company's first public placement on a foreign exchange rather than a domestic exchange" ((Bruner et al., 2006, p. 193). Moore et al. (2010) limited the scope of their study to "foreign issuers that are not listed on their home country exchange before the IPO and have their US IPO as their first public issue of any security in any market" (p. 469). This last definition captures the focus of our study: firms that face both CMLON (for not being listed) and CMLOF (for being foreign).

The number of companies listed on stock exchanges outside their home countries has grown due to globalization (Karolyi, 1998), consolidation of accountability (Jagannathan, Stephens and Weisbach, 1999), and better terms in developed countries (Caglio, Hanley and Marietta-Westberg, 2016). The United States is the top destination for foreign IPOs, with $286 billion raised in 2021 (Mackintosh, 2022), with $181 billion in Nasdaq and $105 billion in NYSE.

There is no empirical studies about what increases or decreases the chance of a company performing international IPO to withdrawal, nevertheless, there is a body of research on international IPO indicating some attributes that aids or harms the IPO in different performance indicators, including: Firm's Proceeds (Amin, Wu and Haque, 2020; Blass and Yafeh, 2001), more funds raised in a follow up opening (Francis *et al.*, 2010), Underpricing (Bell, Moore, and Al–Shammari, 2008; Francis et al., 2010; Moore et al., 2010), Long Term Benefit (Bell et al., 2012; Blass and Yafeh, 2001; Tupper et al., 2018), Survival (Bell et al., 2016), Valuation (Wu, 2012), Corporate Innovation (Cai and Zhu, 2015), Liquidity (Banti *et al.*, 2017), First Day Initial Return (Bruner, Chaplinsky and Ramchand, 2006).

Therefore, literature indicates characteristics of successful companies and good practices that must be followed by companies willing to be listed in a foreign stock exchange.

Literature indicates that several characteristics of successful companies and good practices must be followed by companies willing to be listed in a foreign stock exchange. One crucial factor that aids a firm in going public is engaging in international operations (Bell, Moore, and Al–Shammari, 2008; Blass and Yafeh, 2001; Hursti and Maula, 2007), as this exposure to global markets demonstrates the company's ability to adapt and scale across different economic environments.

Another important aspect is attracting international investors (Blass and Yafeh, 2001; Hursti and Maula, 2007), as it shows the company's capacity to appeal to a diverse group of stakeholders, instilling confidence in potential shareholders. Furthermore, being backed by prestigious venture capital firms (Bell et al., 2012; Zhang

and Yu, 2017) signals the company's credibility and growth potential, which can translate into increased investor interest.

The engagement of reputable underwriters (Bell et al., 2012) is also essential, as their expertise and reputation can influence market perception, pricing, and overall success of the initial public offering (IPO). Companies operating in high-tech, innovative, and entrepreneurially oriented sectors (Blass and Yafeh, 2001; Hursti and Maula, 2007; Liu and Ritter, 2011) are attractive to investors due to their potential for rapid growth, market disruption, and long-term value creation.

Another crucial element is the quality of the company's leadership. Having a CEO and top management team (TMT) with international experience (Amin, Wu and Tu, 2019a; Hursti and Maula, 2007; Li, Vertinsky and Li, 2014) indicates that the leadership is well-equipped to navigate the complexities of operating in foreign markets. Education and qualifications of the CEO and TMT (Sanchez-Marin and Samuel Baixauli-Soler, 2014) further suggest that the company is managed by competent professionals, while longer CEO and TMT tenure (Sanchez-Marin and Samuel Baixauli-Soler, 2014) can signal stability and expertise.

Adherence to corporate governance best practices (Bell et al., 2013; Ding et al., 2010) is another essential factor, as it demonstrates the company's commitment to transparency, accountability, and ethical conduct, which is vital for attracting investors and maintaining their trust.

On the other hand, political connectedness in the home country (Amin, Wu and Tu, 2019b) can be detrimental, as it may raise concerns about the company's independence and susceptibility to political influences. Lastly, the impact of having a founder CEO is not well-established in the literature, with mixed findings (Bell et al.,

2016; Ding et al., 2010; Moore et al., 2010; Tupper, 2016). While a founder CEO may bring valuable domain knowledge and vision, there could also be concerns about their ability to adapt to the increased scrutiny and demands of being a public company.

In Table 1, we summarize the key factors and their corresponding theoretical discussed.

Table 1

Characteristics and Theoretical Reference

Characteristics	Aid or Harm	Theoretical Reference
International Operations	Aid	Bell et al. (2008); Hursti and Maula (2007); Blass and Yafeh (2001)
International Investors	Aid	Hursti and Maula (2007); Blass and Yafeh (2001)
Prestige of VC	Aid	Moore et al. (2012); Zhang and Yu (2016)
Prestige of the Underwritter	Aid	Moore et al. (2012)
Political Connections	Harm	Amin et al. (2019)
High Tech, Innovation, Entrepreneurial Orientation	Aid	Blass and Yafeh (2001); Hursti and Maula (2007) Liu et al. (2019)
CEO International Experience	Aid	Li et al. (2016)
TMT International Experience	Aid	Li et al. (2016); Amin et al., (2019); Hursti and Maula (2007);
CEO and TMT Education and Qualification	Aid	Bai et al. (2018)
CEO and TMT Tenure	Aid	Bai et al. (2018)
Founder CEO	Aid	Ding et al. (2010); Moore et al. (2012); Bell et al. (2016); Tupper (2016)
Corporate Governance Good practices	Aid	Ding et al. (2010); Bell et al. (2013)

The foreign IPO market is vast and complex, and understanding its intricacies is crucial for a better understanding of the modern capital market. Boeh and Southan

(2011) found that companies may file for an IPO to signal their intention to be acquired or invested in and use the filing as leverage. This raises questions about the motivations behind executives' decisions to engage in the time- and money-intensive process of going public, only to withdraw later. By examining a single case in depth, our study aims to gain a better understanding of these motivations and reasons.

In conclusion, the literature review highlights the importance of going public for companies, the benefits and challenges faced by foreign companies seeking to go public, and the significance of understanding the motivations behind decisions to withdraw from IPOs. Our study contributes to this body of literature by examining the withdrawal of the IPO from PicPay, a leading fintech company in Brazil.

Firms with lower chances of success might still pursue IPOs if they possess substantial financial resources. Being well-financed allows these companies to absorb the significant costs associated with an IPO, including underwriting fees, legal expenses, and the costs of compliance and disclosure. These resources can also help in managing the market’s potential negative perception due to their "low chance" status by enabling better marketing, investor relations, and strategic positioning pre-IPO. Well-financed low chance firms might view an IPO as a strategic move to secure additional capital for growth or debt reduction, betting on the long-term payoff despite immediate odds.

Methodology

This case study on the withdrawal of the IPO from PicPay was conducted using a qualitative research design, with a focus on secondary information sources. The study relied on publicly available information, including news articles, company reports, industry reports, and academic studies, to gather data and analyze the reasons for the withdrawal of the IPO and its impact on the company and its stakeholders. We chose to use the case study method because it provides the best answers to "how" and "why" questions (Yin, 2008). Additionally, the inductive discourse analysis method was selected for its ability to generate generalizations from specific cases in situations where the topic remains unsettled (Elo and Kyngäs, 2008). This approach uses an active voice and is more direct and objective.

Choice for case study

In the sphere of business research, particularly in the study of IPOs, certain aspects pose considerable challenges to empirical methodologies. For instance, the motivation behind companies with ostensibly no chance of being listed still filing for an IPO is a multifaceted issue, resistant to straightforward measurement or quantification.

Empirical studies, by their very nature, thrive on precise, quantifiable data. However, when it comes to assessing the probability of a company being listed, or the motivation driving a seemingly futile IPO attempt, we encounter significant hurdles. There are no universally accepted metrics for these variables, nor a simple way to capture the intricacies of such phenomena.

Similarly, measuring the ease of acquisition or hiring can be fraught with complexity. These elements are often subjective, context-dependent, and influenced by numerous external factors, making their quantification challenging, if not impossible.

This is where the utility of case studies comes into play. A case study approach allows for the exploration of these nuanced, subjective, and complex issues in their real-life context. Case studies offer an opportunity to delve into the specifics of each company's experience, shedding light on the unquantifiable aspects of their journey to an IPO.

Through case studies, we can build a rich, detailed understanding of the motivations and strategies of companies filing for an IPO despite low listing probabilities. We can scrutinize the factors that influence their decisions, providing valuable insights that empirical research might not be able to reveal.

This research underscores the importance of developing empirical methodologies that can accommodate such complexities. It invites a discussion on finding ways to marry empirical robustness with the qualitative depth of case studies. The conclusion section will delve further into these implications, highlighting the need for innovative research approaches in studying complex business phenomena like motivation for IPO filing.

Data and Sampling

The data for this study was collected through a comprehensive search of secondary information sources. The search was conducted using a variety of databases, including academic databases, news databases, and company websites. The search was

focused on finding information about the withdrawal of the IPO from PicPay, the reasons for the withdrawal, and the impact on the company and its stakeholders.

The collected data was analyzed using a content analysis approach. This involved reading and coding the information, identifying key themes and patterns, and synthesizing the information into meaningful insights. The analysis was focused on identifying the reasons for the withdrawal of the IPO, the impact on the company and its stakeholders, and the implications for similar situations in the future.

Rigor of our study

To enhance the rigor of our study, we have devised strategies to improve internal validity, construct validity, and external validity (Gibbert, Ruigrok and Wicki, 2008), which will be elaborated on in the following paragraphs. Our goal is to demonstrate that the act of filing for an IPO results in improved acquisition potential, hiring potential, and brand positioning, particularly for companies that need to signal strong corporate governance, such as banks. Furthermore, this action can also contribute to the enhancement of a company's overall corporate governance.

To achieve internal validity, we have adopted pattern matching by comparing our study with empirical research on foreign IPOs and withdrawing from IPOs. We have also employed theory triangulation by validating our findings against existing theories on product market signaling for companies that advertise products but never launch them.

To ensure construct validity, we have measured each indicator provided and compared them with other empirical studies, thereby avoiding the use of subjective

judgment. This approach is consistent with the recommendations of Yin (2008) and results in more accurate observations (Denzin and Lincoln, 1994).

In order to increase external validity, we have followed Eisenhardt's (1989) recommendation of conducting cross-case analysis with at least four cases, which provides a strong foundation for analytical generalization. While our objective is not to make statistical generalizations to a larger population, we seek to develop a deeper understanding of the social phenomena under investigation. To achieve this, we have sampled companies from various sectors, countries, sizes, ages, and levels of internationalization, as indicated in Table 1. Additionally, we have included a detailed explanation of each context to ensure that our findings are applicable beyond the specific cases studied.

We also try to increase the reliability of the study by increasing transparency and replicability, what we do by providing a clear protocol for the data collection and data analysis as suggested by (Denzin and Lincoln, 1994).

Results

PicPay was founded in 2012 by three seasoned entrepreneurs – Anderson Chamon do Carmo, Dárcio Schwab Stehling, and Diogo Brumas Carvalho Robert Anderson – in the city of Vitória, the capital of the Brazilian State of Espírito Santo (PicPay IPO Prospectus Adjusted, 2021). The company's goal was to improve peer-to-peer financial transactions, and it began by offering the possibility of transferring money between individuals 24 hours a day, seven days a week, which was not possible in Brazil's financial system at the time.

In 2015, it was officially incorporated as PicPay Serviços S.A, based in Sao Paolo, providing a one-stop platform that aggregates all financial and payment needs in one place. PicPay serves both individuals and companies, including small businesses and large retailers and supermarkets, with a pre-paid payment account that enables users to make purchases, transfers between users and companies (Demonstrativo Financeiro PicPay de 2020 in the appendix).

PicPay's success can be attributed not only to its innovative solutions but also to its commitment to employee and customer satisfaction. The company's net promoter score of 93% places it ahead of other well-known companies such as Loggi, iFood, PagSeguro, Nubank, Stone, and C6 Bank, indicating a high level of employee satisfaction.

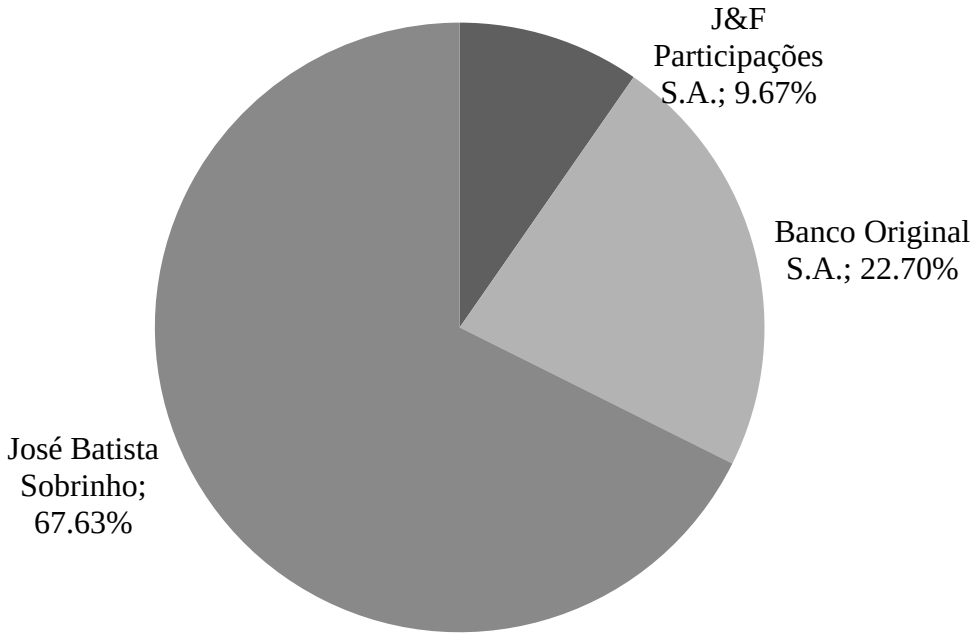
PicPay's strong brand recognition is another testament to its success. In August 2020, 68% of Brazilian adults surveyed by Google with Kyra and MosaicLab were familiar with the brand, highlighting the company's dedication to customer satisfaction in the Brazilian fintech market.

In 2020, PicPay obtained authorization to be a Payment Institution according to the criteria established by BACEN (Central Bank of Brazil) and started to follow the applicable procedures for payment institutions in the Brazilian Payment System (“Diário Oficial”, 2020). As a result, the company is now required to publish its financial statements since 2020, which enables a deeper understanding of its financial health and performance.

PicPay's corporate capital underwent a restructuring process. In 2020, the composition was shown in Figure 1:

Figure 1

Entity and Ownership Percentage after restructuring in 2020



In 2021, 100% of the share capital already belonged to PicPay Holding Ltda., as it remains up to the latest public information available.

The Figure 2 shows the financial performance of the company PicPay over three years from 2019 to 2021.

Figure 2

Financial Performance

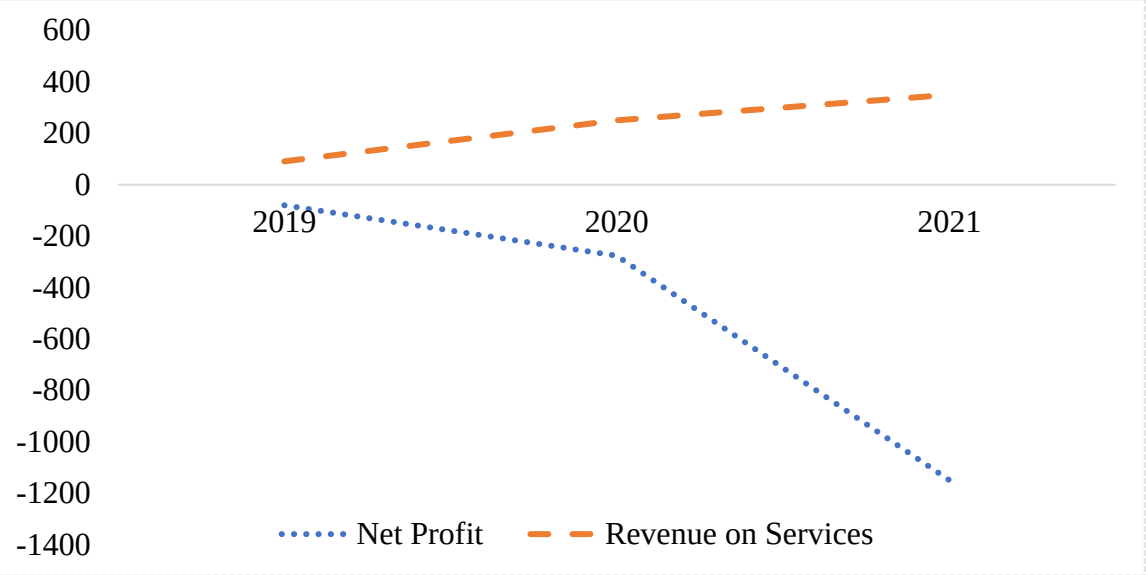
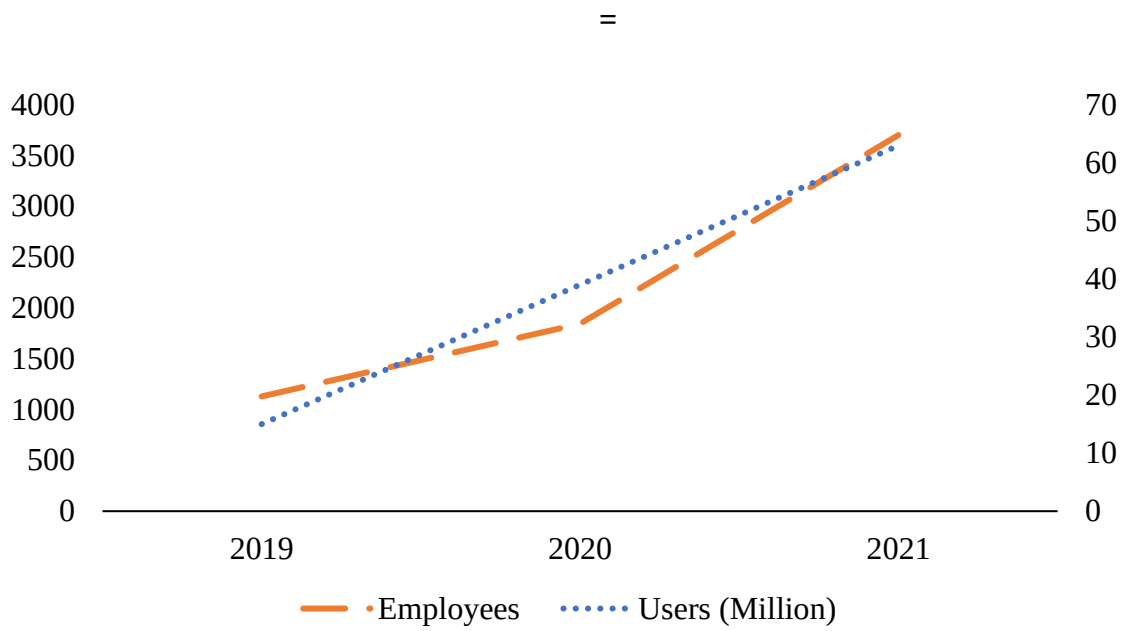


Figure 2 indicates that the while the revenue increased from 2019 to 2021, the company was operating on serious deficit.

Figure 3 shows how operational data about the number of employees and registered users. Showing a clear growth, and a fixed proportion between the number of employees and the number of users.

Figure 3

Operational Performance



In terms of net profit, the company experienced losses in all three years, with the losses increasing over time. In 2019, the net loss was R$ 80 million, which increased to R$ 276 million in 2020 and further to R$ 1.149 billion in 2021. This trend suggests that the company's expenses might be increasing at a faster rate than its revenue.

However, the company has seen significant growth in terms of its user base and number of employees. The user base increased from 14.9 million in 2019 to 38.8 million in 2020, and then to 62.9 million in 2021. This growth indicates that the company is successfully expanding its customer base, which could eventually lead to increased revenue.

Similarly, the number of employees also increased from 1,130 in 2019 to 1,846 in 2020, and then to 3,703 in 2021. This growth suggests that the company is investing in its human resources to support its expansion and improve its services.

Overall, the data shows that PicPay is experiencing losses, but it is investing in expanding its user base and workforce, which could eventually lead to improved financial performance. However, it is worth noting that the company's financial performance needs to be monitored closely to ensure its long-term sustainability.

Technology and Innovation

In 2020, the company introduced several new features, including personal loans, integration with SPB (Brazilian Payment System), new content in the Store, the ability to top up accounts with debit cards, and integration with retail networks and Pix, among others.

In 2021, PicPay continued its product development efforts by launching the PicPay card and investing in its platform. The PicPay card allows users to make payments at physical stores and withdraw money from ATMs. The company also invested in its platform's security features, such as KYC (Know Your Customer) and biometric authentication, as well as tools to prevent fraud.

The addition of new products and features has been a key driver of PicPay's growth and success in the Brazilian fintech market.

Management Team

PicPay has made significant changes in its executive leadership roles. The company recently hired Guilherme Telles, the former CEO of Uber Brazil, as Chief Marketing Officer and Chief Strategy Officer, aiming to boost all of its business fronts at a time of tremendous growth for PicPay. The platform reached 49 million users in one week. Telles will report directly to the CEO and will oversee two areas: growth,

responsible for customer lifetime management, product growth, and performance, and marketing. The recruitment of Telles, who has an extensive background in technology and experience at companies such as Uber and Peixe Urbano, is expected to bring expertise and drive growth in total payment volume. Additionally, Pedro Romero joined PicPay as the new director responsible for the business unit of financial services for individuals, reinforcing the digital wallet's objective of being the best place to pay everything and manage users' entire financial lives. He will oversee products such as Pix, P2P transactions, bill payments, and portability of salaries, among others. Romero's appointment aims to lead the launch of new products and further boost the business unit's results, which has a balance of BRL 8.6 billion.

PicPay strengthens its leadership team with the hiring of Fabio Plein. The executive, who was the Country General Manager of Uber Eats in Brazil, has been brought on to lead the operations of the PicPay Store. The PicPay Store is an open platform that is already available for any company to create a mini app within PicPay, reflecting their brand and connecting to a base of 39 million customers. The hiring of Plein aims to strengthen the performance of PicPay's store, which had 25 million transactions last year. "PicPay is consolidating itself as the super-app with the largest number of users in Brazil. To continue growing, we need to increase the relevance of our store, and that is Plein's main challenge," explains Anderson Chamon, founder and Vice-President of Products and Technology at PicPay. The purpose of PicPay is to offer a platform that meets all the daily needs of people, not just financial services. "The intention is to provide a marketplace for those who want to offer products and services to our customers. We want to be even more present in users' routines, facilitating processes, and becoming part of their lifestyle," emphasizes Fabio Plein, Senior Director of PicPay Store. In recent years, Fabio Plein has led the Brazilian operations of

Uber Eats and was previously the Head of Operations for Uber (Ridesharing) in Brazil. Plein's resume also includes positions at companies such as Grendene, Cyrela, and Falconi. He holds a degree in Business Administration from UFRGS and an MBA from the University of California (USA).

In another significant change, the digital wallet appointed José Antônio Batista da Costa as its new CEO, replacing Gueitiro Genso. Costa, a grandson of JBS's patriarch, was one of the founders of JBS and served as executive director of the meat processing company and VNMB Participações, an investment firm owned by his family. Anderson Chamon, PicPay's founder and Chief Technology and Products Officer, acknowledged that Costa's challenge is enormous. Costa's primary task is to maintain the company's growth and expand the catalog of services offered. PicPay experienced rapid growth during the COVID-19 pandemic, reaching 20 million users and increasing its number of new monthly signups six-fold, with three million new clients. Currently, the platform has 28 million registered users (Wrigt, 2020). These strategic changes in PicPay's leadership roles are expected to drive the digital wallet's continued growth and expansion of services.

Company structured its Corporate Governance in 2021 just before filing for IPO. Table 2 provides an overview of the key executives within the company, highlighting their roles, experience, and education.

Table 2

Corporate Governance in 2021

Name (Age in 2023). Role in PicPay	Experience	Education
Gilberto Meirelles Xandó Baptista (55). Independent Director and Chairman.	CEO Vigor Alimentos (2011-2020); Brazil General Business Director Natura (2009-2011); International VP BRF (2007-2009); Board JBS S.A., Ypê, JSL S.A., Grupasso, and BenCorp, ClubSaúde.	Master in Marketing (FGV); Specialization (Dom Cabral and INSEAD).
José Antonio Batista Costa (36). CEO and Director.	PicPay CFO (2018); VP JBS USA (2018); CEO JBS (2011-2015); Board Banco Original, Eldorado Brasil Celulose S.A., Flora Produtos de Higiene.	Bachelor in Business Administration (Universidade Paulista).
Vincent Trius (63). Director.	Global Head of Retail and Innovation at JBS (2014); President and Director Loblaw Companies (2011-2014); Executive Manager Carrefour (2010-2011); CEO Walmart Latin America and Asia (2007-2009); Board of Directors Pilgrim's Pride Corp. (2019).	Bachelor in Business (University of Barcelona).
Raul Francisco Moreira (49). Director.	Chairman at of Cielo and BB Seguridade; Board Elo Participações; CEO Banco Original (May 2019-Dec 2020); CEO Alelo S.A. (Jan 2017-Dec 2018); VP Banco do Brasil (2015-2017).	Bachelor in Technology Management (UniSul).
Mario Mello Freire Neto (54). Independent Director. Audit Committee.	Board Construtora Tenda and Track&Field; PayPal (2010-2017 and 2012-2018); Banco Safra (2008-2010), ABN AMRO Bank (2003-2008), Visa (2000-2003).	Civil Engineering (USP); YPO Program (HBS)
Camila Farani Lima Porreca (40). Independent Director. Audit Committee.	President of G2 Capital; Venture Partner at GAA Investment; Co-founder of MIA; Founder and Board Member of Grupo Boxx.	Law degree and MBA in Marketing (PUC-RJ); Specializations from MIT, Babson, Stanford.
Jackson Ricardo Gomes (63). Independent Director. Audit Committee.	Board Member, Angel Investor and Advisor; CEO Banco Original (2015-2016).	Engineering (ITA); MBA (Booth).
Augusto Ribeiro Junior (50). CFO.	CEO of Maxion Componentes Estruturais (2019-2021; CFO and IRO at Iochpe Maxion S.A. (2016-2019).	Bachelor and MSc in Engineering (UFSC); EMBA (Pittsburgh); Specializations (Wharton and LBS).

PicPay has made strategic changes to its executive leadership team to drive growth and expand its services. The leadership team consists of experienced professionals, predominantly from Brazil, with diverse industry backgrounds. These individuals bring valuable expertise from their previous roles at companies such as Vigor Alimentos, Natura, JBS, Walmart, Carrefour, Banco do Brasil, PayPal, Banco Original.

Although the team has extensive experience within Brazil, it is worth noting that their international experience is relatively limited. Nevertheless, their educational backgrounds include degrees and specializations from prestigious institutions such as FGV, INSEAD, University of Barcelona, USP, Harvard Business School, MIT, Babson College, Stanford University, ITA, Wharton School.

It is worth noting that the top management team at PicPay lacks significant international experience. While they possess extensive expertise within the Brazilian market, this limitation may present challenges in understanding global trends, strategies, and opportunities as the company continues to grow and potentially explore expansion beyond Brazil.

In summary, PicPay has made substantial changes to its executive leadership team, aiming to drive growth and expand its services. The company has hired Guilherme Telles as Chief Marketing Officer and Chief Strategy Officer; Pedro Romero as the new director responsible for the business unit of financial services for individuals; and Fabio Plein to lead the operations of the PicPay Store. Additionally, José Antonio Batista da Costa has been appointed as the new CEO. These strategic changes in corporates roles demonstrate PicPay's commitment to innovation and long-term success

as they continue to evolve and solidify their position in the competitive financial services landscape.

Auditing Firm

The company did not hire an externa consulting company to review its financial books for the prospectus, but it has hired KPMG to review its it every year since 2020 when it was mandated to do so by the Central Bank.

KPMG is a global professional services firm and part of the "Big Four," a group of accounting and consulting firms that dominate the industry (“Investopedia”, 2022). Known for their high-quality services, extensive global reach, and vast resources, the Big Four also includes Deloitte, PwC, and EY.

Founded in the Netherlands in 1987, KPMG provides audit, tax, and advisory services to clients in over 150 countries. Some of the world's biggest companies, such as Accenture, Halliburton, and Citigroup, are among its clients (“Big 4 Accounting Firms”, 2020).

KPMG is committed to maintaining the highest standards of quality and has a rigorous quality control system in place to ensure accurate and thorough work (“KPMG”, 2022). The firm also places a strong emphasis on innovation and sustainability, helping its clients navigate the rapidly changing business landscape and create long-term value.

Underwriters

BTG Pactual, Bradesco BBI, Santander, and Barclays are the prominent underwriters for this offering, bringing together their extensive expertise and resources

to ensure a successful and well-coordinated process. Each of these financial institutions has a strong track record in underwriting, with a deep understanding of the market dynamics and regulatory requirements. By collaborating with these esteemed underwriters, the company aimed to effectively navigate the capital market landscape and achieve a seamless transaction.

BTG Pactual is a Brazilian investment bank that operates in several countries, including Brazil, the United States, and the United Kingdom. The bank provides a range of financial services, including investment banking, wealth management, asset management, and institutional sales and trading. Known for its entrepreneurial spirit, BTG Pactual has a reputation for developing innovative solutions for its clients.

Bradesco BBI is the investment banking arm of Banco Bradesco, one of the largest banks in Brazil. The bank offers a wide range of services, including corporate finance, capital markets, project finance, and structured finance. Bradesco BBI is known for its expertise in the Brazilian market and has a strong track record of advising clients on mergers and acquisitions, as well as capital raising transactions.

Santander is a Spanish multinational banking and financial services company that operates in several countries, including Brazil. In Brazil, Santander offers a wide range of financial services, including retail banking, corporate banking, investment banking, and asset management. The bank has a strong presence in Brazil and is known for its innovative digital banking solutions.

Barclays is a British multinational investment bank and financial services company that operates in several countries, including Brazil. In Brazil, Barclays offers a range of financial services, including investment banking, wealth management, and corporate banking. The bank has a strong reputation for its expertise in the global

capital markets and is known for its innovative products and solutions. Barclays has a long history of operating in Brazil, having first established a presence in the country in the early 1900s.

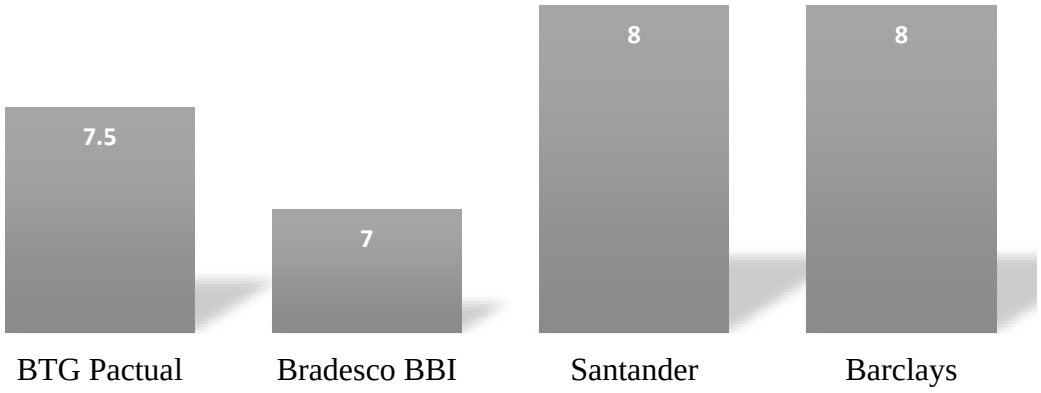
Prestige for an investment bank refers to the reputation, credibility, and perceived excellence of the bank within the financial industry. It is an essential factor contributing to the bank's ability to attract top talent, win lucrative deals, and maintain strong relationships with clients and investors. A prestigious investment bank is often associated with a track record of successful transactions, financial expertise, and outstanding client services. The importance of prestige in the success of a launch cannot be overstated, as it helps build trust and confidence among stakeholders. A highly regarded investment bank is more likely to generate interest and enthusiasm from investors, which can lead to higher demand for the securities being launched. Moreover, the prestige of an investment bank can positively influence the perception of the company going public, making it more attractive to potential investors, ultimately resulting in a successful and smooth launch.

The investment banking industry is often categorized into two tiers based on their scale, reputation, and global reach. The first tier banks, comprising of Citi, Goldman Sachs, JP Morgan, and Morgan Stanley, are renowned for their strong presence and impeccable track records in providing high-quality financial services to clients around the world. These banks are highly sought-after for their extensive knowledge, expertise, and ability to deliver successful deals and transactions across various industries. On the other hand, the second tier banks, which include Bank of America, Merrill Lynch, Credit Suisse, Deutsche Bank, and UBS, also offer a wide range of financial services and have a significant global presence. Although they may not have the same level of prestige as the first tier banks, they still play a crucial role in

the investment banking landscape, catering to different markets and clientele. Both tiers of banks contribute to the overall growth and success of the global financial market, offering their unique strengths and capabilities. While the banks chosen by PicPay to perform the IPO are notable, they are not the most reputable banks (none of them are in the top 10) and none is American, what is possibly a very bad signal to send to the American market. Their prestige level calculated by the authors based on the previous literature are shown in Figure 4:

Figure 4

Investment Bank Prestige



While it seems high to have banks scoring 7 to 8, half of the IPOs are performed by one of the top 5 Investment banks, with a score of 9.

Acquisitions

The firm shows a continuous commitment to expanding its business and enhancing its user experience is evident through its recent acquisitions of two important players in the market Guiabolso and BX Blue.

PicPay acquired the Brazilian marketplace for payroll and pension advances, BX Blue, in February 2023. BX Blue has partnerships with Bradesco, BB, and Daycoval, with over $450 million transacted since its launch and 1 million registered users. However, the specifics of the acquisition remain undisclosed (This Week in Fintech, 2023). As a financial marketplace, PicPay generates a commission on transactions made on its platform. The integration of BX Blue is expected to broaden its product offerings and boost its Total Payment Volume, as noted by (Okolla, 2023). Danilo Caffaro, Vice President of Financial Services for Individuals at PicPay, stated that "BX Blue's advanced technology, established partnerships, and secure digital platform, combined with PicPay's well-known brand and extensive customer base, offer enormous potential for the growth of payroll loans".

PicPay acquired Guiabolso in July 2021, a financial management and analysis startup. Guiabolso has six million users and has granted R$1 billion in credit through its partners on the platform. The value of the transaction was not disclosed. According to José Antonio Batista, CEO of PicPay, the acquisition aims to position the company as a protagonist in open banking and accelerate the PicPay financial marketplace operation, which already offers credit cards, personal loans, and peer-to-peer lending. Thiago Alvarez, founder of Guiabolso, will join the PicPay team as director responsible for open banking. Guiabolso has a financial marketplace with more than ten partners, including Creditas, BV, Digio, Icatu, and Órama. The acquisition expands PicPay's range of partners in the distribution of cards, loans, insurance, and investments, with great potential for scale through the offer of these products to its more than 55 million registered users. Nothing changes for PicPay and Guiabolso users at the moment. The apps will continue to operate normally and separately, but new functionalities and synergies will soon be available. The fintech startup Guiabolso has 200 employees,

most of them working in technology and data, and all of them will be integrated into PicPay.

Launching Strategy

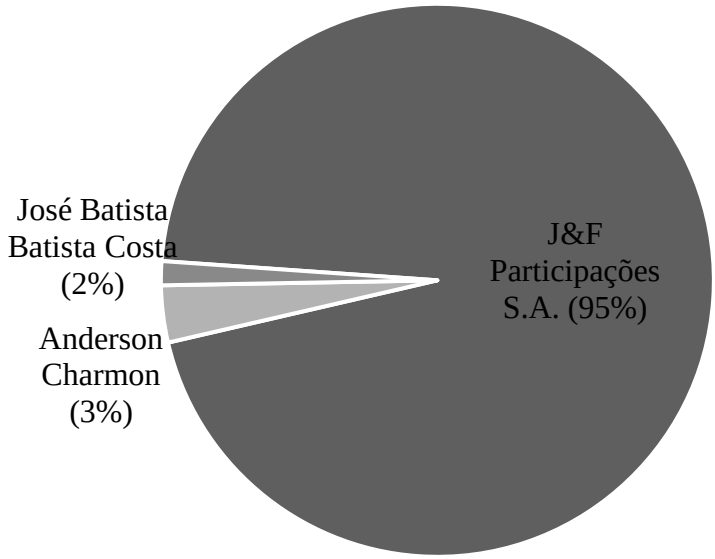
In April 2021, PicPay submitted its F-1 form to the SEC in order to be listed on the Nasdaq under the ticker symbol PICS. A month later, the company updated the information through the F-1/A form, which contained no significant changes in the documentation. However, in February 2023, PicPay ultimately filed an RW form to withdraw its offering.

PicPay, an exempted company with limited liability, was incorporated in the Cayman Islands on January 18, 2021, most likely for tax purposes, as the island is widely recognized as a tax haven (“Investopedia”, 2023). In accordance with Cayman Islands law, companies are not required to disclose individual compensation details for their senior management. As a result, PicPay has not released this information through any public channels or other means.

Prior to the planned launch, the company's share capital underwent a reorganization in Figure 5:

Figure 5

Entity and Ownership



How many shares the company is expecting to launch is important information to understand the launching strategy, nevertheless, the information is missing in the documents filed within SEC.

It's worth noting that PicPay's IPO listing did not receive media coverage in some of the most important financial media outlets, including Financial Times, CNBC, Fox Business, and Coindesk. Although Forbes (Mari, 2021) briefly mentioned PicPay's S-1 form filing to be listed in the US as a foreign company in an article about Brazilian companies, it's possible that the lack of media attention was due to PicPay not actively seeking coverage. This may indicate a lack of interest in raising awareness among potential investors through media outlets. However, it's important to consider that media coverage can play a significant role in generating interest in an IPO, especially among retail investors.

Discussion

Firms with lower chances of success might still opt for an IPO if they are well-financed. These companies can afford the significant costs associated with going public, such as underwriting fees, legal expenses, and compliance costs. With ample resources, they can better manage the market's potential negative perception by enhancing their marketing and strategic positioning before the IPO. Despite the risks, a well-financed IPO allows these firms to access crucial capital for growth or secure debt reduction, betting on long-term gains despite the immediate odds. This discussion sets the stage to explore how such firms approach IPOs, manage investments, leverage international markets for growth, and attract top talent and users through strategic decisions.

Companies seeking to go public must navigate a global IPO landscape fraught with challenges, including stringent listing requirements and evolving regulatory pressures that shape strategic decisions regarding listing locations (Feng, Wei, Wu, & Yuan, 2024). The importance of savvy institutional stakeholders and experienced venture capitalists, particularly those with cross-border experience, cannot be overstated as they provide critical support during the IPO process (Haman, Lu, & Naidu, 2024; Yu, Wang, & Feng, 2023). Moreover, political uncertainties play a significant role in determining the timing and willingness to initiate IPOs, emphasizing the need for market and political stability for companies contemplating public listings (Jhawar & Seal, 2023). The experience of Polish firms further illustrates how government and institutional frameworks can either support or hinder the internationalization process, offering a pertinent comparison for Brazilian firms operating within a similar regional context (Anderson & Huang, 2017; Liu, 2023).

Being well-financed allows these companies to absorb the significant costs associated with an IPO, including underwriting fees, legal expenses, and the costs of compliance and disclosure. These resources can also mitigate the market's potential negative perception due to their "low chance" status by enabling better marketing, investor relations, and strategic positioning pre-IPO. Well-financed low chance firms might view an IPO as a strategic move to secure additional capital for growth or debt reduction, betting on the long-term payoff despite immediate odds.

PicPay's strategy after filing for IPO is not clear as the company did not seem to make a deliberate effort to be viable in the American capital market. Additionally, the company did not make visible efforts in the direction of raising private capital or to be acquired.

PicPay's commitment to expanding its business and enhancing its user experience is evident through its recent acquisitions of two important players in the market. Despite the lack of public information regarding these acquisitions, PicPay's investments suggest a strategic move towards growth and innovation. Furthermore, there is no indication that PicPay has been acquired or received private capital, indicating the company's continued independence in the market.

As literature suggests, international operations (Bell et al., 2008; Hursti and Maula, 2007; Blass and Yafeh, 2001) and attracting international investors (Hursti and Maula, 2007; Blass and Yafeh, 2001) are crucial for a successful IPO, but Picpay lacked both. Additionally, the company did not have backing from prestigious venture capital firms (Moore et al., 2012; Zhang and Yu, 2016), nor did they engage with a reputable underwriter (Moore et al., 2012).

Furthermore, PicPay was entangled with political connectedness in Brazil, which could be detrimental (Amin et al., 2019). Both the CEO and top management team (TMT) lacked international experience (Amin, Wu and Tu, 2019a; Hursti and Maula, 2007; Li, Bruton and Filatotchev, 2016) and had not been in their roles for an extended period (Bai et al., 2018). The company did not have a founder CEO, the impact of which remains uncertain in the literature (Ding et al., 2010; Moore et al., 2012; Bell et al., 2016; Tupper, 2016). Picpay's corporate governance practices were not exemplary (Ding et al., 2010; Bell et al., 2013), as they had not even undergone an audit for the launch. Despite the lack of media coverage, the company seemingly did not make an effort to obtain it.

On the positive side, the CEO and TMT were highly qualified and experienced (Bai et al., 2018), and the company operated within the high-tech sector (Blass and Yafeh, 2001; Hursti and Maula, 2007; Liu et al., 2019). However, these factors alone were not sufficient to outweigh the numerous disadvantages. Given the circumstances, it seems that Picpay’s chances of a successful IPO were slim from the start. It is possible that the company had other motives for filing, but without addressing the aforementioned challenges, their prospects for a successful public offering were limited.

The fact that PicPay filed for an IPO despite the potential risks and challenges provides a relevant case that adds a contribution to the existing literature on foreign IPOs. This decision could be seen as either a naive or a strategic move. This study explores the potential benefits that the company sought to achieve through filing for a non-probable IPO. Possible benefits of filing for an IPO may include improving corporate governance, negotiating better terms with lenders, improving customer acquisition and other company acquisitions, facilitating the hiring of top-performing executives, gaining free media coverage, reducing scrutiny from the government, and

expanding product offerings to international markets. This study examines the extent to which PicPay was successful in achieving these benefits, as well as any challenges or negative consequences that arose from the IPO process. This analysis can provide insights for future empirical research on the risks and rewards associated with this process.

In the contributions section, we observed notable changes in the top management team before and immediately after the IPO filing, as well as significant acquisitions that occurred post-filing. These events may be interconnected, as the prospect of being listed on a foreign market can have a strong impact on both executive and startup decisions. Executives from publicly listed companies often receive higher compensation, which can attract top talent to the company (Sanchez-Marin and Samuel Baixauli-Soler, 2014). Additionally, for startups, being acquired by a firm on the verge of listing in a foreign market can represent a successful exit strategy.

The following propositions explore how firms can strategically leverage their resources to potentially turn a low probability of success into advantageous outcomes.

Proposition 1: Despite the odds, firms with a low likelihood of successful IPOs may benefit from filing if they are well-financed, allowing them to achieve strategic outcomes.

Recognizing their low probability of a successful IPO, these firms aim to minimize their investment to conserve resources, avoiding substantial spending on aspects typically essential for IPO success such as extensive promotional activities, roadshows, or higher-tier underwriters. This strategic decision is based on a cost-benefit analysis where the expected costs of a fully funded IPO initiative may not justify the

uncertain returns. Therefore, they opt for a lean approach to reduce potential losses if the IPO does not meet expectations.

Proposition 2: Aware of their low chances, such firms may invest minimally in their IPO efforts to conserve resources and mitigate potential losses.

Filing for a foreign IPO can enhance a firm's visibility and credibility on a global scale, potentially boosting its valuation. This international exposure attracts more diverse and substantial investment, strengthening the firm's financial position and its ability to leverage new capital for strategic acquisitions. Furthermore, firms that expand their market reach through foreign IPOs may become less attractive targets for acquisition due to their increased size, complexity, and valuation. Instead, they are positioned as strong competitors who can pursue acquisitions aggressively in their industry.

Proposition 3: Firms that opt for foreign IPOs may gain a strategic advantage in acquiring other firms, especially if they prefer to remain independent rather than be acquired.

A foreign IPO can be an indicator of a firm's ambition and global reach, making it more attractive to top executive talent looking for dynamic and internationally oriented career opportunities. Such IPOs often signal potential for rapid growth, significant financial backing, and enhanced corporate prestige — key factors that appeal to high-caliber executives. This can give these firms an edge in recruiting top talent over domestic-only firms.

Proposition 4: Filing for a foreign IPO may give firms a competitive edge in attracting top executive talent, enhancing their leadership and organizational strength.

Launching an IPO in a foreign market can significantly raise a firm's profile and brand awareness across international borders. This increased recognition can attract new users or customers from these new markets, driven by heightened media coverage and investor interest surrounding the IPO. Additionally, being listed on a foreign exchange might instill greater trust and legitimacy among potential users unfamiliar with the firm's home market operations, thereby facilitating user base expansion at a faster rate than if the firm remained a domestic entity.

Proposition 5: Firms pursuing foreign IPOs may experience an advantage in expanding their user base, capitalizing on the increased market visibility and credibility.

In conclusion, firms categorized as having lower chances of success can still strategically leverage IPOs to their advantage if they are well-financed. These firms navigate the substantial costs and public scrutiny by focusing on long-term benefits over short-term gains. Their financial readiness allows them to undertake IPOs as a means to access necessary capital, improve market presence, and execute strategic goals such as acquisitions, hiring top executives, and expanding their user base. By carefully managing their investments and exploiting opportunities in foreign markets, these firms demonstrate that with the right strategies, even those with low initial prospects can achieve substantial growth and success in the competitive global arena.

In summary, even firms with a low likelihood of successful IPOs can utilize strategic foresight and careful resource management to achieve significant advantages. By focusing on long-term benefits and embracing opportunities in foreign markets, these firms demonstrate that with the right strategies, they can overcome initial odds and achieve sustainable success in other related areas.

Conclusion

The implications of this study suggest that even a withdrawn IPO can serve as a strategic move to achieve various corporate objectives. The actions undertaken by PicPay, including acquisitions, executive hires, and governance improvements, demonstrate how companies can capitalize on the perceived value enhancements associated with an IPO process. These strategic maneuvers, driven by signaling theory, indicate that the process of preparing for an IPO can itself be a valuable exercise in corporate development.

A key limitation of this study is the focus on a single case, which may not fully capture the diversity of motivations and strategies employed by other companies in similar situations. Future research could benefit from comparative analyses across different firms and industries to validate and expand upon the theoretical propositions presented here. Additionally, in-depth interviews with executives and stakeholders involved in IPO processes could provide richer insights into the decision-making dynamics.

Overall, this research contributes to a deeper understanding of corporate behavior in the context of IPO engagements, particularly when the likelihood of successful listing is low. The insights gained from PicPay's experience underscore the potential benefits of an IPO process beyond immediate financial gains, offering valuable lessons for other companies contemplating similar strategic moves.

THESIS CONCLUSION

This doctoral dissertation has endeavored to explore, evaluate, and interpret the various complexities associated with the launch of Initial Public Offerings in the United States market. Through a series of four essays, this research has examined the roles of underwriter prestige, the quality of prospectus communication, and the influence of venture capitalists and auditors on IPO success.

Taken together, the findings from these studies underscore the intricate nature of IPO launches. The complexities associated with IPO waiting times, the role of stakeholder interactions, the significance of prospectus communication, and the strategic motivations behind IPOs each play unique roles. These factors collectively influence the success of IPOs, extending beyond immediate financial and operational considerations.

This dissertation enriches the academic literature on IPOs and provides practical insights for companies, underwriters, and policymakers. However, it is important to acknowledge that this research only begins to unravel the complex dynamics within the sphere of IPOs. Further research is needed to understand more comprehensively how these variables interact and influence each other, and how companies can strategically use this information to maximize their chances of a successful IPO.

The ever-evolving nature of global financial markets emphasizes the need for continued research in this area. Future studies could refine our understanding of the interactions between underwriters, venture capitalists, auditors, and other stakeholders, as well as the impact of external factors such as market conditions and regulatory changes. By building on the insights gained from this dissertation, future research can

contribute to a deeper understanding of the IPO process and its implications for firms seeking to go public.

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