SEGMENTED GOING-PUBLIC MARKETS*

Jessica Bai† Angela Ma‡ Miles Zheng§

December 9, 2025

Abstract

We develop a framework of going-public markets with adverse selection in which regulatory liability risk leads traditional bank underwriters to certify safer, larger firms, while bypassing riskier, smaller but potentially value-creating firms. Non-bank intermediaries fill this gap by exploiting lower liability exposure and equity-based incentives. We document systematic segmentation in U.S. public listings: firms going public through Special Purpose Acquisition Companies (SPACs) are smaller, younger, less profitable, and more volatile than traditional IPO firms. Underscoring this risk, SPAC target firms are more likely to go bankrupt, but conditional on survival, grow revenues faster post-listing. Consistent with gap-filling, SPAC deals increased disproportionately in high- relative to low-litigation industries after a Supreme Court ruling that increased IPO litigation costs. However, the incentives that facilitate gap-filling also generate agency conflicts between sponsors and shareholders. We show that agency conflicts intensify during stock market booms but are mitigated by sponsors with more reputational capital at risk. The results highlight how regulatory frictions and intermediary incentives jointly shape the evolution of going-public markets.

JEL Classifications: G24, G32
Keywords: IPO, SPAC, Underwriters, Non-Bank Intermediaries, Regulatory Arbitrage

*We thank Malcolm Baker, Shai Bernstein, Slava Fos, Minmo Gahng, Robin Greenwood, Sam Hanson, Gerard Hoberg, Josh Lerner, Nadya Malenko, Rich Mathews (discussant), Abraham Ravid, Jay Ritter, Andrei Shleifer, Adi Sunderam, Boris Vallée, Luis Viceira, Jonathan Wallen, Mao Ye, and Donghang Zhang for helpful suggestions and discussion. We also thank participants in the Western Finance Association (WFA) annual meeting, the Chicago Booth Rising Scholars Conference, a forum on the law & economics of SPACs, the Inter-Finance PhD seminar, and the Harvard University graduate workshops in finance and in macroeconomics for useful feedback and discussion. We thank Minmo Gahng, Jay Ritter, and Donghang Zhang for comparing and updating SPAC company founding dates with us. Ma gratefully acknowledges support from the Paul & Daisy Soros Fellowship and the NSF Graduate Research Fellowship. This material is based upon work supported by the National Science Foundation Graduate Research Fellowship Program under Grant No. DGE1745303. This paper was previously circulated as "Reaching for Yield in the Going-Public Market: Evidence from SPACs."

†Georgetown University, McDonough School of Business. Email: jessica.bai@georgetown.edu
‡Boston College, Carroll School of Management. Email: angela.ma@bc.edu
§Texas Christian University, Neeley School of Business. Email: y.zheng60@tcu.edu

1 Introduction

Over the past several decades, the landscape of U.S. public companies has undergone a dramatic transformation. The number of publicly listed firms has declined substantially, reflecting both a slowdown in initial public offerings (IPOs) and an increase in delistings (Gao, Ritter, and Zhu, 2013; Doidge, Karolyi, and Stulz, 2017). This decline has been most apparent among smaller and younger firms, as the firms that do go public are increasingly large, mature, and profitable.

Against this backdrop, a striking development has been the rise and proliferation of the Special Purpose Acquisition Company (SPAC): a publicly listed non-operating entity with the sole purpose of taking a private firm public in a reverse merger. SPACs have comprised a growing share of the new-issue market and persisted through several distinct cycles over the past two decades. Most notably, as shown in Figures 1 and 2, SPAC IPOs reached unprecedented highs in 2020-2022, exceeding traditional IPOs and peaking at 92% of total U.S. IPO proceeds in the first quarter of 2022.[1] Although SPAC issuance contracted sharply following the U.S. SEC's announcement of increased regulatory scrutiny in 2022, it has since rebounded: through the first three quarters of 2025, nearly 100 SPACs raised over $20 billion, again surpassing traditional IPO activity.

Insert Figure 1 and Figure 2 Here

The lasting enthusiasm for this alternative path to public markets, even after its booms and busts, seems at odds with the prevailing view of SPACs as a market for "lemons" that offers firms a backdoor to public markets.[2] If SPACs are simply a way for low-quality firms to sidestep the scrutiny of traditional IPOs, the continued investor demand for companies brought public this way is puzzling.

In this paper, we provide an economic rationale for the function and persistence of SPACs. In doing so, we offer a framework and evidence for *segmented going-public markets*, in which non-bank intermediaries certify smaller, younger, and riskier firms that are bypassed by traditional bank underwriters. Our explanation is centered around the incentives of financial intermediaries. We organize our analysis through the lens of an asymmetric-information

[1] To arrive at our traditional IPO sample, we follow the standard data cleaning procedure in the literature, which is described in detail in Section 4. SPAC IPO refers to the IPO of the SPAC, rather than the SPAC's reverse merger with the target company.

[2] See commentary from the news (e.g. https://www.bloomberg.com/opinion/articles/2025-06-25/spacs-are-back-what-could-go-wrong-this-time, https://www.economist.com/business/2025/07/02/a-wall-street-wheeze-makes-a-surprising-comeback) industry participants (e.g. https://corpgov.law.harvard.edu/2024/07/29/not-even-a-raging-bull-market-can-rescue-spacs/), and policymakers (e.g. the Office of Senator Elizabeth Warren's report on SPACs found at https://www.warren.senate.gov/imo/media/doc/SPACS.pdf).

framework of capital raising à la Tirole (2010). In addition to quality, which is private information to the firm, we introduce firm riskiness, which is observable to all. To maintain a functioning IPO market, investment banks serve as underwriters that certify firm quality.[3] Two key features motivate our analysis: first, to protect shareholders, underwriters operate under a strict regulatory regime, most notably the liability provisions of Section 11 of the Securities Act of 1933, which impose significant penalties for material misstatements or omissions in registration statements. Second, underwriters are compensated with a fixed percentage fee, typically around 7% of offering proceeds. This bond-like payoff structure—limited upside exposure with substantial downside risk—generates the unintended consequence of an incomplete going-public market: investment banks are deterred from taking risky but potentially value-creating firms public. This effect is amplified for smaller firms because they require relatively high due diligence effort while delivering lower underwriting fees.

We show that SPACs, a non-bank certification intermediary, can fill this gap by exploiting what can be viewed as a *regulatory-arbitrage* channel. Since it is structured as a reverse merger, the business combination (or "de-SPAC") falls under merger regulations rather than securities-offering provisions, substantially limiting sponsor liability. Although the SPAC's initial capital raise is subject to Section 11 oversight, it involves little underwriting risk because the vehicle is simply a blank-check company. Until January 2024, SPACs were also protected by the Private Securities Litigation Reform Act (PSLRA) from liability for projections and other forward-looking statements.[4] Additionally, compensation of the certification intermediaries differs meaningfully: While investment banks receive a fixed proportion of capital raised, SPAC sponsors receive a fraction of the equity (typically 20%) of the going-public firm, often referred to as the sponsor "promote."

The first prediction of our model is that these differences in regulatory treatment and compensation structure lead to a separating equilibrium with market segmentation: investment banks bring safer and larger firms public, while SPAC sponsors certify riskier and smaller firms.[5] We test this prediction using comprehensive data on traditional IPOs and SPACs.[6] We start by characterizing the cross-section of going-public firms using a regression approach that controls for time-invariant industry characteristics as well as general differences over time. Consistent with the segmentation hypothesis, we find that SPAC target

[3]See, e.g., Booth and Smith (1986); Chemmanur and Fulghieri (1994); Brau and Fawcett (2006).

[4]This liability gap was because blank-check companies were exempt from restrictions on forward-looking statements applicable to traditional issuers, and has since been closed. However, the SEC did *not* expand traditional underwriter liability to the underwriters of the SPAC IPO. See https://www.sec.gov/files/rules/final/2024/33-11265.pdf.

[5]This comes at a higher cost to the going-public firm, which is why SPACs don't take all firms public. That is, under standard parameter values, companies that *can* go public through a traditional IPO will.

[6]We then follow the outcomes of these firms for several years after the listing.

firms are significantly smaller and younger than traditional IPO firms; specifically, they are approximately six years younger, 37% smaller in terms of assets, 56% smaller in terms of market cap, and have 54% lower revenues at the time of listing. Next, we show that SPAC target firms exhibit greater operating volatility. Specifically, their cash flow-to-assets volatility is 9.5 percentage points higher and their earnings-to-assets volatility is 10.9 percentage points higher than traditional IPO firms. Turning to net income and payouts, we find that SPAC firms are also significantly less profitable (with a 10.0 percentage point lower net-income-to-asset ratio) and pay out less in dividends (with a 18.6 percentage point lower dividend-to-income ratio).

We then turn to examining post-listing outcomes. Underscoring their early-stage, high-risk profile, we show that SPAC target firms are 7 percentage points more likely to delist from public markets within four years of being public (33% of the mean delisting rate). This effect is almost entirely driven by involuntary delistings due to bankruptcy, liquidation, or regulatory removal. However, conditional on surviving, we find that SPAC firms grow revenue significantly faster in the years after going public. Specifically, SPAC target companies exhibit faster revenue growth by 41.6 percentage points cumulated over the first year of going public and 95 percentage points cumulated over the first two years of going public.

Overall, SPAC target firms are smaller, younger, more operationally volatile, less profitable, and lower-dividend-paying than traditional IPO firms. They are more likely to fail, but conditional on surviving, grow revenue dramatically faster. In this respect, these firms resemble the high-risk, high-growth profile of startups more closely than the lower-risk, lower-growth profile of established companies. This is consistent with anecdotal evidence of companies operating in frontier technologies tending to go public through SPACs.[7] These findings are also consistent with and can provide an explanation for the poor *average* de-SPAC returns documented in Gahng, Ritter, and Zhang (2023). That is, to a certain extent, this return profile may reflect the inherently skewed payoff structure of early-stage risk.

After establishing this segmentation in the going-public market, we test the gap-filling hypothesis and find supporting evidence of SPAC activity increasing in response to regulatory constraints. Specifically, we exploit a shift in the relative litigation risk between IPOs and SPACs induced by the U.S. Supreme Court's 2018 decision in *Cyan, Inc. v. Beaver County Employees Retirement Fund*, which reaffirmed that Section 11 claims could be brought in state courts in addition to federal courts. This decision enabled parallel jurisdiction and therefore substantially increased litigation costs to defendants in IPO lawsuits.[8] We use

[7]See, for example, SPAC target firms in nuclear energy: Oklo (NYSE: OKLO), Nuscale Power Corp. (NYSE: SMR); quantum computing: IONQ Inc. (NYSE: IONQ); aerospace and satellites: AST SpaceMobile Inc. (NASDAQ: ASTS), Rocket Lab Corp. (NASDAQ: RKLB).

[8]These additional litigation costs primarily come from weaker claims brought in state courts, greater

a difference-in-differences approach that compares changes in going-public activity across industries with varying propensity for IPO litigation prior to *Cyan*. We find that after the ruling, SPAC acquisitions increase significantly more in high-litigation industries compared to low-litigation industries. Specifically, the number of SPAC mergers rises by 37% more in litigious industries, and the increase in total proceeds is roughly twice as large. Moreover, the differential likelihood of a SPAC acquisition rises by 16 percentage points. In contrast, the relative change in likelihood of a traditional IPO in a high- versus low-litigation industry decreases by 7 percentage points. These findings are consistent with the prediction that SPACs become more attractive when traditional IPO regulatory costs increase.

Therefore, the evidence indicates that non-bank intermediaries have the potential to provide a valuable economic function by granting public market access to small, risky, but value-creating firms. However, performing this function relies on sponsors fulfilling their certification roles. Here, our framework also highlights a key tension: the very features that make SPACs effective in filling this gap also introduce agency conflicts between sponsors and investors. With relatively lenient regulatory requirements and the provision of the equity stake, sponsors have an incentive to shirk their certification role, as they can still profit even if the merged entity performs poorly, provided a deal is completed before the deadline. Investors, in contrast, bear the losses if the post-merger firm underperforms.

Why don't all sponsors shirk to increase their payoff? One hypothesis is that *reputational capital at-risk* may mitigate agency incentives and act as a disciplining mechanism. We examine this possibility by collecting data on SPAC sponsors' backgrounds and career experience. We posit that reputational capital is most important for sponsors with existing relationships with institutional investors. Consistent with this hypothesis, we find that companies taken public by SPAC sponsors with financial industry careers are substantially less likely to delist from public markets.[9] Specifically, if the sponsor chairperson has formal experience working in the financial industry, then the SPAC target firm is 16.3 percentage points (65% of the mean) less likely to delist. In contrast, we observe no such effects for sponsor chairs with lead operating industry experience. These results support the interpretation that reputational considerations are particularly important when the sponsor's main line of business is closely tied to financial market credibility.

One explanation for this finding that is distinct from moral hazard is that sponsors with financial market experience have better screening ability. While this could contribute to the effect, we additionally provide evidence on agency considerations that *precede* the approval of

scope for plaintiff forum-shopping, and more pressure on defendants to settle (Klausner et al., 2020).

[9]We show that this result is robust to two different specifications, our previous specification with an added interaction term, as well as a sponsor-level regression.

a target company. In particular, the structure of sponsor compensation implies that moral hazard problems are amplified during periods of booming stock markets. Our framework suggests that as investors reward more speculative investments, the expected benefit of completing any deal rises; the disciplining force of reputation must then be stronger to sustain a separating equilibrium in which sponsors exert effort and avoid low-quality mergers. We interpret this to mean that in such environments, low-experience sponsors have greater incentive to enter the market to capitalize on market conditions.

Consistent with this prediction, we show that sponsor agency conflicts intensify during stock market booms. Specifically, we find that sponsors raising capital in periods of high stock market sentiment are less likely to have financial industry experience. Investors appear to partially recognize this risk, as the liquidation rates of the SPAC vehicles also increase during these periods. However, even among SPACs that successfully complete a merger, we find that the time to target approval is significantly shorter when stock market sentiment is high, consistent with sponsor market timing behavior.

These findings have several policy implications. Our results suggest that a reasonable policy objective is for segmented going-public markets to sustain a healthy equilibrium—in which SPACs take small, risky, high-growth firms public—while minimizing agency conflicts. As we show, variation in sponsor quality and conflicts of interest are valid concerns. However, these agency problems can, in principle, be mitigated with better governance mechanisms.[10] Given this objective, policies that stifle the SPAC market, such as the expansion of underwriter liability, are not optimal. Instead, mechanisms that link sponsor compensation to the long-run performance of the post-merger operating company, e.g., long-term phase-in structures or earnout provisions, could reduce agency conflicts without stifling market activity. Importantly, these mechanisms do not require regulatory intervention; high-quality sponsors can choose to adopt performance-based compensation features to signal alignment with long-term shareholders, and sponsors that do not will face weaker investor demand. Overall, our results highlight how regulatory frictions and intermediary incentives jointly shape the evolution of going-public markets.

Related Literature. This paper contributes to the literature on the evolving US going-public landscape, including on the decline of public listings (Engel, Hayes, and Wang, 2007; Gao, Ritter, and Zhu, 2013; Doidge, Karolyi, and Stulz, 2017; Ewens and Farre-Mensa, 2020; Lattanzio, Megginson, and Sanati, 2023; Chemmanur et al., 2025), and other major shifts in going-public markets (Dambra, Field, and Gustafson, 2015; Iliev and Lowry, 2020; Bernstein, Dev, and Lerner, 2020; Zheng, 2021; Aggarwal et al., 2022; Field and Lowry,

[10] Indeed, the substantially lower delisting rate for firms with experienced sponsors suggests that these agency conflicts can be ameliorated.

2022; Huang, Ritter, and Zhang, 2023; Bowen, Frésard, and Hoberg, 2023). The evidence has shown that small and young firms in particular have led this decline, due to factors such as the increased supply of private capital, the decline in analyst coverage of small firms, and increased regulatory costs. Our paper contributes with a framework and empirical evidence on segmented going-public markets in which non-bank intermediaries fill a gap left by traditional IPO underwriters in taking small and young firms public.

In doing so, we contribute to a growing finance literature on SPACs (Lewellen, 2009; Cumming, Hass, and Schweizer, 2014; Kolb and Tykvova, 2016; Dimitrova, 2017; Blomkvist and Vulanovic, 2020; Gryglewicz, Hartman-Glaser, and Mayer, 2022; Blankespoor et al., 2022; Gahng, Ritter, and Zhang, 2023; Dambra, Even-Tov, and Munevar, 2023; Banerjee and Szydlowski, 2024; Feng et al., 2025; Lin et al., 2025). We contribute with a rationale for an economic function of SPACs, as well as new empirical evidence on (i) the characteristics and outcomes of their target firms, (ii) how the going-public market responds to changes in litigation costs, and (iii) the trade-offs between gap-filling and sponsor agency conflicts.

This paper also relates to the literature on law and finance. The first strand we relate to is the literature on securities litigation in public listings (Tiniç, 1988; Hughes and Thakor, 1992; Beatty, Bunsis, and Hand, 1998; Lowry and Shu, 2002; Hanley and Hoberg, 2012; Esmer, Ozel, and Sridharan, 2023; Brogaard et al., 2024). While necessary for shareholder protection, we suggest that an unintended consequence of high litigation risk is the incomplete going-public market, in which some risky but value-creating firms are kept out. The second strand we relate to is the literature on regulatory arbitrage in financial markets (Karolyi and Taboada, 2015; Demyanyk and Loutskina, 2016; Buchak et al., 2018; Di Maggio and Yao, 2021; Irani et al., 2021; Gopal and Schnabl, 2022; Di Maggio, Ratnadiwakara, and Carmichael, 2022; Greenwald et al., 2024). We argue that SPACs represent a form of regulatory arbitrage in going-public markets: structured as mergers and thus governed by merger law, de-SPACs are less exposed to the strict Section 11 liability applied to traditional IPOs. We provide evidence that SPACs become more attractive when litigation risks increase.

The rest of the paper is organized as follows. Section 2 contains institutional details. Section 3 presents our conceptual framework. Section 4 describes our data. Section 5 characterizes the cross-section of going-public firms. Section 6 analyzes how regulatory risk shapes going-public activity. Section 7 investigates agency conflicts that arise in gap-filling by non-bank intermediaries. Section 8 assesses alternative hypotheses and provides a brief policy discussion. Section 9 concludes.

2 Institutional Details

This section presents institutional details relevant for our analyses. We first provide an overview of the SPAC process, then contrast this with traditional IPOs.

The SPAC is the descendant of the blank check company, a "shell" that raises money via an initial public offering with the stated purpose of merging with an operating company. Blank check companies were popular in the late 1980s but quickly diminished in prevalence due to fraudulent activity involving unsophisticated investors. This was soon followed by the formation of the modern SPAC. In 1992, the SPAC was developed by a small team of lawyers and underwriters to create a form of the blank check company with sufficient investor protections in place to gain the approval of the SEC (Heyman, 2008). We begin this section with an overview of the current structure and lifecycle of a U.S. regulated SPAC.

SPAC IPO. The SPAC sponsor (manager) first raises capital through an initial public offering of the SPAC. The SPAC then exists as a publicly-traded non-operating financial firm. The SPAC IPO consists of a unit offering with both common shares with voting rights and warrants that cannot be exercised until after the SPAC completes a reverse merger. The warrant affords the exerciser the right to purchase shares in the going-public firm at a pre-specified price following the acquisition close. The proceeds raised by the SPAC are placed in a trust account and are then invested in U.S. Treasuries.

At the time of going public, SPACs often have a sectoral or geographic focus for their target company when they IPO, which will generally be related to the sponsor's area of expertise. However, they are not allowed to specify a particular target company at the time of the initial capital raise; instead, they are formed with the intention of searching for the target company once the capital has been raised from external shareholders. Regarding compensation, SPAC sponsors do not receive management fees. They do, however, receive a portion of the firm's equity upon the closing of a successful acquisition. This is generally 20% of the firm's public equity.

Post-IPO. After the SPAC goes public, the sponsor identifies a target operating company and seeks shareholder approval to combine with the target firm. Shareholders can redeem shares to receive the pro-rata value of the trust fund. Shareholders are also given the right to vote on proposed mergers. In order for the combination to materialize, the majority of shareholders must approve the transaction and must be below the redemption threshold; that is, a certain portion of shareholders must not redeem their shares. Note that outside shareholders can redeem their shares and receive a pro-rata share of the trust value if the acquisition is ultimately approved. Since shareholders can redeem their shares, oftentimes, a private placement (PIPE) transaction will occur following the SPAC's initial capital raise via the

IPO. This PIPE transaction provides additional funds to finance the business combination.

De-SPAC. In the final phase of the SPAC lifecycle, either the SPAC and target operating company combine in a reverse merger acquisition, or the SPAC liquidates. If the first proposed acquisition does not receive shareholder approval, managers can continue to search for another target company. However, they must find a firm within the specified time frame. Typically, the SPAC sponsor is given 18-24 months before liquidation. The exact duration allowed for target company search is specified in the S-1 filing that the SPAC must file with the SEC. If the SPAC liquidates, the warrants of the sponsor expire, and the funds in the trust plus accumulated interest are returned to initial shareholders. This amounts to a loss of the managers' at-risk capital, which consists of shares and warrants purchased at the time of the SPAC's IPO.

2.1 Key Differences between Traditional IPO Underwriters and SPAC Sponsors

Role of Intermediary. Traditional underwriters, typically investment banks, are hired by private companies to guide them through the IPO process. Their responsibilities include due diligence, regulatory compliance, pricing the offering through book-building, and marketing the shares to institutional investors. They act as financial intermediaries who perform a gatekeeping function, effectively certifying the firm's quality to the public markets.

In contrast, a SPAC is a shell company that raises capital through an IPO with the sole purpose of merging with an existing private company. Upon identifying a target (typically within 18-24 months), the SPAC proposes a merger that, if approved by shareholders, results in the target firm becoming publicly traded through the so-called "de-SPAC" process. Here, the SPAC sponsor plays the role of the key intermediary rather than traditional underwriters.

Regulatory Treatment. In the traditional IPO process, underwriters are subject to stringent regulatory scrutiny and due diligence obligations under securities laws. To protect investors, the U.S. Securities Act of 1933 imposes underwriter liability on investment banks, overseen by the Securities and Exchange Commission (SEC). Under Section 11 of the Securities Act, investors can file suit against underwriters for a decline in firm value below the offering price due to material misstatements or omissions. Litigation costs are economically substantial, and include both direct and indirect costs. Being named in a lawsuit can induce severe reputational damage and financial consequences for investment banks: Hanley and Hoberg (2012) show that if an IPO firm associated with a lead underwriter is sued under Section 11, the lead underwriter suffers substantial losses in market share in the following year, with an average dollar loss in value of roughly $59 million.

In contrast, SPACs face a much lighter regulatory burden. The SPAC IPO itself faces fewer obligations at the IPO stage due to their lack of operating history and business activity. Indeed, Klausner, Ohlrogge, and Ruan (2022) find that from 2009 to 2019, there were no Section 11 suits against SPACs based on their IPOs. A key difference is that the de-SPAC process is structured legally as a merger between the SPAC and a private operating company. Consequently, the transaction is governed by the SEC's rules for mergers and business combinations, not the rules for initial public offerings. Under Section 11, investors can sue underwriters for misstatements or omissions, and there is no need to prove causation or *scienter*. In contrast, de-SPACs are governed by Rule 10b-5 under the Exchange Act, which imposes liability for fraud (i.e., knowing or reckless misstatements), requiring a significantly higher legal threshold than the strict liability regime applicable to IPOs.

Data on litigation corroborates this. Klausner, Ohlrogge, and Ruan (2022) find that from 2015 to 2019, ∼15% of traditional IPOs have been the target of shareholder suits under Section 11, and ∼90% of those suits name the underwriter as a defendant. By comparison, from 2009 to 2019, there were no Section 11 suits against SPACs based on their IPOs, and there were only two Section 11 suits against post-merger SPACs. As shown in Strauss (2022), while SPAC-related lawsuits increased in 2020 and 2021, Section 11 litigation has been virtually nonexistent. Instead, most cases took the form of merger litigation, which is substantially less costly than Section 11 lawsuits. The average settlement for Section 11 lawsuits is approximately $4.5 million, whereas merger lawsuits settled for an average of about $0.2 million.

At the de-SPAC stage, the target company must file a proxy statement (Form S-4 or F-4) or tender offer materials, which includes financial statements, a description of the target's business, and often management's projections. In 2024, the SEC adopted a set of new rules on SPAC transactions, which revised the treatment of forward-looking projections in de-SPAC disclosures.[11] Prior to this, SPACs could rely on the Private Securities Litigation Reform Act's (PSLRA) safe harbor for forward-looking statements, allowing them to include management projections in de-SPAC disclosures with relatively lower litigation risk. The 2024 rule change removed their access to the PSLRA safe harbor. Notably, however, the SEC did *not* adopt the earlier proposed Rule 140a to impose traditional underwriter liability on investment banks participating in SPAC capital raises.[12] The initial announcement of this proposed rule in 2022 had a chilling effect on the SPAC market (see Figure 1). SPACs have since rebounded after the resolution of this regulatory uncertainty.

[11]The 2024 new rules also expanded disclosure requirements regarding the background of SPAC sponsors, their compensation, potential conflicts of interests, and dilution.

[12]The final rules are available at https://www.sec.gov/files/rules/final/2024/33-11265.pdf. The proposed rules are available at https://www.sec.gov/files/rules/proposed/2022/33-11048.pdf.

Intermediary Compensation. Underwriters are compensated through fees typically equal to 5-7% of IPO proceeds. Their compensation is realized at the time of listing, and they have limited residual claims post-IPO. Halbhuber (2022) shows that IPO rules governing intermediaries in the IPO market limit the amount of compensation underwriters can earn relative to the amount of capital raised in the IPO; specifically, FINRA RULE 5110(a)(1) requires that underwriting compensation must not be "unfair or unreasonable," which is generally understood to impose a cap of 10% of cash proceeds raised. SPAC sponsors, by contrast, are not subject to these limits. They receive compensation primarily through the sponsor promote, typically 20% of the SPAC's post-merger equity.

3 Conceptual Framework

This section presents a stylized model of the going-public market in an environment with adverse selection. The model is based on Tirole (2010), who considers the role of underwriters as certification intermediaries in the capital-raising process. Operating firms have private information about their quality that is unobservable to investors, and underwriters act as certification intermediaries in the IPO market. We introduce additional firm heterogeneity in the form of riskiness, which is observable to all. We consider the role of SPAC sponsors as non-bank certification intermediaries.

3.1 Players and Assumptions

There are four types of players: operating firms, public market investors, investment banks, and SPAC sponsors.

Operating Firms. The operating firms are of measure 1. Each firm owns an investment project. The model has two dates and no discounting. Figure 3a depicts the model timeline. On date 0, the operating firm has no endowment and makes the going-public decision of whether to IPO, SPAC or stay private. If the firm goes public (through IPO or SPAC), it raises capital from public investors and invests in its project by the amount of I. On date 1, project cash flows are realized and distributed. In the good state, which occurs with probability $prob$, the project succeeds and pays off R for every unit of investment. In the bad state, which occurs with probability $1 - prob$, the project fails and pays 0 for every unit of investment at date 0. The expected net return of per-unit firm investment is $ER = (prob * R) - 1$.

Operating firms differ along two dimensions: quality and riskiness. Along the quality dimension, there are good firms and bad firms. Good firms have higher expected returns than bad firms, and only good firms are creditworthy (able to repay capital through an NPV-positive project). Along the riskiness dimension, there are safe firms and risky firms.

Compared to safe firms, risky firms have a higher return in the good state but a lower probability of success. The per-unit investment return in the good state is rate R_h for risky firms and rate R_l for safe firms, where $R_h > R_l$. The probability that a Good/Safe (G/S) firm succeeds equals $prob_{G/S} = p$ and the probability that a Bad/Safe (B/S) firm succeeds equals $prob_{B/S} = q$, where $p > q$. Meanwhile, the probability that a Good/Risky (G/R) firm succeeds is $prob_{G/R} = \frac{pR_l+\mu}{R_h}$ and the probability that a Bad/Risky (B/R) firm succeeds is $prob_{B/R} = \frac{qR_l+\mu}{R_h}$. The per-unit net expected return for risky projects has a risk premium ("yield") component μ relative to safe projects: $ER_{G/R} = pR_l + \mu - 1 > 0$; $ER_{G/S} = pR_l - 1 > 0$; $ER_{B/R} = qR_l + \mu - 1 < 0$; and $ER_{B/S} = qR_l - 1 < 0$. Note that we do not restrict the sign of the risk premium μ, which may be positive, zero, or negative. Figure 3b depicts the project payoffs for each type of operating firm, conditional on going public.

Insert Figure 3 Here

Firm quality is the private information of firms, e.g., information related to managerial ability. Firm riskiness is common knowledge, e.g., information related to the attributes of the investment project. The proportion of good firms in the economy is α and the proportion of bad firms is $1-\alpha$. The proportion of safe firms in the economy is β and the proportion of risky firms is $1-\beta$. It is assumed that there is measure $\alpha\beta$ of G/S firms, $\alpha(1-\beta)$ of G/R firms, $(1-\alpha)\beta$ of B/S firms, and $(1-\alpha)(1-\beta)$ of B/R firms.

Public market investors. The public capital market is competitive. Investors are risk-neutral. They can invest in going-public firms or stay out of the going-public market entirely. All investors prefer good firms over bad firms since bad firms are negative-NPV. Under symmetric information, investors would only invest in good firms.

Financial intermediaries. There are two types of financial intermediaries: investment banks (traditional regulated intermediaries) and SPAC sponsors (non-bank intermediaries). Investment banks and SPAC sponsors own certification technologies that can detect firm quality.[13] Certification costs are c_{ib} for investment banks and $c_{sponsor}$ for SPAC sponsors.[14]

Investment banks. Investment banks charge underwriting fees uI from the going-public firm. The IPO literature shows that the majority of the underwriting fee is the 7% spread earned by banks (Chen and Ritter, 2000).[15] With underwriter liability, if the firm project

[13]We assume perfect certification technologies to simplify the analyses. Our main conclusions are not affected by incorporating imperfect certification technologies.

[14]We assume the certification costs are fixed for simplicity. The certification costs could be composed of both fixed costs and variable costs. Our entire analysis holds when we add variable costs.

[15]The literature also documents that investment banks may have incentives to transfer value to institutional clients by "leaving money on the table" and capturing soft dollars via commissions paid by institutional investors in excess of direct execution costs (Nimalendran, Ritter, and Zhang, 2007; Goldstein, Irvine, and Puckett, 2011). This can be seen as an additional component of the proportional fee in the model.

fails, investment banks incur litigation costs vI. Without underwriter liability, investment banks incur no costs if the firm project fails.

SPAC sponsors. SPAC sponsors receive founder share τ of the going-public operating firm as compensation.[16] Their payoffs are proportional to the operating firm cash flow realized at date 1. SPAC sponsors do not incur litigation costs in the model if the firm fails. As discussed in Section 2, sponsors are not immune from liability; our assumptions of litigation costs are in relative terms: SPAC sponsors face lower expected litigation costs compared to investment banks in traditional IPOs.

We assume $pR_l - 1 > u, pR_l + \mu - 1 > u$, so that G/S and G/R firms have incentives to purchase certification technologies. We also assume $uI > c_{ib}$ and $\tau(pR_l + \mu) > c_{sponsor}$, so that investment banks and SPAC sponsors earn a profit when they truthfully certify firm types, and the separating equilibrium is feasible.

In subsection 3.2, we first introduce a benchmark with only the IPO market. In subsection 3.3, we add the SPAC market, where SPAC sponsors act as non-bank intermediaries.

3.2 Baseline Scenario with IPO Market Only

Symmetric Information: First-Best. In the benchmark scenario without asymmetric information, both firm quality and riskiness are observable. Good firms (G/S and G/R) go public and raise capital, while bad firms (B/S and B/R) remain private. Capital is efficiently allocated: G/S firms earn $V^{G/S} = (pR_l - 1)I$, and G/R firms earn $V^{G/R} = (pR_l + \mu - 1)I = V^{G/S} + \mu I$, consistent with investors breaking even. Bad firms have zero payoff. There is no demand for certification intermediaries or SPACs, and social welfare, defined as the aggregate welfare of all players, is maximized: $W_{SI} = \alpha\beta(pR_l - 1)I + \alpha(1-\beta)(pR_l + \mu - 1)I$. The social planner does not intervene.

Asymmetric Information without Certification Intermediaries. Financial markets are characterized by asymmetric information between buyers and sellers. Firms often have information about themselves that is unobservable to investors (Leland and Pyle, 1977; Myers and Majluf, 1984). We now introduce information asymmetry between firms and public investors in which only the firm knows its project quality while firm project riskiness is common knowledge. We first examine the scenario without certification intermediaries.

Consider the case of a safe firm approaching the going-public market. B/S firms have the incentive to mimic G/S firms and thereby obtain greater payoffs than they would receive if they were to reveal their types. Since public investors cannot distinguish between good and

[16] Because of its similar economic functions to stocks, for simplicity, we do not include warrants (the right to buy shares at a pre-specified price) in our model. SPAC founder warrant compensation may further incentivize SPAC sponsors to certify firm quality as their investment in warrants serves as at-risk capital (increased "skin in the game").

bad firms, B/S and G/S firms will be valued at the same price, giving rise to classic adverse selection (Akerlof, 1970). The equilibrium outcome of the going-public market depends on the average probability of success under investor beliefs: $m^{Safe} = \alpha p + (1-\alpha)\, q$. Defining m^{Safe*} as the critical threshold value for which G/S firms would be indifferent between pooling with B/S firms and staying private, i.e., $V_{pool}^{Safe} = V_{private}^{Safe}$, we obtain $m^{Safe*} = \frac{1}{R_l}$.

If $m^{Safe} < m^{Safe*}$, G/S firms prefer to stay private over pooling with B/S firms. B/S firms cannot go public and raise capital without pooling with G/S firms, as they would receive a negative payoff and investors would lose money. The market is in the breakdown equilibrium. No safe firms go public. There is underinvestment.

If $m^{Safe} \geq m^{Safe*}$, G/S firms are willing to pool with B/S firms rather than stay private, generating a pooling equilibrium with cross-subsidization. Both G/S firms and B/S firms go public and raise capital. Adverse selection thus reduces the average quality of going-public firms. There is overinvestment because of the entry of bad firms. All firms are priced the same; investors make money on the G/S firms and lose money on the B/S firms. The equilibrium payoff to firms reflects the price at which public investors break even on average: $V_{pool}^{Safe} = [m^{Safe} R_l - 1] I$.

The same results apply for risky firms: the prior average probability of success for risky firms is: $m^{Risky} = \alpha \frac{pR_l + \mu}{R_h} + (1-\alpha)\, \frac{qR_l + \mu}{R_h}$. In the pooling equilibrium, the payoff for G/R firms is $V_{pool}^{G/R} = \left(m^{Risky} R_h - 1\right) I$. In the breakdown equilibrium, the payoff for G/R firms is $V_{private}^{G/R} = 0$. The critical value of m^{Risky} at which G/R firms would be indifferent between pooling with B/R firms and staying private is $m^{Risky*} = \frac{1}{R_h}$. If m^{Risky} exceeds m^{Risky*}, good firms tolerate pooling with bad ones to access capital; otherwise, good firms stay private and the market breaks down.

In summary, for both safe and risky firms, asymmetric information leads to capital allocation inefficiencies: either underinvestment due to market breakdown or overinvestment from the entry of bad firms. This creates demand for certification intermediaries.

IPO Market without Underwriter Liability: Myopic Underwriters. We now introduce investment banks who own certification technologies to detect firm quality but do not incur legal liabilities if the firm fails. G/R firms and G/S firms have incentives to purchase certification services. However, the classic agency conflict arises: investment banks should act on the interest of both good firms and public investors by producing and revealing information on the operating firms, but they can choose to shirk their certification role to maximize their own profits by taking bad firms public.

Focusing on safe firms to characterize market equilibrium, first consider the scenario where $m^{Safe} \geq m^{Safe*}$. When investment banks exert effort and truthfully reveal firm quality, the safe firm going-public market is in the separating equilibrium and the payoff for

investment banks is $\Pi^{IB}_{Certify} = \alpha\beta uI - \alpha\beta c_{ib}$. When investment banks shirk their certification role, the safe firm going-public market is in the pooling equilibrium, and the payoff for investment banks is $\Pi^{IB}_{Shirk} = \beta uI > \Pi^{IB}_{Certify}$. The higher payoff comes from fees accrued from bad firms and reduced certification costs from effort shirking. As a result, investment banks shirk their certification role.

Now consider the scenario where $m^{Safe} < m^{Safe*}$. When investment banks exert effort and truthfully reveal firm quality, the safe firm going-public market is in the separating equilibrium, and the investment bank payoff is $\Pi^{IB}_{Certify}$. When investment banks shirk their certification role, the going-public market is in the breakdown equilibrium, and the payoff for investment banks is 0. However, investment banks have another strategy. They can exert effort to identify firm quality without revealing all information to public investors. They cut the proportion of B/S firms in the going-public market from $(1-\alpha)$ to γ^{Safe*} such that the safe firm going-public market is in the pooling equilibrium. Setting the new prior probability of success $m^{Safe} = m^{Safe*}$, that is, $\alpha p + \gamma^{Safe*} q = \frac{1}{R_l}$, we obtain $\gamma^{Safe*} = \frac{1}{qR_l} - \frac{\alpha p}{q}$. The payoff for investment banks is $\Pi^{IB}_{Conceal} = \left(\alpha\beta + \gamma^{Safe*}\beta\right) uI - \beta c_{ib}$. When $\Pi^{IB}_{Conceal} \leq \Pi^{IB}_{Certify}$, i.e., $\gamma^{Safe*} \leq \frac{c_{ib}}{uI}(1-\alpha)$, investment banks exert effort and truthfully reveal firm quality. However, when $\gamma^{Safe*} > \frac{c_{ib}}{uI}(1-\alpha)$, investment banks exert effort to detect firm quality but do not reveal the information, and the safe firm going-public market is in the pooling equilibrium. The same conclusion also applies to risky firms.

Therefore, without underwriter liability in the IPO market, under the conditions outlined above, investment banks will be incentivized to shirk effort or conceal bad information to collect more fees, leading bad firms to enter the going-public market and creating a pooling equilibrium. A social planner would create value through regulation that punishes myopic underwriters. This result is summarized in the following lemma:

LEMMA 1 (Asymmetric Information in the IPO Market without Underwriter Liability)**.** *Agency conflicts of investment banks: When there is no underwriter liability in the IPO market, if* $m^{Safe} \geq m^{Safe*}$*, investment banks will shirk certification effort. If* $m^{Safe} < m^{Safe*}$ *and* $\gamma^{Safe*} > \frac{c_{ib}}{uI}(1-\alpha)$*, investment banks detect firm quality but conceal bad information to collect more fees. In both cases, the going-public market is in the pooling equilibrium and bad firms enter into the going-public market. There is value for regulation from the social planner to punish myopic underwriters.*

IPO Market with Underwriter Liability: Long-Term Underwriters. The social planner can improve social welfare by aligning investment banks' interests with those of public investors. The first-best policy of punishing effort-shirking and information-concealing is not feasible because these myopic behaviors are unobservable. The second-best policy is

to punish investment banks conditional on firm failure. As discussed in Section 2, the U.S. Securities Act of 1933 imposes underwriter liability on investment banks to protect investors. We assume that with underwriter liability, if the firm project fails, investment banks incur litigation costs v.[17] Investment banks consequently have strong incentives to exert effort in producing and truthfully providing information.

We repeat the analysis of investment banks' incentives in the previous subsection, now incorporating litigation costs in the event of firm failure. The two conditions for investment banks to exert effort and certify firm quality are (i) the payoff for investment banks in the separating equilibrium is higher than that of the pooling equilibrium, and (ii) the payoff for investment banks in the separating equilibrium is positive. These two conditions impose constraints on the range of litigation costs for which underwriters truthfully certify firm quality. However, as we show in Proposition 1, the liability-induced downside risk may cause an unintended consequence: the incomplete going-public market.

PROPOSITION 1 (IPO Market with Underwriter Liability)**.**

1. *Alleviated agency problems in the safe firm going-public market:*
   Litigation costs v alleviate agency problems of investment banks in the safe firm going-public market. There is a range of v such that investment banks certify firm quality truthfully. When $m^{Safe} \geq m^{Safe*}$, the range of v is $\frac{(1-\alpha)uI+\alpha c_{ib}}{(1-\alpha)(1-q)I} \leq v < \frac{uI-c_{ib}}{(1-p)I}$. When $m^{Safe} < m^{Safe*}$, the range of v is $\frac{\gamma^{Safe*}uI-(1-\alpha)c_{ib}}{\gamma^{Safe*}(1-q)I} \leq v < \frac{uI-c_{ib}}{(1-p)I}$. Investment banks certify safe firm quality. The safe firm going-public market is in the separating equilibrium.
2. *The incomplete going-public market:*
   In the risky firm going-public market, when the probability of success for G/R firms is lower than a critical value: $\frac{pR_l+\mu}{R_h} < 1-\frac{u}{v}+\frac{c_{ib}}{vI}$, investment banks do not take G/R firms public. Only G/S firms go public and raise capital. Social welfare is $W_{AI,incomplete} = \alpha\beta[(pR_l-1)I-c_{ib}-(1-p)vI] < W_{SI}$.

Proof. See Appendix A.2.

Proposition 1 shows that the litigation cost v, which punishes underwriters in the event of firm failure, incentivizes investment banks to certify and truthfully reveal firm quality for safe going-public firms. However, an unintended consequence is that investment banks become downside-averse and are deterred from taking risky firms (those with a low probability of success but a high payoff in the event of success) public. Value-creating risky firms are closed off from the traditional IPO market, even if they have positive expected returns.

[17] Following the literature on IPO litigation risk (e.g. Hughes and Thakor, 1992), the litigation cost is modeled as a deadweight loss in that it is not returned to investors. The interpretation is that the litigation cost represents the cost of legal fees and the underwriter's loss of reputation. Our main results remain robust if we assume that the litigation cost also includes a payment from the firm to investors.

Proposition 1 also shows that there is a size effect due to the fixed-proportion fee structure together with the fixed certification cost incurred by investment banks. Specifically, investment banks do not take G/R firms public when $I < \frac{c_{ib}}{u-\left(1-\frac{pR_l+\mu}{R_h}\right)v}$.[18] Therefore, investment banks are especially deterred from underwriting small firms.

3.3 SPACs and the Segmented Going-Public Market

In the SPAC market, sponsors raise capital from public investors, identify a target firm, then accomplish a reverse merger acquisition to inject the capital raised into the target firm and take it public. Since the acquisition is not an underwriting process, sponsors are relatively less exposed to Section 11 underwriter liability. Since SPAC sponsors receive an equity stake, they internalize the upside of risky going-public firms, unlike traditional underwriters. We now analyze the implications of these intermediaries for the going-public market.

Agency Conflicts in the SPAC Market. SPAC sponsors receive share τ of the target firm as compensation. While the equity-based compensation structure in the SPAC market is designed to reward sponsors when firms perform well, agency problems remain. That is, in the absence of any disciplining force, sponsors face a classic agency conflict: if the average success probability satisfies $m^{Risky} \geq m^{Risky*}$, they are incentivized to shirk their certification role and bring bad firms public in order to secure the equity stake. This is because certification effort is costly and the expected total cash flows of bad firms, $qR_l + \mu$, are nonnegative.[19] When $m^{Risky} < m^{Risky*}$, SPAC sponsors have incentives to certify but not truthfully reveal the information and take a portion of bad firms public.

(Reputational) Capital At-Risk. SPAC sponsors bear downside risk in the form of at-risk capital: they invest a small amount of upfront capital (often around 3% of the trust value) to fund the SPAC's operating expenses and underwrite the sponsor warrants. However, this dollar risk is small relative to the value of the promote and does not fully deter opportunistic behavior. However, reputation-sensitive sponsors, such as those with established investment platforms, face soft-dollar at-risk capital in the form of reputational costs. Taking a bad firm public can impair their brand, reduce investor trust, and limit future fundraising opportunities. We let r represent a combination of financial capital at risk and reputational exposure.

While sponsors do incur losses if the merged firm fails, they also benefit from equity upside, which gives them stronger incentives to certify risky firms than traditional underwriters. Investment banks, by contrast, earn fixed fees and bear substantial litigation risk,

[18] Even in the case of G/S firms, investment banks will not take small firms public.

[19] Bad firms are negative NPV ($qR_l + \mu - 1 < 0$) for public market investors. However, the sponsor's equity stake amounts to a claim on the firm's expected total cash flows.

giving them no upside participation. As a result, there exists a range of firm success probabilities $prob_{G/R}$ such that investment banks do not certify, but SPAC sponsors do. This range defines the region of segmentation in going-public markets.

We now establish the conditions under which SPAC sponsors truthfully certify firm quality. The incentive-compatibility (IC) and participation constraints (PC) imply a range of the at-risk capital such that SPAC sponsors truthfully certify firm quality.

PROPOSITION 2 (SPAC Market with Reputational Capital at-Risk)**.**

1. *Capital at-risk induces SPAC certification effort:*
   There is a lower bound r^L on the at-risk capital needed to induce certification effort. If $r < r^L$, the risky firm going-public market is in the pooling equilibrium and SPAC sponsors bring both B/R and G/R firms public, where

$$r^L = \begin{cases} \frac{(1-\alpha)\,\tau(qR_l+\mu)I+\alpha c_{sponsor}}{(1-\alpha)\left(1-\frac{qR_l+\mu}{R_h}\right)I} & \text{if } m^{Risky} \geq m^{Risky*} \\ \frac{\gamma^{Risky*}\,\tau(qR_l+\mu)I-(1-\alpha)c_{sponsor}}{\gamma^{Risky*}\left(1-\frac{qR_l+\mu}{R_h}\right)I} & \text{if } m^{Risky} < m^{Risky*} \end{cases}$$

   and γ^{Risky*} is given in Appendix A.2.

2. *SPACs fill a gap in the going-public market:*
   Provided that $r \geq r^L$ and the litigation cost v satisfies the range stated in Proposition 1.1, there exists a segmented going-public market in which investment banks take G/S firms public and SPACs take G/R firms public when

$$\frac{c_{sponsor}+rI}{(\tau R_h+r)I} < prob_{G/R} < 1-\frac{u}{v}+\frac{c_{ib}}{vI} \quad \text{and} \quad p \geq 1-\frac{u}{v}+\frac{c_{ib}}{vI}$$

   Even for G/S firms, there is a range of size I for which investments banks do not take firms public, but SPACs do:

$$\frac{c_{sponsor}}{p\tau R_l-(1-p)r} < I < \frac{c_{ib}}{u-(1-p)v}$$

Proof. See Appendix A.2.

As shown in Appendix A.2 and illustrated in Figure A1, the range of $prob_{G/R}$ in Proposition 2.2 is non-empty for plausible values of these parameters. In the separating equilibria achieved under the conditions outlined in Propositions 1 and 2, investment banks take good-safe firms public in the IPO market, SPAC sponsors take good-risky firms public in the SPAC market, and bad firms stay out of public markets.

Note that SPACs do not obtain full market share because going public this way is much more costly to the operating firms. As a result, safe firms that are able to use a traditional IPO will do so, and SPACs certify firms that are bypassed by the traditional underwriters. In other words, the assumption that the cost of going public through SPAC for G/S firms, $\tau p R_l I$, is higher than the cost of going public by IPO, uI, is easily satisfied in practice given the 20% SPAC founder share τ and the 7% IPO underwriting fee u charged by investment banks.[20] Moreover, $pR_l > 1$ for all G/S firms by definition.

It can also be seen from the result of Proposition 2.1 that $\partial r^L / \partial \mu > 0$. That is, when risky firms offer greater upside relative to safe firms, the expected gain from allowing B/R firms rises, and stronger reputational concerns are needed to discipline sponsor behavior. Note that μ does not enter into the IC constraint for investment banks due to the upside-agnostic and downside-averse nature of their payoffs.

COROLLARY 1. *The minimum capital at-risk r^L needed to satisfy SPAC sponsor incentive-compatibility is increasing in μ, the risk premium.*

In other words, when risky projects become more attractive relative to safe projects (e.g., due to market conditions that favor speculative investments), SPAC sponsors require stronger reputational concerns to avoid bringing bad firms public. This prediction suggests that sponsor effort-shirking increases in periods of high demand for speculative investments.

3.4 Summary of Testable Predictions

In the empirical analysis below, we will use comprehensive data on SPACs and traditional IPOs to test the following predictions from the conceptual framework:

Prediction 1. *Segmented going-public markets: risk.* Riskier firms go public through SPACs while safer firms go public through traditional IPOs.

Prediction 2. *Segmented going-public markets: size.* Smaller firms go public through SPACs while larger firms go public through traditional IPOs.

Prediction 3. *Gap-filling in response to regulatory constraints.* When litigation costs to traditional underwriters rise, the market share of SPACs increases.

Prediction 4. *Reputational risk as a disciplining mechanism.* SPAC sponsors with more reputational capital at-risk are less likely to bring low-quality firms public.

Prediction 5. *Sponsor agency conflicts in booming stock markets.* Agency problems of SPAC sponsors intensify when equity investor sentiment is high.

[20] There are very few deviations from the 20% share in practice, suggesting that increased competition has not driven down the share.

4 Data and Sample

We combine several data sources to study U.S. public listings.

SPAC Data. We obtain data on U.S. SPACs from several sources, including SPAC Analytics and manual collection from SEC filings. SPAC Analytics is a commercial provider that offers a timeline of key dates in the SPAC's lifecycle, as well as details of the reverse merger transaction, including valuations of the target company and purchase price. This information is sourced from publicly available Securities and Exchange Commission (SEC) filings, investor presentations, and detailed press releases. Since SPACs first raise capital via an IPO, they are required to file documentation with the SEC, which can be accessed via the Electronic Data Gathering and Retrieval (EDGAR) database. Information on shareholder voting thresholds and other structural details of each SPAC are reported in these public reports, particularly in quarterly and annual reports, securities registration statements, and prospectus filings. For example, voting threshold data can be found in the SEC's S-1/F-1 registration filings, and data on whether the SPAC acquisition is approved or denied by shareholders can be found from 10-K, 6-K, and 8-K filings.

After the SPAC itself goes public, it typically takes around 18 months to identify a target and obtain shareholder approval for a merger. In addition, we require sufficient time to observe the outcomes of target firms several years after going public. Therefore, we consider the sample of SPACs that went public on or before 2020 and follow each SPAC to its completion. We consider the 636 SPACs that went public and raised capital from 2003 to 2020. Of these, 477 ultimately identified a target company and had an acquisition approved by shareholders, 158 were liquidated, and one is still reported as searching for an acquisition.

We supplement this with additional hand-collected data to provide a comprehensive view of the going-public firms. First, we retrieve the Central Index Key (CIK) for each SPAC in order to access the complete text of each SPAC's SEC filings. Next, we obtain the Global Company Key (GVKEY) for each SPAC in order to connect to Compustat fundamentals data. For some SPACs, there are separate GVKEYs for the blank check company and the post-reverse-merger operating company, in which case we make sure to gather all GVKEYs to cover the full lifetime of the SPAC. Next, we manually gather the founding dates of SPAC target companies by following an approach consistent with Loughran and Ritter (2004)'s method for gathering the founding dates of traditional IPO firms. Specifically, we hand collect target company founding years from company websites, Crunchbase profiles, press releases, and SEC reports. A small number of SPACs acquire multiple operating companies. In these cases we gather the founding dates of all targets and present results for the average target age, minimum target age, and maximum target age.

Next, we collect data on the backgrounds and career experience of SPAC sponsors. We first crawl the SEC EDGAR webpage of each SPAC in order to identify and retrieve its final prospectus. From each prospectus, we then extract the "Management" section, which contains biographies of each member of the SPAC management team. We then submit the extracted biographies to the Gemini LLM. The biographies are inserted into a structured prompt that requests the model to identify and classify specific attributes of each individual's professional background (e.g., operational versus financial expertise and prior investment experience). The prompt is provided in Appendix B.1. The LLM output is parsed into a standardized set of variables for each management team member of each SPAC. We conduct a validation exercise to assess the reliability of this approach. Specifically, we manually read the management biographies and collect these variables for a randomly selected subset of 50 of the 636 SPACs. We find a near-identical match between our hand-collected versus Gemini-collected variables.

Traditional IPO Data. Next, we obtain data on U.S. Initial Public Offerings (IPOs) from the SDC New Issues database (formerly Thomson Financials). We start with all common stock offerings and drop secondary offerings and IPOs that were withdrawn, rejected, or postponed. We also exclude unit offers, American depositary receipts (ADRs), and offers with warrants. Next, we drop offerings with missing or zero global proceeds across all markets, as well as those with missing offer prices. Finally, we exclude any IPO filings of real estate investment trusts (REITs), "Holding and Other Investment Offices" (SIC major group 67) which includes blank-checks, closed-end funds, and other related investment vehicles. The remaining IPOs exclude any initial capital raises of SPACs or other similar offerings, thus serving as a comparison group for the target firms that are acquired by SPACs. This leaves us with 2,595 traditional IPOs from 2003 to 2021. To obtain founding dates for traditional IPO firms, we use the Field-Ritter dataset of company founding dates as used by Loughran and Ritter (2004).

Sample Details and Summary Statistics. We link the going-public firms to their annual Compustat fundamentals data. For SPACs, we link target companies to their fundamentals data using our collected GVKEYs for the acquired operating company. We drop SPACs for which the time from merger approval to first Compustat annual fundamentals report exceeds two years, and similarly drop traditional IPO firms for which the time from issue to the first Compustat annual fundamentals report exceeds two years. We additionally restrict to U.S.-incorporated, non-financial companies for the analysis. Specifically, we require Compustat variable "fic" to equal "USA", and we remove companies in NAICS sector "52" ("Finance and Insurance"). Our fundamentals sample ultimately contains 1,973 traditional IPO firms and 292 SPAC target firms.

Table 1 presents summary statistics of the annual fundamentals data. In order to best measure the characteristics of firms around the time they go public, the summary statistics are calculated using only the first year of data in Compustat after the firm goes public. Values are winsorized at the 1st and 99th percentiles. The table shows that SPAC firms are on average smaller than IPO firms at the time of going public, particularly in terms of revenue. Specifically, the average revenues of IPO and SPAC firms are \$676 million and \$291 million, respectively. However, SPAC firms on average grow revenues substantially faster than IPO firms. That said, the median revenue growth rate is similar to that of IPO firms, suggesting that high performers in the right-tail contribute to the faster mean growth rate. Consistent with this indication of volatility, SPAC firms exhibit higher variance in growth measures, as well as higher mean and median cash flow and earnings volatility.

Taken together, the summary statistics already suggest that SPAC target companies tend to be smaller and riskier than companies that go public through a traditional IPO. In the following section, we formally examine this using a regression approach that additionally controls for market-wide trends over time and cross-industry differences.

Insert Table 1 Here

Turning to our data on SPAC sponsors, we find that the average SPAC in our sample has a management team with seven members. The chairman is tasked with leading the board of directors and the strategy for the SPAC. For half the SPACs, the chairman also serves as CEO and takes responsibility for any day-to-day operations of the SPAC. 78% of SPACs are led by a chairman with a lead operations background, i.e. with other experience leading an operating company as Chief Executive Officer, Chief Operating Officer or equivalent. 79% of SPACs have a chairman with a formal financial industry background, e.g. with experience in investment banking, private equity, hedge funds, and venture capital.

5 The Cross-Section of Going-Public Firms

Traditional underwriters face significant liability exposure under Section 11 of the Securities Act, and their fee structure offers limited upside relative to the direct (legal) and indirect (reputational) costs of failure. Our model predicts that SPAC sponsors take riskier firms public while traditional underwriters take safer firms public.

We examine the cross-sectional differences between firms that go public through a SPAC versus a traditional IPO using an OLS regression approach. Each observation in the regression is a going-public company. The specification takes the following form:

$$Y_i = \beta_0 + \beta_1 \times \text{SPAC}_i + \alpha_k + \mu_t + \epsilon_i \tag{1}$$

where the key independent variable SPAC_i is a binary variable equal to one if the firm goes public through the SPAC market and equal to zero if the firm goes public through the traditional IPO market. The dependent variable Y_i is a characteristic or outcome of the firm and the coefficient of interest is β_1. The specification includes NAICS 3-digit industry fixed effects α_k to address time-invariant heterogeneity across industries as well as year fixed effects μ_t to control for general, market-wide changes over time. Standard errors are clustered at the NAICS 3-digit industry level.

To examine firm characteristics as close to the public offering as possible, information from only the first annual report of each firm is used. Appendix C.3 shows the results are robust to including the first three annual reports instead of one. Also, following convention, financial going-public firms are excluded from the analysis due to inherent differences in their regulation and business models. That said, Appendix C.2 shows the results are robust to the inclusion of operating financial companies.

5.1 Fundamental Differences Between SPAC and IPO Firms

SPAC Firms are Smaller Than IPO Firms. Columns (1) through (3) of Table 2 investigate the size of SPAC and IPO firms. The dependent variables in Columns (1), (2), and (3) are the natural log of total assets, the natural log of revenues, and the natural log of market cap, respectively. The table shows that, in terms of assets, revenue, and market capitalization, SPAC firms are significantly smaller than firms that undergo traditional public offerings. Specifically, SPACs have 36.9% lower assets, 53.6% lower revenue, and 56.1% lower market capitalization at the time of going public.[21]

SPAC Firms are Younger Than IPO Firms. Columns (4) through (6) of Table 2 examine the age of SPAC and IPO firms at the time of going public. The age of SPAC firms is defined as the calendar year of merger approval minus the calendar year of founding, and the age of IPO firms is defined as the calendar year of issue minus the calendar year of founding. There are a few cases where a SPAC merges with multiple targets to combine into one single public company. The three columns in the table differ in how SPACs with multiple targets are treated.[22] Column (4) uses the average age of all acquired operating companies at the time of going public, Column (5) uses the age of the youngest company, and Column (6) uses the age of the oldest company. Across columns, SPAC targets are significantly younger than traditional IPO firms around the time of going public. Specifically, SPAC firms are around 6 years younger than IPO firms.

[21] From the estimates in Table 2, these magnitudes are computed as exp(coefficient)-1.

[22] For example, cloud software-focused SPAC GTY Technology Holdings Inc., acquired six software-as-a-service operating companies in 2019 to form one combined entity that would trade on Nasdaq.

Insert Table 2 Here

SPAC Firms are Operationally Riskier Than IPO Firms. We turn to understanding the fundamentals of SPAC target firms versus traditional IPO firms beyond size and age. We construct firm-level measures of riskiness and growth to be used as outcome variables in the analysis. Specifically, Table 3 examines the operating volatility, financing, operating performance, and payout policy of going-public firms.

We start with operating volatility. In Column (1), we find that, relative to traditional IPO firms, SPAC firms exhibit higher cash flow volatility, which is defined as the standard deviation of cash flow-to-assets over the first four years after going public. Specifically, cash flow volatility is 9.5 percentage points higher for SPAC target firms. Column (2) examines earnings volatility, defined as the standard deviation of net income to assets over the first four years after going public. Similarly, earnings volatility is 10.9 percentage points higher for SPAC target firms.

SPAC Firms have Comparable Leverage to IPO Firms. Turning to financing, Columns (3) and (4) show that, relative to traditional IPO firms, SPAC target firms have comparable cash on balance sheet and debt-to-assets ratios. This indicates that SPAC targets are operationally riskier but not necessarily financially distressed. In other words, the source of risk is not high leverage, but operational risk that is more typical of high-growth, startup-like firms.

SPAC Firms are Less Profitable Than IPO Firms. Column (5) shows that SPAC firms are significantly less profitable than traditional IPO firms as measured by return on assets. Specifically, their net-income-to-asset ratio is lower than that of traditional IPO firms by 10.0 percentage points.

SPAC Firms Have Lower Dividend Payouts Than IPO Firms. Next, we consider payout policy as a measure of firm maturity. Columns (4) to (6) show that SPAC firms offer significantly lower payouts in the form of dividends and share repurchases. The dividend-to-income ratio is 18.6 percentage points lower, and the share repurchases over income ratio is 47.5 percentage points lower.

Insert Table 3 Here

Altogether, the results demonstrate key differences between firms that go public through a SPAC versus IPO. Consistent with our framework's hypothesis, SPAC target firms are significantly riskier, smaller, and younger than IPO firms at the time of going public. The underlying risk does not stem from the capital structure, but from uncertainty in operating fundamentals that is typical of early-stage, high-growth firms.

5.2 Outcomes of SPAC and IPO Firms

We now turn to the performance outcomes of SPAC and IPO firms.

SPAC Firms are More Likely to Involuntarily Delist than IPO Firms. We turn first to the delisting outcome and identify different types of delisting (involuntary deisting, voluntary delisting, and delisting due to an M&A transaction) following the methodology of Azevedo et al. (2024). For robustness, we study two versions of the outcome: (i) delisting at any point in time and (ii) delisting within four years. Table 4 shows that SPAC target firms are substantially more likely to delist from public markets than traditional IPO firms. Specifically, they are 7.3 percentage points more likely to delist within four years of being public, which is 33% of the mean delisting-within-four-years rate. Relatedly, they are 6.5 percentage points more likely to delist at any point in the future, which is 13.5% of the mean delisting rate. Moreover, the delistings are driven entirely by involuntary delistings from liquidation, bankruptcy, or regulatory removal rather than voluntary delistings or delistings due to M&A. Specifically, SPAC targets are 8.5 percentage points more likely to delist within four years due to involuntary reasons. One question is whether this is driven by the difference in size, as smaller firms may be more likely to delist. Columns (2), (4), (6), and (8) additionally control for the size of the offering. The estimates are virtually unaffected.

Insert Table 4 Here

Conditional on Survival, SPAC Firms Grow Revenue Faster Than IPO Firms. Next, we examine growth rates, conditioning on firms that remain listed in both the SPAC and IPO samples. Table 5 reports the regression results for the growth measures. Our measures include the firm's growth rates of revenue, market capitalization, and assets in the years immediately after the firm becomes a public company. We calculate all growth measures one year and two years after the firm officially goes public. In doing so, we necessarily condition on firms that survive one to two years. The results indicate that relative to IPO firms, SPAC firms have similar or even higher growth rates. SPAC firms grow revenue dramatically faster than traditional IPO firms: 41.6 percentage points faster over the first year and 94.5 percentage points faster across the first two years. Meanwhile, market capitalization and asset growth rates of SPAC firms are not statistically distinguishable from those of traditional IPO firms. Of course, since we condition on survival for both sets of firms, this should not be interpreted as evidence that SPAC firms perform better overall. On the contrary, our results align with Gahng, Ritter, and Zhang (2023), who document the poor *average* performance of de-SPACs. Importantly, our findings shed light on the volatility of the performance distribution.

Insert Table 5 Here

Summary. The findings from the cross-section of going public firms are consistent with the predictions of our framework on segmentation in the going-public market. SPAC target firms are smaller, younger, more volatile and less profitable companies. SPAC firms are more likely to fail, but conditional on surviving, grow dramatically revenue faster. Overall, SPAC target firms resemble pre-revenue startups more than traditionally established IPO firms.

These findings lend new insights into the prevalence of the "lemon" theory of SPACs. One explanation for their poor average performance is that agency conflicts are so pervasive that SPACs simply bring negative-NPV firms to market. Our framework indeed suggests that agency concerns are valid, and we examine them empirically in Section 7. A second explanation, however, is that there are fundamental differences in the underlying risk distributions. We show that both explanations can play a role. Specifically, the early-stage, high-risk nature of SPAC firms implies that, much like startups, their payoff distributions are skewed with poor average performance but occasionally large successes in the upper tail. This suggests a valuable function of SPACs, as public listings of small and young firms have fallen dramatically over the past several decades.

6 Regulatory Risk and Going-Public Activity

The previous section showed segmentation in the going-public market, highlighting differences in the underlying risk of SPAC and IPO firms. We now directly relate the regulatory environment to how public listings evolved following a change in the expected litigation costs. We test whether industries that were more prone to IPO litigation ex-ante experienced larger increases in SPAC relative to IPO activity following a court ruling that increased Section 11 litigation risk to new issuers. This question motivates a difference-in-differences approach. We first provide institutional background about the court ruling, then describe the regression specification and results.

6.1 Background on a Change to IPO Litigation Risk

In the aftermath of the 1929 stock market crash and during the Great Depression, Congress enacted the Securities Act of 1933, which instituted litigation risk for IPO companies in both state and federal court. Specifically, under Section 11 of the Act, issuers and underwriters became strictly liable for material misstatements and omissions in security registration statements. Because of the requirement to prove a connection between the stock purchase and the registration statement, Section 11 claims were filed primarily by IPO investors rather than secondary market investors. Importantly, Congress stipulated that state and federal

courts had concurrent jurisdiction over the 1933 Act claims, such that investors could file in both state and federal court.

In a first-best world, regulation would perfectly gatekeep litigation such that lawsuits are lodged only when a company has caused investor loss through material misstatements or omissions. This ideal has been difficult to achieve in practice. During the early 1990s, an overarching theme of regulatory back-and-forth surrounding the 1933 Act has been the challenge of establishing corporate responsibility to investors while avoiding burdensome, meritless lawsuits against companies.

In 1995, in response to increased concern about excessive litigation, Congress enacted the Private Securities Litigation Reform Act (PSLRA), which created barriers to class action litigation in federal court, e.g. an increase in the plaintiff pleading standard. When claims swiftly shifted to state courts, Congress acted once more in 1998 by enacting the Securities Litigation Uniform Standards Act (SLUSA), which aimed to prevent large securities class actions from being pursued in state court. In the aftermath of SLUSA, many expected that that 1933 Securities Act claims could be pursued only in federal court because cases filed in state court would be removed to federal court.

On March 20, 2018, the Supreme Court ruled in the case of *Cyan, Inc. v. Beaver County Employees Retirement Fund, et al.* that 1933 Act claims could be pursued in both federal and state court. In other words, the Supreme Court decided in favor of an interpretation of SLUSA that does *not* disturb the original concurrent jurisdiction of the 1933 Act. Investors became free to file Section 11 claims in state court without worrying that their state court litigation would be removed and dismissed.

How did this affect new issuers? Klausner et al. (2020) find that the *Cyan* ruling took swift effect with a large increase in state court litigation, especially in the form of parallel litigation filed both in federal court and state court. Such cases would require defendants to litigate parallel cases simultaneously. Importantly, this also led to weaker cases brought against new issuers: as the authors show, differences in procedural protections allowed plaintiffs to file weak cases in state court, pressuring defendants to settle. Indeed, their evidence indicates that (i) weaker cases are filed in state court and (ii) parallel litigation pressures defendants to settle even non-meritorious cases. An additional concern raised by legal commentators is that *Cyan* allowed for forum shopping on a broader scale. Overall, these changes meaningfully increased Securities Act litigation risks for companies undergoing an IPO.

6.2 Empirical Design and Results

We study how SPAC and IPO activity evolved following the 2018 *Cyan* Supreme Court ruling, which increased potential litigation burden to new issuers under Section 11. We hy-

pothesize that this ruling would affect issuers differently depending on their ex-ante exposure to IPO litigation risk. A natural way to measure ex-ante exposure is industry affiliation, as certain business activities are more prone to securities litigation than others. This motivates a difference-in-differences analysis at the industry level. The empirical design compares changes in going-public activity after the Supreme Court ruling in high-litigation-propensity industries to contemporaneous changes in low-litigation-propensity industries.

To proxy for the likelihood that a newly public firm becomes subject to federal securities litigation, we construct an IPO lawsuit propensity variable using data from the Audit Analytics Litigation database, which tracks all material federal securities class actions and related civil proceedings disclosed by SEC registrants. IPO lawsuit propensity is constructed as the number of federal IPO lawsuits from 2010 to 2017 divided by the number of traditional IPOs over the same period. Appendix C.1 shows robustness to both shorter and longer windows of lawsuit propensity measurement. The specification is given by:

$$Y_{it} = \alpha_i + \gamma_t + \beta \cdot \text{High IPO Lawsuit Propensity}_i \times \text{Post-}Cyan_t + \delta_{i,t-1} + \epsilon_{it} \tag{2}$$

where Y_{it} is a measure of going-public activity for companies in industry i in year t (e.g., the number of listings or total proceeds in dollars) and High IPO Lawsuit Propensity$_i$ is an indicator equal to one if the industry is above the median level of IPO lawsuit propensity, where the construction of this propensity is described above. Post-$Cyan_t$ is an indicator equal to one in the year 2018 and onwards. The main effects for High IPO Lawsuit Propensity$_i$ and Post-$Cyan_t$ are absorbed by the industry fixed effects α_i and year fixed effects γ_t, respectively. The specification also includes lagged industry-by-year control variables in $\delta_{i,t-1}$.

Figure 4 presents dynamic difference-in-differences estimates in the years leading up to and following the ruling.[23] To better understand the timing of the effects, we present event studies for both de-SPACs (Figure 4b) and their associated SPAC IPOs (Figure 4a). The event studies show that prior to 2018, SPAC activity was evolving similarly in high- and low-litigation industries; however, on and after 2018, SPAC IPOs in high-litigation industries diverged significantly from low-litigation industries.[24] Since the time from SPAC IPO to de-SPAC takes over 18 months on average, it is unsurprising that the effect on de-SPACs takes longer to materialize, as shown in Panel (b).

[23]The event-study specification is given by:

$$Y_{it} = \alpha_i + \gamma_t + \sum_{k \neq -1} \beta_k (\text{High IPO Lawsuit Propensity}_i \times \mathbf{1}\{t - t_0 = k\}) + \delta_{i,t-1} + \epsilon_{it},$$

where $t_0 = 2018$.

[24]It is worth emphasizing that the diff-in-diff estimates identify the *relative* changes in activity between high- and low-litigation industries, not the absolute level of SPACs in these years.

The lack of pre-trend in Figure 4 provides support for the identifying assumption, which is that going-public activity in high and low litigation propensity industries would have evolved similarly in the absence of the *Cyan* ruling. A potential remaining concern is that of a confounding shock that also differentially impacts going-public activity in high- versus low-litigation industries. To address this concern, we include industry-by-year controls for key factors that could be correlated with both litigation propensity and going-public activity. First, industry-specific changes in valuations could affect firms' propensity to go public and the likelihood of securities lawsuits. We address this by controlling for lagged industry-year market-to-book ratios. Alternatively, time-varying innovation opportunities could affect firms' financing needs and litigation propensity. We address this by controlling for lagged industry-year R&D intensity measured as R&D-to-sales.[25] The addition of these controls has minimal impact on the estimates, suggesting that our results are not driven by contemporaneous industry-level shocks.

Insert Figure 4 Here

Table 6 presents the overall difference-in-differences estimates of Equation (2). After the *Cyan* Supreme Court ruling in 2018, SPAC transactions increased significantly more in industries with historically high rates of IPO litigation than in those with low prior litigation. Specifically, Column (2) in Panel A shows that high-litigation industries experienced a 37% larger increase in SPAC counts compared to low-litigation industries. Moreover, Column (4) shows that the increase in gross SPAC proceeds was roughly twice as large in high-litigation industries than in low-litigation industries. Focusing on extensive margin effects, we also examine dependent variables that are indicators for whether a SPAC merger or traditional IPO occurs in a given industry-year. Column (6) shows that, relative to low-litigation industries, high-litigation industries experienced a 16-percentage-point greater increase in the likelihood of a SPAC acquisition. Meanwhile, Panel C shows that the likelihood of a traditional IPO was 7 percentage points lower, though the standard error is larger.

Insert Table 6 Here

In sum, the difference-in-differences analysis shows that, after a Supreme Court ruling that increased Section 11 litigation risk, SPACs increased disproportionately in industries that were more prone to IPO litigation prior to the ruling. Overall, this finding is consistent with the prediction that the prevalence of non-bank certification intermediaries responds to changes in regulatory constraints. In particular, the market share of SPACs expands when litigation costs associated with traditional IPOs rise.

[25] Details on construction of these variables can be found in Appendix B.2.

7 Agency Conflicts in Gap-Filling

Thus far, we have highlighted the importance of intermediary incentives in going-public markets. Specifically, we provide evidence that the bond-like payoff structure of traditional underwriters leads to a gap in the going-public market of small and risky firms, which SPACs can fill. This potentially valuable function of SPACs relies on sponsors fulfilling their certification roles.

However, the very features that incentivize sponsors to certify risky and small firms also introduce agency conflicts between sponsors and investors. With relatively lower regulatory costs, and because sponsors obtain their equity stake for a nominal fee, they can profit even if the merged entity performs poorly provided a deal is completed before the deadline. Investors, by contrast, bear most of the downside risk if the post-merger firm underperforms. That said, *reputational capital* at-risk may help to mitigate agency problems and act as a disciplining mechanism. We study this issue below.

7.1 The Role of Sponsor Reputation

We use the experience of the SPAC sponsor chair as a proxy for reputational capital. We hypothesize that reputational considerations are most relevant for sponsors with financial industry experience. Many SPAC sponsors have management teams whose primary businesses involve asset management, including hedge fund and private equity firms. For these sponsors, a failed or fraudulent SPAC could hurt their reputation and specifically damage their existing relationships with institutional investors. To explore this hypothesis, we gather information on sponsor backgrounds for all the SPACs in our sample, as described in Section 4. We then identify sponsor chairs with financial industry experience. To serve as a comparison, we also identify sponsor chairs with lead operational industry experience.

To test this hypothesis, we first focus on our sample of SPAC target companies and estimate firm-level regressions of the form:

$$Y_j = \beta_0 + \beta_1 \times \text{Sponsor Experience}_j + x_j + \alpha_k + \mu_t + \epsilon_j \tag{3}$$

Where $\text{Sponsor Experience}_j$ denotes a measure of management experience for the SPAC raised by sponsor j in year t. There may be cross-industry differences in failure rates and in the types of experience sponsors may have. Likewise, there may be general trends over time. Therefore, we continue to include 3-digit NAICS industry fixed effects α_k and year fixed effects μ_t. This specification shows us whether SPAC sponsor experience predicts SPAC target company outcomes.

We estimate a second regression model that is analogous to Equation (1) but with an

interaction term with sponsor reputation. That is, using our sample of both traditional IPO and SPAC IPO operating companies, we estimate firm-level regressions of the following form:

$$Y_j = \beta_0 + \beta_1 \times \text{SPAC}_j + \beta_2 \times \text{SPAC}_j \times \text{Sponsor Experience}_j + x_j + \alpha_k + \mu_t + \epsilon_j \qquad (4)$$

where Sponsor Experience$_j$ denotes a measure of management experience for SPACs and is set to zero for traditional IPO companies. This specification allows us to investigate whether SPAC sponsor experience has any effect on the gap between traditional IPO companies and SPAC target company outcomes that we observed in Table 4.

Table 7 presents the results. In Panel A, we find that SPAC firms are substantially less likely to delist from public markets if the sponsor has financial industry experience. Specifically, SPACs led by a chairperson with formal financial industry experience acquire operating companies that are 16.3 percentage points less likely to delist within four years of going public. By contrast, we observe no such effects for SPACs where the chairperson has lead operating industry experience.

In Panel B, we find that SPAC sponsor financial industry experience helps close the delisting gap between traditional IPO companies and SPAC target companies. As exhibited by the coefficient on SPAC Firm and as previously shown in Table 4, SPACs have a higher likelihood of delisting relative to traditional IPO operating companies. Then, as exhibited by the coefficient on the interaction between SPAC firm and sponsor finance background, being led by a chair with formal financial industry experience leans against and undoes a substantial magnitude of the higher baseline delisting propensity for SPAC operating firms. Appendix Table C10 shows that all of these findings hold true when we instead examine the outcome variable of delisting at any point in the future, rather than within four years of being public. Overall, these results support the interpretation that reputational considerations are particularly effective where the sponsor's main line of business is closely tied to financial market credibility.

Insert Table 7 Here

Another possibility is that finance-experienced sponsors have superior certification technologies and are better able to screen companies. While this is certainly possible and not inconsistent with our hypotheses, it cannot fully account for the results. Specifically, we document evidence of agency-driven behavior and market-timing incentives even before SPACs identify their targets, consistent with the hypothesis that reputational constraints influence sponsor behavior rather than just screening efficiency.

7.2 Stock Market Booms and Sponsor Agency Conflicts

In this section, we test the model's prediction that agency conflicts intensify during periods of booming stock markets, using evidence from before the SPAC acquisition is completed. We study SPAC attempts in the initial capital raise, even before the target is identified and acquired. We continue to estimate a sponsor-level regression similar to Equation (3) but with some minor differences due to the timing of the observation.

$$Y_{j,q} = \beta_0 + \beta_1 \times \text{Stock Market Sentiment}_{q-1} + x_j + \gamma_f + \eta_t + \epsilon_{j,q} \tag{5}$$

In studying the capital raise, we include fixed effects for the *focus* of the SPAC at the time of the capital raise, γ_f. We use the equity market sentiment measure from Baker and Wurgler (2006) as a measure of stock market booms.[26] We consider this measure lagged by one quarter to avoid concerns of reverse causality. Since this explanatory variable has quarterly time-series variation, we include fixed effects for broad time periods in our sample η_t, as year fixed effects would absorb most of the variation.

Table 8 presents the results. The estimates show that SPACs raised in stock market booms are more likely to have chairs that lack finance industry experience. Specifically, Column (2) shows that a one-standard-deviation increase in equity market sentiment predicts a lower likelihood of a sponsor having finance industry experience by 3.7 percentage points, 4.7% of the mean. This suggests that periods of market exuberance attract sponsors with weaker reputational constraints.

Columns (3) and (4) show that SPACs raised in periods of booming stock markets are also 9.0 percentage points more likely to be liquidated (36% of the mean). This suggests that in many such cases, investors may recognize these risks.

Next, we test whether, consistent with the prediction of the model, periods of speculative demand are associated with less certification effort. We focus on the subsample of SPACs with approved mergers. In theory, SPACs should not have a target identified at the time of capital raise. We use the search time for a target as a measure of certification effort, as faster time to approval suggests market-timing behavior and less time spent on due diligence. Columns (5) and (6) regress the time between SPAC IPO and merger approval (in number of quarters) on equity market sentiment in the year-quarter before the SPAC IPO. We find that higher investor sentiment at IPO predicts more rapid SPAC merger approval. Specifically, Column (6) shows that a one-standard-deviation increase in equity market sentiment is

[26] Specifically, we use the sentiment index that orthogonalizes each of the five proxies with respect to the following macroeconomic indicators: industrial production growth, real durables consumption growth, real nondurables consumption growth, real services consumption growth, the NBER recession indicator, and employment growth.

associated with a shorter time to merger approval by 0.9 quarters or approximately 80 days. Overall, SPACs raised in booming markets exhibit significantly shorter search periods. This finding is consistent with market-timing and the hypothesis that sponsors with looser reputational constraints exploit favorable market conditions to complete a deal.

Insert Table 8 Here

Taken together, our evidence shows that SPACs can play a valuable role in bridging the gap left by the retreat of traditional IPOs. However, this role comes with inherent governance challenges, as differences in regulation and compensation make it so that sponsors have an incentive to complete deals even if the target is low quality. Reputational mechanisms, particularly those linked to sponsors' financial industry experience, meaningfully mitigate these agency conflicts. However, such mechanisms weaken during stock market booms, when sponsors with less reputational capital at stake enter the market, and these sponsors have an incentive to take advantage of favorable market conditions. That said, as we discuss in the following section, these governance challenges are not insurmountable.

8 Discussion

8.1 Alternative Hypotheses

Our framework focuses on the incentives of certification intermediaries in the going-public market. We demonstrate how differences in regulation and compensation impact the incentives of financial intermediaries who perform certification roles, and how these differing incentives generate market segmentation. In doing so, we provide a rationale for the continued demand for SPACs from both companies and investors. We briefly discuss two alternative motivations for SPACs here: (i) cost-savings or avoidance of IPO underpricing and (ii) relative certainty in price and deal prospects.

First, could going public through a SPAC be less costly than going public via a traditional IPO? One often mentioned criticism of the traditional IPO process is the underpricing of newly issued shares, particularly the first-day pop that amounts to "money being left on the table." However, even after accounting for underpricing, evidence indicates that traditional IPOs are much less costly than SPACs for going-public firms. For example, Gahng, Ritter, and Zhang (2023) find that the cost of going public through a SPAC (as a fraction of proceeds and post-issuance market cap) is substantially larger than that of an IPO, even when accounting for underpricing costs of traditional IPOs. Overall, cost saving cannot explain why firms go public through SPACs. Our theory suggests instead that the firms that SPACs take public are closed off from the traditional IPO market.

Another potential question is whether SPACs provide relative certainty in negotiation. Specifically, one possibility is that they provide greater price and deal certainty because the price is generally set before the closing of the merger. However, as explained by Klausner, Ohlrogge, and Ruan (2022), the certainty benefits of SPACs are often overstated, as SPAC merger agreements are often amended during the negotiation process between SPAC and investors. Moreover, due to the risks of shareholder redemption, price uncertainty exists up until the merger is closed, just like with a traditional IPO. Also like traditional IPOs, SPAC deals can fail or be cancelled even after the merger agreement is signed. In Appendix Table C11, we test whether the time-series variation in SPAC activity can be linked to market-wide uncertainty (measured by the VIX). We do not find a correlation between market uncertainty and SPAC issuance.

Ultimately, neither of these alternative explanations is able to provide a rationale for an economic function of SPACs and the systematic segmentation we document.

8.2 Policy Discussion

Our findings suggest that a reasonable policy objective is for segmented going-public markets to sustain a healthy equilibrium in which SPACs take smaller, high-growth firms public while minimizing agency conflicts. This would preserve the valuable role SPACs can play in facilitating public-market access for risky but positive-NPV firms. As we show, variation in sponsor quality and conflicts of interest are valid concerns. However, these agency problems can be mitigated through better governance and disclosure mechanisms. Importantly, this can be achieved with *market-based* solutions as opposed to increased *regulatory* intervention.

Given the objective stated above, policies that stifle the SPAC market, such as the expansion of underwriter liability, are not optimal. Indeed, SPAC activity crashed after the SEC announced potentially extending Section 11 liability for the target company to the SPAC IPO underwriter, among other rule changes in 2022. Ultimately, this rule was not passed, and SPAC activity has since rebounded. Instead, focus should be placed on strengthening the alignment between SPAC sponsors and long-term shareholders. Specifically, mechanisms that link sponsor compensation to the long-run performance of the post-merger operating company could reduce agency conflicts without stifling market activity. Importantly, such structures need not be mandated through regulation; high-quality sponsors can choose to adopt performance-based compensation features to credibly signal alignment with long-term shareholders, and sponsors that do not will face weaker investor demand.

One such mechanism involves extending the timeline of sponsor compensation with long-term phase-in structures. Long-term alignment would not only encourage sponsors to fulfill their certification roles, but also could also encourage longer-term guidance and support for

target companies. For example, in the Reinvent Technology Partners SPAC, the sponsor and its acquired electric aircraft company Joby Aviation agreed to a lockup period of up to five years for part of the sponsor shares.[27] A second mechanism concerns the benchmark for compensation through the use of earnout provisions. Under such arrangements, sponsor equity vests contingent on the long-term performance of the operating firm, ensuring that sponsors are rewarded only if their firms perform well. For instance, NightDragon Acquisition Corp. divided its sponsor compensation into four equal tranches: three tranches vesting only if the share price reached $12, $15 and $20, respectively, and the first tranche vesting upon completion of an acquisition.[28] Broader implementation of earnout provisions could help align SPAC sponsors with long-term investors.

It is worth mentioning that several existing institutional features have improved investor protection and contributed to the SPAC market's development. This includes the one-year sponsor share lockup period, the requirement that the majority of proceeds from the SPAC IPO must remain in a trust account, the requirement that a shareholder vote be conducted to approve or reject a proposed merger, and the 2024 changes that expanded sponsor disclosure requirements. These features have contributed to greater participation in U.S. SPACs.

9 Conclusion

A framework with adverse selection shows that more lenient regulatory requirements and equity-based compensation incentivize SPAC sponsors to take smaller, riskier, but value-creating firms public. By doing so, sponsors serve as non-bank certification intermediaries that fill a gap in the going-public market left by traditionally regulated underwriters.

Consistent with our framework's predictions, we document systematic segmentation in going-public markets. Compared to traditional IPO firms, SPAC firms are significantly smaller, younger, and riskier. This risk is operational in nature; SPAC target firms are not highly leveraged but have significantly higher cash flow and earnings volatility. Further underscoring their high-risk profile, they are more likely to go out of business and delist from public markets, but among all firms that remain, grow revenue at higher rates. Moreover, while these results hold within industry, we show that, after a Supreme Court ruling that increased Section 11 litigation costs to new issuers (particularly from weaker claims that lead to more settlement pressure), SPAC activity increased disproportionately in industries with a high ex-ante propensity for IPO litigation. Overall, these findings suggest a valuable function of SPACs in opening the door for risky but value-creating firms to go public.

[27] See https://ir.jobyaviation.com/sec-filings/all-sec-filings/content/0001193125-21-053632/0001193125-21-053632.pdf.

[28] See https://www.sec.gov/Archives/edgar/data/1837067/000119312521065469/d61319d424b4.htm.

As highlighted by our framework, performing this function requires that sponsors fulfill their certification roles. However, the same features that facilitate gap-filling also lead to agency conflicts. We show that reputational capital can act as a disciplining force in the absence of stringent regulatory treatment. Specifically, we find that sponsors led by managers with financial industry experience are substantially less likely to acquire low-quality firms. We also show that agency conflicts intensify in booming stock markets: consistent with sponsor market-timing behavior, SPACs raised in periods of high investor sentiment are more likely to be led by sponsors without financial industry experience, and take a shorter time to find and approve a target company. We argue that improved governance mechanisms—much of which can be achieved through market-based incentives rather than increased regulatory intervention—can help sustain a healthy equilibrium of segmented going-public markets.

References

Aggarwal, D., O. Eldar, Y. V. Hochberg, and L. P. Litov. 2022. The Rise of Dual-Class Stock IPOs. *Journal of Financial Economics* 144:122–53.

Akerlof, G. A. 1970. The Market for "Lemons": Quality Uncertainty and the Market Mechanism. *Quarterly Journal of Economics* 84:488–500.

Azevedo, A., G. Colak, I. E. Kalak, and R. Tunaru. 2024. The Timing of Voluntary Delisting. *Journal of Financial Economics* 155:1–21.

Baker, M., and J. Wurgler. 2006. Investor Sentiment and the Cross-Section of Stock Returns. *Journal of Finance* 61:1645–80.

Banerjee, S., and M. Szydlowski. 2024. Harnessing the Overconfidence of the Crowd: A Theory of SPACs. *Journal of Financial Economics* 153:103787–.

Beatty, R. P., H. Bunsis, and J. R. Hand. 1998. The Indirect Economic Penalties in SEC Investigations of Underwriters. *Journal of Financial Economics* 50:151–86.

Bernstein, S., A. Dev, and J. Lerner. 2020. The Creation and Evolution of Entrepreneurial Public Markets. *Journal of Financial Economics* 136:307–29.

Blankespoor, E., B. E. Hendricks, G. S. Miller, and D. R. S. Jr. 2022. A Hard Look at SPAC Projections. *Management Science* 68:4742–53.

Blomkvist, M., and M. Vulanovic. 2020. SPAC IPO Waves. *Economics Letters* 197.

Booth, J. R., and R. L. Smith. 1986. Capital Raising, Underwriting and the Certification Hypothesis. *Journal of Financial Economics* 15:261–81.

Bowen, D. E., L. Frésard, and G. Hoberg. 2023. Rapidly Evolving Technologies and Startup Exits. *Management Science* 69:940–67.

Brau, J. C., and S. E. Fawcett. 2006. Initial Public Offerings: An Analysis of Theory and Practice. *Journal of Finance* 61:399–436.

Brogaard, J., N. Le, D. D. Nguyen, and V. Sila. 2024. Does Shareholder Litigation Risk Cause Public Firms to Delist? Evidence from Securities Class Action Lawsuits. *Journal of Financial and Quantitative Analysis* 59:1726–59.

Buchak, G., G. Matvos, T. Piskorski, and A. Seru. 2018. Fintech, Regulatory Arbitrage, and the Rise of Shadow Banks. *Journal of Financial Economics* 130:453–83.

Chemmanur, T., and P. Fulghieri. 1994. Investment Bank Reputation, Information Production, and Financial Intermediation. *Journal of Finance* 49:57–79.

Chemmanur, T., J. He, X. Ren, and T. Shu. 2025. The Disappearing IPO Puzzle and the Shift Toward Acquisitions: New Insights from Proprietary US Census Data on Private Firms. *The Review of Corporate Finance Studies* Forthcoming.

Chen, H.-C., and J. Ritter. 2000. The Seven Percent Solution. *Journal of Finance* 55:1105–31.

Cumming, D., L. H. Hass, and D. Schweizer. 2014. The Fast Track IPO – Success Factors for Taking Firms Public with SPACs. *Journal of Banking & Finance* 47:198–213.

Dambra, M., O. Even-Tov, and K. Munevar. 2023. Are SPAC Revenue Forecasts Informative? *The Accounting Review* 98:121–52.

Dambra, M., L. C. Field, and M. T. Gustafson. 2015. The JOBS Act and IPO Volume: Evidence that Disclosure Costs Affect the IPO Decision. *Journal of Financial Economics* 116:121–43.

Demyanyk, Y., and E. Loutskina. 2016. Mortgage Companies and Regulatory Arbitrage. *Journal of Financial Economics* 122:328–51.

Di Maggio, M., D. Ratnadiwakara, and D. Carmichael. 2022. Invisible Primes: Fintech Lending with Alternative Data. Working paper.

Di Maggio, M., and V. Yao. 2021. Fintech Borrowers: Lax Screening or Cream-Skimming? *The Review of Financial Studies* 34:4565–618.

Dimitrova, L. 2017. Perverse Incentives of Special Purpose Acquisition Companies, the 'Poor Man's Private Equity Funds'. *Journal of Accounting and Economics* 63:99–120.

Doidge, C., G. A. Karolyi, and R. M. Stulz. 2017. The U.S. Listing Gap. *Journal of Financial Economics* 123:464–87.

Engel, E., R. M. Hayes, and X. Wang. 2007. The Sarbanes-Oxley Act and Firms' Going-Private Decisions. *Journal of Accounting and Economics* 44:116–45.

Esmer, B., N. B. Ozel, and S. A. Sridharan. 2023. Disclosure and Lawsuits Ahead of Initial Public Offerings. *The Accounting Review* 98:123–47.

Ewens, M., and J. Farre-Mensa. 2020. The Deregulation of the Private Equity Markets and the Decline in IPOs. *The Review of Financial Studies* 33:5463–509.

Feng, F. Z., T. Nohel, X. Tian, W. Wang, and Y. Wu. 2025. The Incentives of SPAC Sponsors. *Journal of Financial Economics* Forthcoming.

Field, L. C., and M. Lowry. 2022. Bucking the Trend: Why do IPOs Choose Controversial Governance Structures and Why do Investors Let Them? *Journal of Financial Economics* 146:27–54.

Gahng, M., J. R. Ritter, and D. Zhang. 2023. SPACs. *Review of Financial Studies* 36:3463–501.

Gao, X., J. R. Ritter, and Z. Zhu. 2013. Where Have All the IPOs Gone? *Journal of Financial and Quantitative Analysis* 48:1663–92.

Goldstein, M. A., P. Irvine, and A. Puckett. 2011. Purchasing IPOs with Commissions. *Journal of Financial and Quantitative Analysis* 46:1193–225.

Gopal, M., and P. Schnabl. 2022. The Rise of Finance Companies and Fintech Lenders in Small Business Lending. *The Review of Financial Studies* 35:4859–901.

Greenwald, D. L., S. T. Howell, C. Li, and E. Yimfor. 2024. Regulatory Arbitrage or Random Errors? Implications of Race Prediction Algorithms in Fair Lending Analysis. *Journal of Financial Economics* 157:103857.

Gryglewicz, S., B. Hartman-Glaser, and S. Mayer. 2022. PE for the Public: The Rise of SPACs. Working paper.

Halbhuber, H. 2022. Economic Substance in SPAC Regulation. *Yale Journal on Regulation* 40:45–74.

Hanley, K. W., and G. Hoberg. 2012. Litigation Risk, Strategic Disclosure and the Underpricing of Initial Public Offerings. *Journal of Financial Economics* 103:235–54.

Heyman, D. 2008. From Blank Check to SPAC: the Regulator's Response to the Market, and the Market's Response to the Regulation. *Entrepreneurial Business Law Journal* 2:531–52.

Huang, R., J. R. Ritter, and D. Zhang. 2023. IPOs and SPACs: Recent Developments. *Annual Review of Financial Economics* 15:595–615.

Hughes, P. J., and A. V. Thakor. 1992. Litigation Risk, Intermediation, and the Underpricing of Initial Public Offerings. *Review of Financial Studies* 5:709–42.

Iliev, P., and M. Lowry. 2020. Venturing beyond the IPO: Financing of Newly Public Firms by Venture Capitalists. *Journal of Finance* 75:1527–77.

Irani, R. M., R. Iyer, R. R. Meisenzahl, and J.-L. Peydro. 2021. The Rise of Shadow Banking: Evidence from Capital Regulation. *The Review of Financial Studies* 34:2181–235.

Karolyi, G. A., and A. G. Taboada. 2015. Regulatory Arbitrage and Cross-Border Bank Acquisitions. *Journal of Finance* 70:2395–450.

Klausner, M., J. Hegland, C. LeVine, and J. Shin. 2020. State Section 11 Litigation in the Post-Cyan Environment (Despite Sciabacucchi). *Business Lawyer* 75:1769–90.

Klausner, M., M. Ohlrogge, and E. Ruan. 2022. A Sober Look at SPACs. *Yale Journal on Regulation* 39:20–48.

Kolb, J., and T. Tykvova. 2016. Going Public via Special Purpose Acquisition Companies: Frogs Do Not Turn Into Princes. *Journal of Corporate Finance* 40:80–96.

Lattanzio, G., W. L. Megginson, and A. Sanati. 2023. Dissecting the listing gap: Mergers, private equity, or regulation? *Journal of Financial Markets* 65:100836.

Leland, H., and D. H. Pyle. 1977. Informational Asymmetries, Financial Structure, and Financial Intermediation. *Journal of Finance* 32:371–87.

Lewellen, S. 2009. SPACs as an Asset Class. Working paper.

Lin, C., F. Lu, R. Michaely, and S. Qin. 2025. SPAC IPOs and Sponsor Network Centrality. *Management Science* Forthcoming.

Loughran, T., and J. Ritter. 2004. Why Has IPO Underpricing Changed Over Time? *Financial Management* Autumn 2004:5–37.

Lowry, M., and S. Shu. 2002. Litigation Risk and IPO Underpricing. *Journal of Financial Economics* 65:309–35.

Myers, S. C., and N. S. Majluf. 1984. Corporate Financing and Investment Decisions When Firms Have Information that Investors Do Not Have. *Journal of Financial Economics* 13:187–221.

Nimalendran, M., J. Ritter, and D. Zhang. 2007. Do Today's Trades Affect Tomorrow's IPO Allocations? *Journal of Financial Economics* 84:87–109.

Strauss, E. 2022. Suing SPACs. *Southern California Law Review* 96:553–606.

Tiniç, S. M. 1988. Anatomy of Initial Public Offerings of Common Stock. *Journal of Finance* 43:789–822.

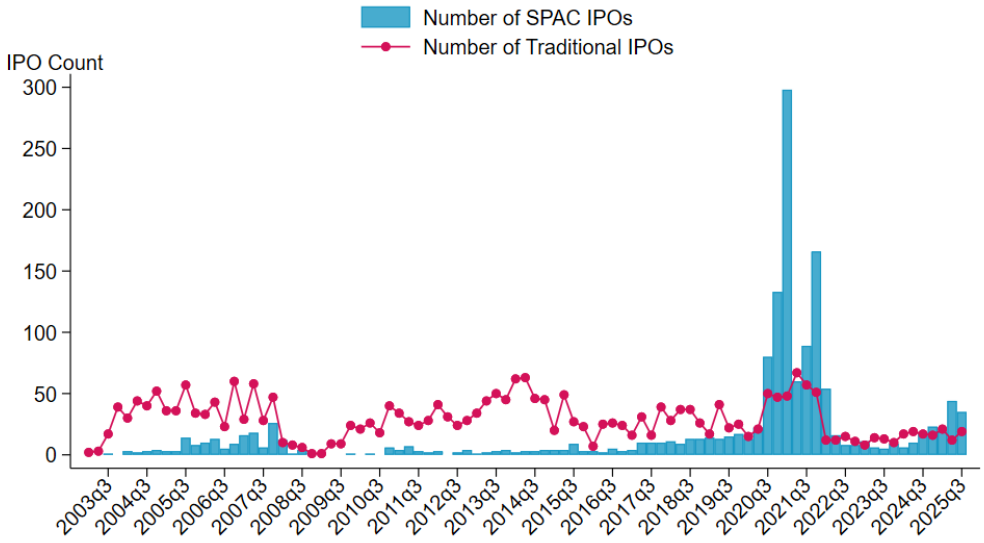
Tirole, J. 2010. *The Theory of Corporate Finance*. Princeton University Press.

Zheng, M. 2021. Does Direct Listing Reduce Intermediary Market Power? Working paper.

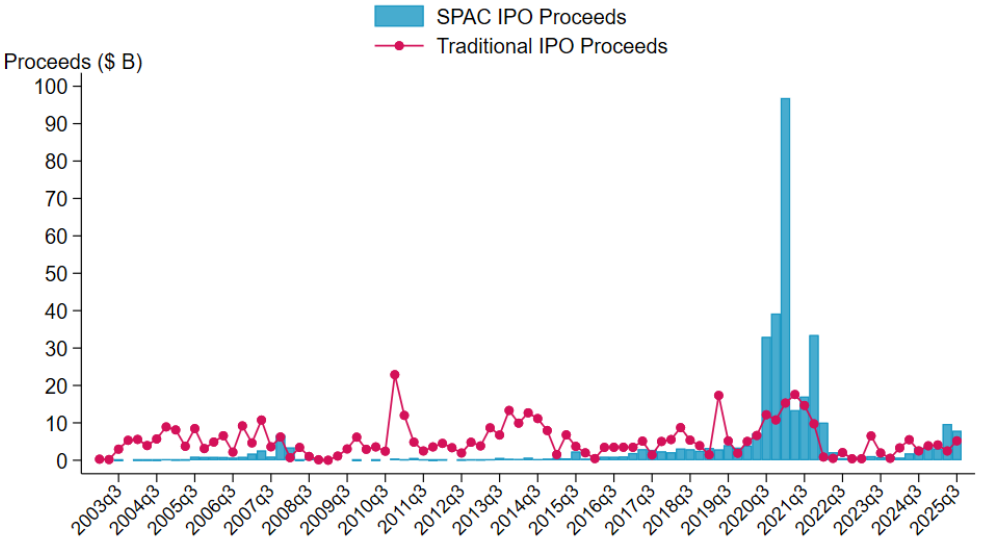
Figures and Tables

Figure 1: SPAC IPOs and Traditional IPOs over Time

This figure shows the evolution of SPAC and traditional IPO activity over time. Panel (a) displays the number of SPACs and traditional IPOs in each year. Panel (b) displays the aggregate proceeds for SPACs and IPOs (in USD billions) in each year. Traditional IPOs exclude SPAC issuances. See Section 4 for full details on the construction of the SPAC and IPO samples.



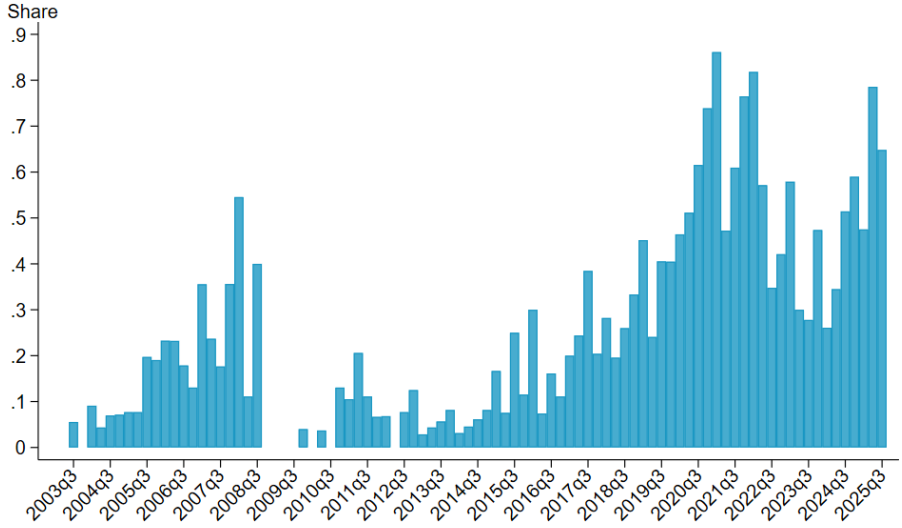
(a) Number of IPOs and SPACs



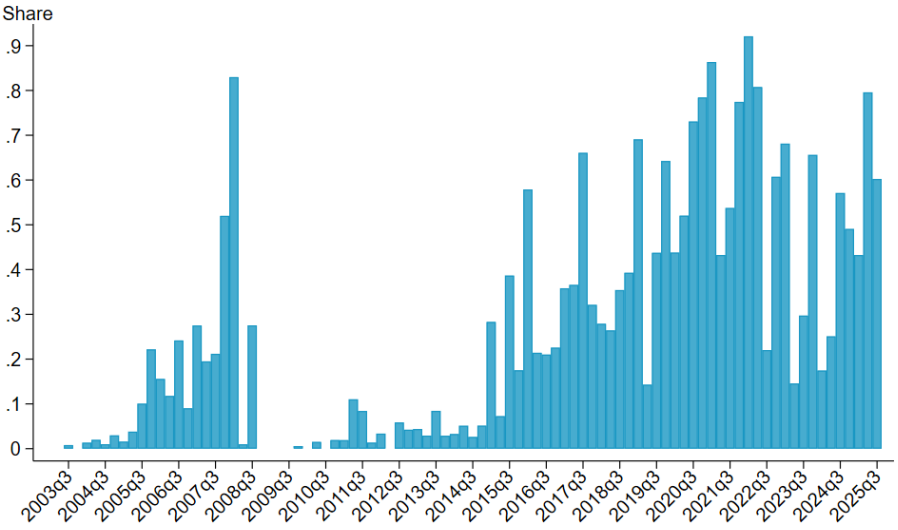
(b) Proceeds ($B) of IPOs and SPACs

Figure 2: SPAC IPOs as a Share of Total IPOs over Time

This figure shows the evolution of the market share of SPACs over time. In Panel (a), the market share of SPACs is measured as #SPACs/(#SPACs + #IPOs), where #IPOs excludes SPAC issuances. In Panel (b), the market share of SPACs is measured as SPAC Proceeds/(SPAC Proceeds + IPO Proceeds), where IPO Proceeds excludes proceeds from SPAC issuances. See Section 4 for full details on the construction of the SPAC and IPO samples.



(a) SPAC Share of Number of IPOs



(b) SPAC Share of Total IPO Proceeds

Figure 3: Model Timeline and Project Payoffs

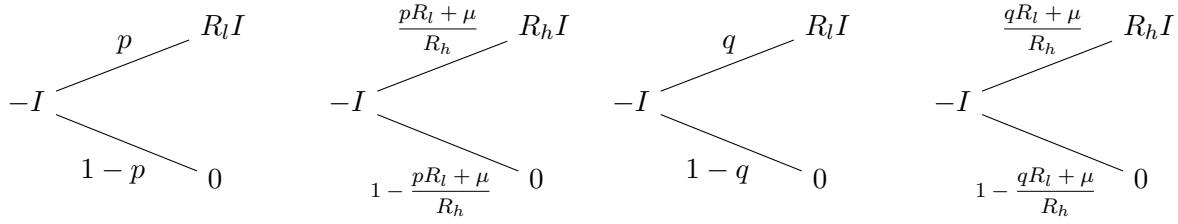
Panel (a) summarizes the sequence of events of the model. Panel (b) summarizes the firm project payoffs for Good/Safe (G/S), Good/Risky (G/S), Bad/Safe (B/S), and Bad/Risky (B/R) firms. See Section 3 of the paper for the full model description.



The operating firm owns an investment project. On date 0, the operating firm has no endowment and makes the going-public decision: IPO, SPAC or stay private.
If the firm goes public through IPO or SPAC, it raises capital from public investors, and invests in its project by the amount of I.

Project cash flows are realized and distributed. In the good state, which occurs with probability *prob*, the project succeeds and pays off R for every unit of investment. In the bad state, which occurs with probability $1 - prob$, the project fails and pays 0 for every unit of investment.

(a) Model Timeline

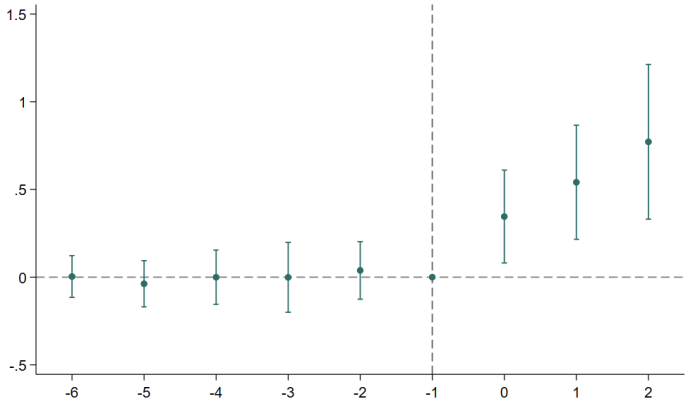


G/S Firms **G/R Firms** **B/S Firms** **B/R Firms**

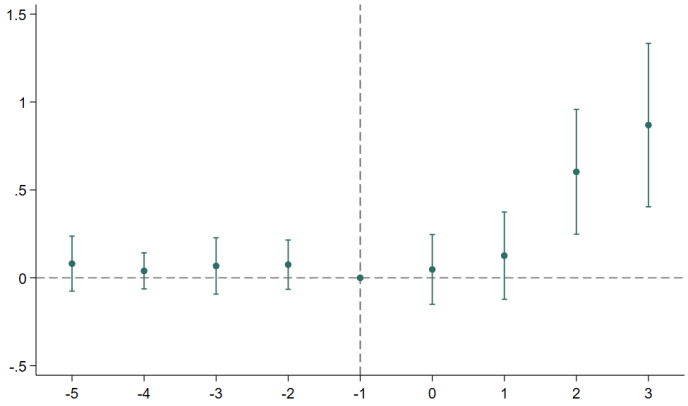
(b) Project Payoffs

Figure 4: Increased IPO Litigation Risk and SPAC Activity: Dynamic Estimates

This figure plots dynamic difference-in-differences estimates of the impact of increased litigation risk on companies going public via SPACs. Each observation is an industry-year (at the 3-digit NAICS level). In Panel (a), timing is measured by the year of the SPAC IPO; the dependent variable is the natural log of (one plus) the number of SPAC IPOs, and the post-period estimates go out to the last year of our SPAC IPO sample period. In Panel (b), timing is measured by the year of the de-SPAC; the dependent variable is the natural log of (one plus) the number of SPAC acquisitions, and the post-period estimates go out to the last year of our de-SPAC sample period. Event-time 0 refers to the year of the Supreme Court ruling on *Cyan, Inc. v. Beaver County Employees Retirement Fund* in March 2018. Year 2017 is the baseline period and is normalized to 0. The estimates compare changes in SPAC activity in High Litigation Propensity industries relative to contemporaneous changes in all other industries. High Litigation Propensity industries are industries with above median IPO lawsuit propensity in the years prior to *Cyan*, where IPO lawsuit propensity is calculated as the number of IPO lawsuits filed in US federal court scaled by the number of US IPOs from 2010 to 2017. Appendix C.1 shows the results are similar with alternative windows of measurement. The specification includes industry fixed effects, year fixed effects, and industry-year level controls for market-to-book and R&D-to-sales. Financial firms (NAICS Sector 52) are excluded from the analysis. Appendix C.2 shows the results are robust to the inclusion of operating financial companies. Standard errors are clustered by NAICS 3-digit industry and 95% confidence intervals are shown.



(a) SPAC IPOs



(b) De-SPACs

Table 1: Summary Statistics for IPO Firms and SPAC Target Firms

This table presents summary statistics of firm fundamentals. To examine firm characteristics close to the time of going public, only the first annual report after the public offering is included. Panel A reports summary statistics for firms that go public through an IPO. Panel B reports summary statistics for firms that go public through a SPAC. Fiscal years with zero revenue are excluded for metrics with revenue in the denominator. Revenue, market cap, and asset growth are calculated over one year. Cash flow and earnings volatility are calculated over four years. Values are winsorized at the 1st and 99th percentiles. The sample is comprised of U.S. non-financial operating firms. See Section 4 for a full description of the SPAC and IPO samples.

Panel A. IPO Firms	*N*	Mean	Median	Std. Dev.
Market Cap ($ m)	1,963	1,681.35	547.35	5,286.70
Total Assets ($ m)	1,973	922.04	203.69	3,976.96
Revenue ($ m)	1,972	675.50	102.55	3,915.98
Cash Flow / Assets	1,964	-0.16	-0.05	0.37
Cash / Assets	1,960	0.37	0.27	0.31
Debt / Assets	1,956	0.17	0.05	0.23
Net Income / Assets	1,968	-0.18	-0.08	0.36
CapEx / Assets	1,967	0.04	0.02	0.07
Market to Book	1,961	5.09	3.75	8.85
Tobin's Q	1,960	3.64	2.75	2.90
Revenue Growth	1,584	0.57	0.22	1.76
Market Cap Growth	1,872	0.08	-0.11	0.87
Asset Growth	1,883	0.22	0.09	0.55
Cash Flow Volatility	1,881	0.19	0.08	0.37
Earnings Volatility	1,882	0.20	0.08	0.38
Panel B. SPAC Target Firms	*N*	Mean	Median	Std. Dev.
Market Cap ($ m)	290	1,472.34	536.32	4,438.25
Total Assets ($ m)	292	789.88	352.99	1,731.81
Revenue ($ m)	290	291.47	83.79	565.24
Cash Flow / Assets	288	-0.23	-0.10	0.47
Cash / Assets	292	0.32	0.17	0.31
Debt / Assets	290	0.27	0.18	0.28
Net Income / Assets	289	-0.26	-0.12	0.46
CapEx / Assets	289	0.04	0.01	0.07
Market to Book	290	3.33	2.41	12.31
Tobin's Q	290	3.21	2.13	3.08
Revenue Growth	238	0.96	0.22	2.58
Market Cap Growth	269	-0.22	-0.50	0.91
Asset Growth	272	0.11	-0.02	0.61
Cash Flow Volatility	271	0.28	0.15	0.40
Earnings Volatility	271	0.29	0.15	0.43

Table 2: Size and Age of SPAC Target Firms v. Traditional IPO Firms

This table presents analysis at the firm-level on the size and age of firms that go public through a SPAC merger compared to firms that undergo a traditional IPO. The dependent variables in Columns (1), (2), and (3) are the natural log of total assets, the natural log of revenues, and the natural log of market cap, respectively. To examine firm characteristics as close to the public offering as possible, information from only the first annual report of each firm after the going-public year is used in Columns (1) through (3). Appendix C.3 shows the results are robust to including additional annual reports. Columns (4) through (6) examine firm age at the time of going public, where age of SPAC target firms is defined as the calendar year of SPAC merger approval minus the calendar year of founding, and age of IPO firms is defined as the calendar year of offer minus the calendar year of founding. There are a few cases where a SPAC merges with multiple targets to combine into one public firm. Columns (4) through (6) differ in how these are treated; specifically, each column considers either the average, minimum, or maximum age of the targets, respectively. The specification includes NAICS 3-digit industry fixed effects and fixed effects for the going-public year. Financial firms are excluded from the analysis. Appendix C.2 shows the results are robust to the inclusion of operating financial companies. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Firm Size			Firm Age		
	(1) Ln Assets	(2) Ln Revenue	(3) Ln MktCap	(4) Avg Age	(5) Min Age	(6) Max Age
SPAC Firm	-0.460***	-0.768***	-0.823***	-6.454***	-6.674***	-6.235***
	(0.101)	(0.195)	(0.112)	(2.312)	(2.319)	(2.307)
Dep. Var. Mean	5.48	4.68	6.25	18.49	18.46	18.52
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.22	0.34	0.22	0.23	0.23	0.23
Observations	1,877	1,877	1,877	2,115	2,115	2,115

Table 3: Fundamentals of SPAC Target Firms v. Traditional IPO Firms

This table presents analysis at the firm-level on the operating volatility, financing, operating performance, and payout policy of firms that go public through a SPAC merger compared to firms that undergo a traditional IPO. Cash flow volatility in Column (1) is defined as the standard deviation of cash flow-to-assets over the first four annual reports after going-public, where cash flow is constructed as income before extraordinary items plus depreciation. Earnings volatility in Column (2) is defined as the standard deviation of net income-to-assets over the first four annual reports after going-public. The dependent variables in Columns (3) to (7) are cash-to-assets, debt (long-term debt plus debt in current liabilities)-to-assets, net income-to-assets, total dividends over income before extraordinary items, and share repurchases over income before extraordinary items, respectively. All values are winsorized at the 1st and 99th percentiles. To examine firm characteristics as close to the public offering as possible, information from only the first annual report of each firm after the going-public year is used in Columns (3) to (7). Appendix C.3 shows the results are robust to including additional annual reports. Financial firms are excluded from the analysis. Appendix C.2 shows the results are robust to the inclusion of operating financial companies. The specification includes NAICS 3-digit industry fixed effects and fixed effects for the going-public year. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1) Cash Flow Volatility	(2) Earnings Volatility	(3) $\frac{\text{Cash}}{\text{Assets}}$	(4) $\frac{\text{Debt}}{\text{Assets}}$	(5) $\frac{\text{Profits}}{\text{Assets}}$	(6) $\frac{\text{Dividends}}{\text{Income}}$	(7) $\frac{\text{Repurchases}}{\text{Income}}$
SPAC Firm	0.095***	0.109***	-0.002	0.034	-0.100***	-0.186**	-0.475***
	(0.025)	(0.026)	(0.033)	(0.029)	(0.023)	(0.093)	(0.139)
Dep. Var. Mean	0.20	0.21	0.36	0.18	-0.17	0.19	0.08
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.05	0.05	0.26	0.22	0.14	0.03	0.03
Observations	1,840	1,840	1,840	1,840	1,840	1,840	1,840

Table 4: Delisting of SPAC Target Firms v. Traditional IPO Firms

This table presents analysis at the firm-level on the likelihood of delisting of firms that go public through a SPAC merger compared to firms that undergo a traditional IPO. The outcome variable is an indicator variable that, at some point in the future, the company delists, involuntarily delists, voluntarily delists, or delists due to an M&A transaction. Columns (2), (4), (6), and (8) additionally control for the size of the offering via the natural log of the total SPAC or IPO proceeds. Financial firms are excluded from the analysis. Appendix C.2 shows the results are robust to the inclusion of operating financial companies. The specification includes NAICS 3-digit industry fixed effects and fixed effects for the going-public year. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Delisting within 4 Years of Being Public

	Delisting		Involuntary Delisting		Voluntary Delisting		M&A Delisting	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SPAC Firm	0.073**	0.073**	0.084***	0.085***	0.000	0.000	-0.011	-0.011
	(0.030)	(0.029)	(0.025)	(0.024)	(0.007)	(0.007)	(0.026)	(0.027)
Ln Proceeds		-0.012		-0.031***		-0.001		0.020***
		(0.007)		(0.005)		(0.001)		(0.005)
Dep. Var. Mean	0.22	0.22	0.06	0.06	0.00	0.00	0.16	0.16
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.03	0.03	0.03	0.05	-0.00	-0.00	0.02	0.03
Observations	2,328	2,328	2,328	2,328	2,328	2,328	2,328	2,328

Panel B. Delisting at Any Point in the Future

	Delisting		Involuntary Delisting		Voluntary Delisting		M&A Delisting	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SPAC Firm	0.065**	0.065**	0.091***	0.092***	-0.002	-0.002	-0.024	-0.025
	(0.028)	(0.028)	(0.023)	(0.022)	(0.007)	(0.007)	(0.028)	(0.028)
Ln Proceeds		-0.008		-0.042***		-0.005**		0.040***
		(0.010)		(0.008)		(0.002)		(0.008)
Dep. Var. Mean	0.48	0.48	0.13	0.13	0.01	0.01	0.34	0.34
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.22	0.22	0.05	0.07	0.00	0.01	0.16	0.17
Observations	2,328	2,328	2,328	2,328	2,328	2,328	2,328	2,328

Table 5: Growth of SPAC Target Firms v. Traditional IPO Firms Conditional on Staying Public

This table presents analysis at the firm-level on differences in asset growth, revenue growth, and market capitalization growth of firms that go public through a SPAC merger compared to firms that undergo a traditional IPO. Each observation is a company that goes public in year t. The dependent variables in Columns (1) and (2) are $(\text{Revenue}_{t+1} - \text{Revenue}_t)/\text{Revenue}_t$ and $(\text{Revenue}_{t+2} - \text{Revenue}_t)/\text{Revenue}_t$, respectively. The dependent variables in Columns (3) and (4) are the analogous formulas applied to total market capitalization. The dependent variables in Columns (5) and (6) are the analogous formulas applied to total assets. All values are winsorized at the 1st and 99th percentiles. Financial firms are excluded from the analysis. Appendix C.2 shows the results are robust to the inclusion of operating financial companies. The specification includes NAICS 3-digit industry fixed effects and fixed effects for the going-public year. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Revenue Growth Over:		Market Cap Growth Over:		Asset Growth Over:	
	(1) 1 Year	(2) 2 Years	(3) 1 Year	(4) 2 Years	(5) 1 Year	(6) 2 Years
SPAC Firm	0.416*	0.945**	-0.121	-0.093	-0.046	-0.078
	(0.231)	(0.363)	(0.081)	(0.144)	(0.052)	(0.086)
Dep. Var. Mean	0.64	1.35	0.05	0.22	0.21	0.41
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.00	0.00	0.18	0.15	0.09	0.11
Observations	1,793	1,652	2,111	1,938	2,125	1,953

Table 6: Increased IPO Litigation Risk and Going-Public Activity

This table presents difference-in-differences estimates of the impact of increased litigation risk on public listings. Each observation is an industry-year (at the 3-digit NAICS level). Panel A studies SPAC merger activity while Panel B studies traditional IPO activity. The dependent variables in Columns (1) and (2) are the natural log of (one plus) the number of going-public transactions. The dependent variables in Columns (3) and (4) are the natural log of (one plus) total going-public proceeds. The dependent variables in Column (5) and (6) are indicators equal to one if any transaction occurs in the industry-year. Post-*Cyan* is an indicator equal to one from 2018 onward, where *Cyan* refers to the Supreme Court ruling on *Cyan, Inc. v. Beaver County Employees Retirement Fund* in March 2018. High Litigation Propensity is an indicator equal to one for industries with above median IPO lawsuit propensity in the years prior to *Cyan*, where IPO lawsuit propensity is calculated as the number of IPO lawsuits filed in US federal court scaled by the number of US IPOs from 2010 to 2017. Appendix C.1 shows the results are similar with alternative windows of measurement. Columns (2), (4), and (6) additionally include industry-by-year level controls for lagged market-to-book and lagged R&D-to-sales. Financial firms (NAICS Sector 52) are excluded from the analysis. Appendix C.2 shows the results are robust to the inclusion of operating financial companies. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Ln Count		Ln Proceeds		$\mathbf{1}\{\text{Count} > 0\}$	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. SPAC Mergers						
High Litigation Propensity	0.390***	0.373***	1.403***	1.347***	0.163**	0.157**
× Post-*Cyan*	(0.119)	(0.108)	(0.461)	(0.432)	(0.072)	(0.068)
Dep. Var. Mean	0.10	0.10	0.58	0.58	0.11	0.11
Panel B. Traditional IPOs						
High Litigation Propensity	0.127	0.094	0.257	0.159	-0.058	-0.068
× Post-*Cyan*	(0.145)	(0.133)	(0.474)	(0.451)	(0.060)	(0.059)
Dep. Var. Mean	0.44	0.44	2.19	2.19	0.38	0.38
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry × Year Controls		Yes		Yes		Yes
Adjusted R^2	0.61	0.62	0.38	0.39	0.33	0.33
Observations	1,414	1,414	1,414	1,414	1,414	1,414

Table 7: Delisting and SPAC Sponsor Reputation

This table presents analysis at the firm-level on how SPAC sponsor background affects the likelihood of delisting for firms that go public through a SPAC merger. The outcome variable is an indicator variable that, within 4 years of the going-public event, the company delists, involuntarily delists, voluntarily delists, or delists due to an M&A transaction. Columns (2), (4), (6), and (8) additionally control for the size of the offering via the natural log of the total SPAC or IPO proceeds. Financial firms are excluded from the analysis. Appendix C.2 shows the results are robust to the inclusion of operating financial companies. The specification includes NAICS 3-digit industry fixed effects and fixed effects for the going-public year. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. SPAC IPO Operating Companies Only				
	Delisting within 4 Years of IPO			
	(1)	(2)	(3)	(4)
Finance Background Sponsor	-0.163***	-0.163***		
	(0.057)	(0.056)		
Operations Background Sponsor			-0.012	-0.013
			(0.062)	(0.058)
Ln Proceeds		0.006		0.005
		(0.038)		(0.037)
Dep. Var. Mean	0.25	0.25	0.25	0.25
FE: Industry	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes
Adjusted R^2	0.11	0.10	0.08	0.08
Observations	319	319	319	319
Panel B. Traditional and SPAC IPO Operating Companies				
	Delisting within 4 Years of IPO			
	(1)	(2)	(3)	(4)
SPAC Firm	0.187***	0.188***	0.071	0.070
	(0.063)	(0.062)	(0.048)	(0.048)
SPAC Firm × Finance Background Sponsor	-0.138**	-0.138**		
	(0.059)	(0.059)		
SPAC Firm × Operations Background Sponsor			0.003	0.004
			(0.052)	(0.052)
Ln Proceeds		-0.012		-0.012
		(0.007)		(0.007)
Dep. Var. Mean	0.22	0.22	0.22	0.22
FE: Industry	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes
Adjusted R^2	0.03	0.03	0.03	0.03
Observations	2,328	2,328	2,328	2,328

Table 8: Stock Market Booms and Sponsor Agency Conflicts

This table investigates the relationship between equity market investor sentiment and SPAC characteristics. Each observation is a SPAC (blank-check company) which first lists on public markets in year-quarter q. The dependent variable in Columns (1) and (2) is an indicator for whether the sponsor has financial industry experience. The dependent variable in Columns (3) and (4) is an indicator for whether the SPAC ultimately liquidates. The dependent variable in Columns (5) and (6) is the time between the SPAC IPO and approval of the target company merger, measured in number of quarters. The sentiment measure is the Baker and Wurgler (2006) equity market sentiment index (orthogonalized with respect to macroeconomic variables) in the year-quarter $q-1$. The index is standardized to have mean 0 and standard deviation 1 over the sample period. Time period fixed effects control for the SPAC IPO occurring in the period 2003-2008, 2009-2014, or 2015-2020. The specification also includes fixed effects for the industry focus of the SPAC at the time of the IPO. Robust standard errors clustered by industry focus are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Finance Experience Chair		SPAC Liquidated		Search Time for Target	
	(1)	(2)	(3)	(4)	(5)	(6)
Equity Sentiment$_{q-1}$	-0.038**	-0.037**	0.096***	0.090***	-0.986**	-0.879**
	(0.016)	(0.015)	(0.026)	(0.027)	(0.317)	(0.324)
Ln Proceeds		-0.002		0.022		-0.384*
		(0.028)		(0.016)		(0.203)
Dep. Var. Mean	0.79	0.79	0.25	0.25	6.13	6.13
FE: Industry Focus	Yes	Yes	Yes	Yes	Yes	Yes
FE: Time Period	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.03	0.02	0.10	0.10	0.10	0.11
Observations	636	636	636	636	477	477

A Theory Appendix

A.1 Proof of Proposition 1

Consider the case of $m^{Safe} \geq m^{Safe*}$. When investment banks exert effort and certify firm types, the going-public market is in the separating equilibrium and the payoff for investment banks is

$$\Pi^{IB}_{Certify} = \alpha\beta uI - \alpha\beta c_{ib} - \alpha\beta(1-p)vI$$

When investment banks shirk their certification role, the going-public market is in the pooling equilibrium. The payoff for investment banks is

$$\Pi^{IB}_{Shirk} = \beta uI - \alpha\beta(1-p)vI - (1-\alpha)\,\beta(1-q)vI.$$

Therefore, investment banks exert effort and certify firm types when (i) the payoff for investment banks in the separating equilibrium is higher than that of the pooling equilibrium: $\Pi^{IB}_{Certify} \geq \Pi^{IB}_{Shirk}$ and (ii) the payoff for investment banks in the separating equilibrium is positive: $\Pi^{IB}_{Certify} > 0$. We obtain the range of v that satisfies both restrictions:

$$\frac{(1-\alpha)\,uI + \alpha c_{ib}}{(1-\alpha)\,(1-q)\,I} \leq v < \frac{uI - c_{ib}}{(1-p)\,I}.$$

Now consider the case of $m^{Safe} < m^{Safe*}$. When investment banks exert effort and certify firm types, the safe firm going-public market is in the separating equilibrium and the payoff for investment banks is $\Pi^{IB}_{Certify}$. When investment banks shirk their certification roles, the safe firm going-public market is in the breakdown equilibrium and the payoff for investment banks is 0.

However, investment banks have another strategy. When investment banks exert efforts to identify firm types but do not reveal the information, they reduce the proportion of B/S firms to γ^{Safe*} and set the new prior probability of success $m^{Safe} = m^{Safe*}$, i.e.,

$$\alpha p + \gamma^{Safe*} q = \frac{1}{R_l} \Rightarrow \gamma^{Safe*} = \frac{1}{qR_l} - \frac{\alpha p}{q}.$$

The safe firm going-public market is in the pooling equilibrium and the payoff for investment banks is

$$\Pi^{IB}_{Conceal} = \left(\alpha\beta + \gamma^{Safe*}\beta\right) uI - \beta c_{ib} - \alpha\beta(1-p)vI - \gamma^{Safe*}\beta(1-q)vI.$$

Therefore, investment banks exert effort and truthfully certify firm types when (i) the pay-

off for investment banks in the separating equilibrium is higher than that of the pooling equilibrium: $\Pi^{IB}_{Certify} \geq \Pi^{IB}_{Conceal}$ and (ii) the payoff for investment banks in the separating equilibrium is positive: $\Pi^{IB}_{Certify} > 0$. The range of v that satisfies both inequalities is given by:

$$\frac{\gamma^{Safe*} uI - (1-\alpha)c_{ib}}{\gamma^{Safe*}(1-q)\,I} \leq v < \frac{uI - c_{ib}}{(1-p)\,I}.$$

In the risky firm going-public market, the payoff for investment banks in the separating equilibrium is $\alpha(1-\beta)uI - \alpha(1-\beta)c_{ib} - \alpha(1-\beta)\left(1 - \frac{pR_l+\mu}{R_h}\right)vI$. When the payoff is negative, i.e., when the probability of success for G/R firms is lower than a critical value $prob^{IB}$, investment banks do not take risky firms public, where

$$prob^{IB} = 1 - \frac{u}{v} + \frac{c_{ib}}{vI}. \tag{A.1}$$

■

A.2 Proof of Proposition 2

Consider the scenario in which $m^{Risky} \geq m^{Risky*}$. When SPAC sponsors exert effort and certify firm types, the risky firm going-public market is in the separating equilibrium and the payoff for SPAC sponsors is:

$$\Pi^{SPAC}_{Certify} = \alpha(1-\beta)\,\tau(pR_l+\mu)I - \alpha(1-\beta)c_{sponsor} - \alpha(1-\beta)\left(1 - \frac{pR_l+\mu}{R_h}\right)rI. \tag{A.2}$$

When the SPAC sponsors shirk their certification role, the risky firm going-public market is in the pooling equilibrium. The payoff for SPAC sponsors is:

$$\begin{aligned}\Pi^{SPAC}_{Shirk} = {} & \alpha(1-\beta)\,\tau(pR_l+\mu)I + (1-\alpha)(1-\beta)\,\tau(qR_l+\mu)I \\ & - \alpha(1-\beta)\left(1 - \frac{pR_l+\mu}{R_h}\right)rI - (1-\alpha)(1-\beta)\left(1 - \frac{qR_l+\mu}{R_h}\right)rI.\end{aligned} \tag{A.3}$$

Therefore, SPAC sponsors exert effort and certify firm types when: (i) the sponsor's payoff in the separating equilibrium exceeds the payoff in the pooling equilibrium: $\Pi^{SPAC}_{Certify} \geq \Pi^{SPAC}_{Shirk}$, and (ii) the payoff in the separating equilibrium is positive: $\Pi^{SPAC}_{Certify} > 0$.

From these restrictions, we obtain the range of r:

$$\frac{(1-\alpha)\,\tau(qR_l+\mu)I + \alpha c_{sponsor}}{(1-\alpha)\left(1 - \frac{qR_l+\mu}{R_h}\right)I} \leq r < \frac{\tau(pR_l+\mu)I - c_{sponsor}}{\left(1 - \frac{pR_l+\mu}{R_h}\right)I}.$$

Now consider the scenario in which $m^{Risky} < m^{Risky*}$. When SPAC sponsors exert

effort and certify firm types, the risky firm going-public market is again in the separating equilibrium and the payoff for SPAC sponsors is $\Pi^{SPAC}_{Certify}$.

When SPAC sponsors shirk their certification roles, the risky firm going-public market breaks down, yielding a payoff to SPAC sponsors of 0.

Alternatively, if SPAC sponsors exert effort but do not reveal the information, they reduce the proportion of B/R firms to γ^{Risky*} and set the new prior probability of success $m^{Risky} = m^{Risky*}$, satisfying:

$$\alpha\frac{pR_l+\mu}{R_h} + \gamma^{Risky*}\frac{qR_l+\mu}{R_h} = \frac{1}{R_h} \quad \Rightarrow \quad \gamma^{Risky*} = \frac{1}{qR_l+\mu} - \alpha\frac{pR_l+\mu}{qR_l+\mu}.$$

In this case, the market enters a pooling equilibrium, and the sponsor's payoff is:

$$\begin{aligned}\Pi^{SPAC}_{Conceal} = {} & \alpha(1-\beta)\,\tau(pR_l+\mu)I + \gamma^{Risky*}(1-\beta)\,\tau(qR_l+\mu)I - (1-\beta)c_{sponsor} \\ & - \alpha(1-\beta)\left(1-\frac{pR_l+\mu}{R_h}\right)rI - \gamma^{Risky*}(1-\beta)\left(1-\frac{qR_l+\mu}{R_h}\right)rI.\end{aligned} \tag{A.4}$$

SPAC sponsors exert effort and certify firm types when: (i) the incentive compatibility constraint $\Pi^{SPAC}_{Certify} \geq \Pi^{SPAC}_{Conceal}$ is satisfied and (ii) the participation constraint $\Pi^{SPAC}_{Certify} > 0$ is satisfied.

These conditions imply the following range for r:

$$\frac{\gamma^{Risky*}\,\tau(qR_l+\mu)I - (1-\alpha)c_{sponsor}}{\gamma^{Risky*}\left(1-\frac{qR_l+\mu}{R_h}\right)I} \leq r < \frac{\tau(pR_l+\mu)I - c_{sponsor}}{\left(1-\frac{pR_l+\mu}{R_h}\right)I}.$$

■

Comment: Existence of Segmentation. Take the participation constraint (PC) for both investment banks and SPAC sponsors to truthfully certify firm quality. This implies a threshold that the firm's success probability, *prob*, must exceed for certification to occur. From re-arranging the investment bank's PC we obtain this critical value. That is, if $prob < prob^{IB}$, the investment bank does not certify, where

$$1 - \frac{u}{v} + \frac{c_{ib}}{vI} \equiv prob^{IB}$$

From the SPAC's PC, If $prob < prob^{SPAC}$, the SPAC sponsor does not certify, where

$$\frac{c_{sponsor} + rI}{(\tau R_h + r)I} \equiv prob^{SPAC}$$

Now compare the thresholds $prob^{IB}$ and $prob^{SPAC}$. If there exists a value of *prob* such

that:

$$prob^{SPAC} < prob < prob^{IB}$$

then the firm is not certified by the investment bank (fails the IB PC) but is certified by the SPAC sponsor (satisfies the SPAC PC). In this range, only the SPAC sponsor intermediates the going-public transaction, generating a segmented market.

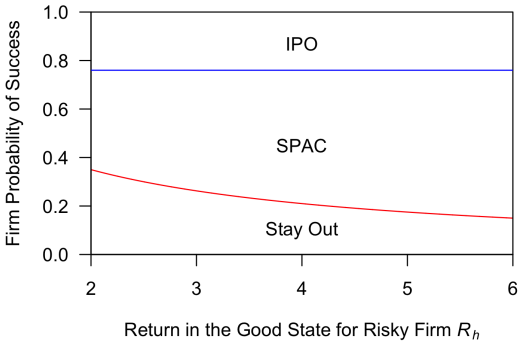
This range is nonempty when the SPAC sponsor has stronger upside incentives (via equity) and lower downside exposure than the investment bank. For example, under empirically plausible values such as $r = 0.2$, $R_h = 3$, $v = 0.25$, $c_{sponsor} = 1$, $c_{ib} = 1$, $u = 0.07$, $\tau = 0.2$, and $I = 100$, one can verify numerically that:

$$prob^{SPAC} \approx 0.263 < 0.760 \approx prob^{IB}$$

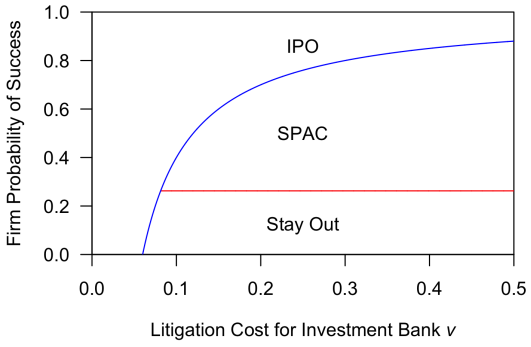
so segmentation arises for any $prob \in (0.263, 0.760)$. Using these values as the benchmark parameters, Figure A1 shows the comparative statics of market segmentation by plotting the range of market segmentation as a function of the sponsor reputation cost r, return in the good state for risky firm R_h, litigation cost for investment bank v, certification cost for SPAC sponsor $c_{sponsor}$, and certification cost for investment bank c_{ib}.

Figure A1: Comparative Statics of Market Segmentation

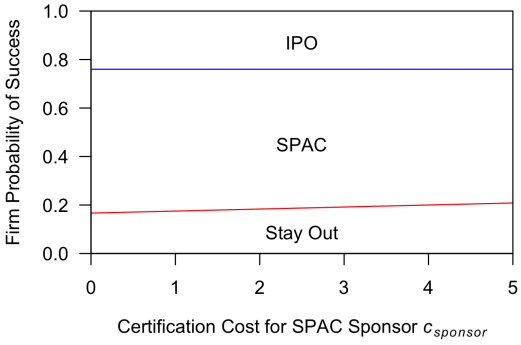
This figure plots the range of market segmentation as a function of the sponsor reputation cost r, return in the good state for risky firm R_h, litigation cost for investment bank v, certification cost for SPAC sponsor $c_{sponsor}$, and certification cost for investment bank c_{ib}. The benchmark parameters are set to $r = 0.2$, $R_h = 3$, $v = 0.25$, $c_{sponsor} = 1$, $c_{ib} = 1$, $u = 0.07$, $\tau = 0.2$, and $I = 100$.



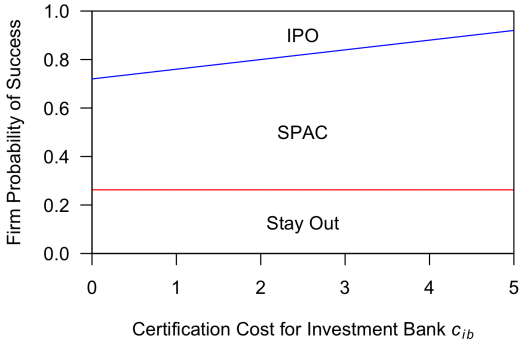
(a) Return in the Good State for Risky Firm



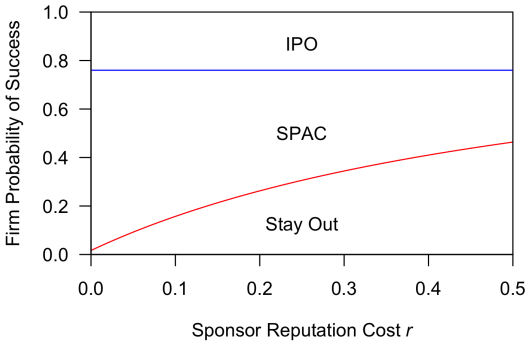
(b) Litigation Cost for Investment Bank



(c) Certification Cost for SPAC Sponsor



(d) Certification Cost for Investment Bank



(e) Sponsor Reputation Cost

INTERNET APPENDIX

B Data Appendix

B.1 Prompt for Management Background Extraction

We collect data on the backgrounds and career experience of SPAC sponsors. As described in Section 4, we crawl the SEC EDGAR website of each SPAC in order to find its final prospectus. Then we extract the "Management" section, which contains biographies of each member of the SPAC management team. Next, we call the Gemini LLM by including the SPAC management biographies in the following prompt:

> "Consider the following biographies of people who are a part of the special purpose acquisition company (SPAC) [*Insert name of SPAC*]:
>
> [*Insert SPAC management biographies*]
>
> Based on the information given, list all of the people in JSON format. For each person, provide the variables defined below.
>
> name: Name of the person.
>
> spac_job_position: Current job position of the person in the SPAC. If not known, say 'N/A'.
>
> experience_operational_lead: Indicator of whether the person has formal experience leading the operations of a company. If not known, say 'N/A'.
>
> experience_financial_industry: Indicator of whether the person has formal experience working in the financial industry. If not known, say 'N/A'."

To validate this approach, we manually read the management biographies and collect these variables for 50 of the 636 SPACs. We find a near-identical match between our hand-collected v.s. Gemini-collected variables.

B.2 Additional Variable Construction Details

This section describes the construction of the industry-year control variables used in Section 6. Using Compustat annual fundamentals data, we compute the market-to-book ratio for each company in each year by dividing the market value of equity by the book value of equity. Market value of equity is computed as the closing stock price as of December of the

fiscal year (prcc_c) multiplied by the number of common shares outstanding (csho) when available. Book value of equity is computed as shareholders' equity minus preferred stock value plus balance sheet deferred taxes. Shareholders' equity is computed from:

1. Stockholders equity (seq) if available; otherwise
2. Common equity value (ceq) plus preferred stock par value (pstk) if available; otherwise
3. Total assets (at) minus total liabilities (lt) minus minority interest (mib) if available.

Preferred stock value is computed from:

1. Redemption value (pstkrv) if available; otherwise
2. Liquidation value (pstkl) if available; otherwise
3. Carrying value (pstk) if available; otherwise zero.

Balance sheet deferred taxes are computed as deferred taxes and investment tax credit (txditc) when available. To arrive at the market-to-book ratio for each NAICS industry in each year, we then winsorize at the 1st and 99th percentiles and compute the average market-to-book ratio for each industry-year.

We compute the R&D intensity for each company in each year by dividing R&D expense (xrd) by total revenue (revt) when available. To arrive at the R&D intensity for each NAICS industry in each year, we then winsorize at the 1st and 99th percentiles and compute the average R&D intensity for each industry-year.

C Supplementary Figures and Tables

C.1 Robustness: Alternative Litigation Propensity Measurement

Table C1: Increased IPO Litigation Risk and Going-Public Activity (Robustness)

This table replicates Table 6 from the main text while using a longer window of measurement for IPO lawsuit propensity. This table presents difference-in-differences estimates of the impact of increased litigation risk on public listings. Each observation is an industry-year (at the 3-digit NAICS level). Panel A studies SPAC merger activity while Panel B studies traditional IPO activity. The dependent variables in Columns (1) and (2) are the natural log of (one plus) the number of going-public transactions. The dependent variables in Columns (3) and (4) are the natural log of (one plus) total going-public proceeds. The dependent variables in Column (5) and (6) are indicators equal to one if any transaction occurs in the industry-year. Post-*Cyan* is an indicator equal to one from 2018 onward, where *Cyan* refers to the Supreme Court ruling on *Cyan, Inc. v. Beaver County Employees Retirement Fund* in March 2018. High Litigation Propensity is an indicator equal to one for industries with above median IPO lawsuit propensity in the years prior to *Cyan*, where IPO lawsuit propensity is calculated as the number of IPO lawsuits filed in US federal court scaled by the number of US IPOs from 2008 to 2017. Columns (2), (4), and (6) additionally include industry-by-year level controls for market-to-book and R&D-to-sales. Financial firms (NAICS Sector 52) are excluded from the analysis. Appendix C.2 shows the results are robust to the inclusion of operating financial companies. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Ln Count		Ln Proceeds		$\mathbf{1}\{\text{Count} > 0\}$	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. SPAC Mergers						
High Litigation Propensity	0.378***	0.364***	1.374***	1.329***	0.161**	0.156**
× Post-*Cyan*	(0.114)	(0.104)	(0.443)	(0.415)	(0.069)	(0.066)
Dep. Var. Mean	0.10	0.10	0.58	0.58	0.11	0.11
Panel B. Traditional IPOs						
High Litigation Propensity	0.076	0.047	-0.032	-0.116	-0.110	-0.119*
× Post-*Cyan*	(0.143)	(0.131)	(0.498)	(0.474)	(0.067)	(0.067)
Dep. Var. Mean	0.44	0.44	2.19	2.19	0.38	0.38
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry × Year Controls		Yes		Yes		Yes
Adjusted R^2	0.61	0.62	0.38	0.39	0.33	0.33
Observations	1,414	1,414	1,414	1,414	1,414	1,414

Table C2: Increased IPO Litigation Risk and Going-Public Activity (Robustness)

This table replicates Table 6 from the main text while using a shorter window of measurement for IPO lawsuit propensity. This table presents difference-in-differences estimates of the impact of increased litigation risk on public listings. Each observation is an industry-year (at the 3-digit NAICS level). Panel A studies SPAC merger activity while Panel B studies traditional IPO activity. The dependent variables in Columns (1) and (2) are the natural log of (one plus) the number of going-public transactions. The dependent variables in Columns (3) and (4) are the natural log of (one plus) total going-public proceeds. The dependent variables in Column (5) and (6) are indicators equal to one if any transaction occurs in the industry-year. Post-*Cyan* is an indicator equal to one from 2018 onward, where *Cyan* refers to the Supreme Court ruling on *Cyan, Inc. v. Beaver County Employees Retirement Fund* in March 2018. High Litigation Propensity is an indicator equal to one for industries with above median IPO lawsuit propensity in the years prior to *Cyan*, where IPO lawsuit propensity is calculated as the number of IPO lawsuits filed in US federal court scaled by the number of US IPOs from 2012 to 2017. Columns (2), (4), and (6) additionally include industry-by-year level controls for market-to-book and R&D-to-sales. Financial firms (NAICS Sector 52) are excluded from the analysis. Appendix C.2 shows the results are robust to the inclusion of operating financial companies. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Ln Count		Ln Proceeds		$\mathbf{1}\{\text{Count} > 0\}$	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. SPAC Mergers						
High Litigation Propensity	0.389***	0.372***	1.447***	1.392***	0.176**	0.170**
× Post-*Cyan*	(0.126)	(0.115)	(0.481)	(0.451)	(0.074)	(0.071)
Dep. Var. Mean	0.10	0.10	0.58	0.58	0.11	0.11
Panel B. Traditional IPOs						
High Litigation Propensity	0.100	0.065	0.189	0.089	-0.065	-0.075
× Post-*Cyan*	(0.152)	(0.139)	(0.494)	(0.470)	(0.061)	(0.061)
Dep. Var. Mean	0.44	0.44	2.19	2.19	0.38	0.38
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry × Year Controls		Yes		Yes		Yes
Adjusted R^2	0.61	0.62	0.38	0.39	0.33	0.33
Observations	1,414	1,414	1,414	1,414	1,414	1,414

C.2 Robustness: Keeping Financial Firms

Table C3: Increased IPO Litigation Risk and Going-Public Activity (Robustness)

This table replicates Table 6 from the main text while including operating financial firms in NAICS Sector 52. (We continue to exclude any REITs, closed-end funds, and other pooled investment vehicles). This table presents difference-in-differences estimates of the impact of increased litigation risk on public listings. Each observation is an industry-year (at the 3-digit NAICS level). Panel A studies SPAC merger activity while Panel B studies traditional IPO activity. The dependent variables in Columns (1) and (2) are the natural log of (one plus) the number of going-public transactions. The dependent variables in Columns (3) and (4) are the natural log of (one plus) total going-public proceeds. The dependent variables in Column (5) and (6) are indicators equal to one if any transaction occurs in the industry-year. Post-*Cyan* is an indicator equal to one from 2018 onward, where *Cyan* refers to the Supreme Court ruling on *Cyan, Inc. v. Beaver County Employees Retirement Fund* in March 2018. High Litigation Propensity is an indicator equal to one for industries with above median IPO lawsuit propensity in the years prior to *Cyan*, where IPO lawsuit propensity is calculated as the number of IPO lawsuits filed in US federal court scaled by the number of US IPOs from 2010 to 2017. Appendix C.1 shows the results are similar with alternative windows of measurement. Columns (2), (4), and (6) additionally include industry-by-year level controls for market-to-book and R&D-to-sales. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Ln Count		Ln Proceeds		$\mathbf{1}\{\text{Count} > 0\}$	
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. SPAC Mergers						
High Litigation Propensity	0.388***	0.375***	1.407***	1.363***	0.165**	0.160**
× Post-*Cyan*	(0.108)	(0.099)	(0.420)	(0.395)	(0.066)	(0.063)
Dep. Var. Mean	0.10	0.10	0.60	0.60	0.11	0.11
Panel B. Traditional IPOs						
High Litigation Propensity	0.094	0.066	0.258	0.180	-0.038	-0.046
× Post-*Cyan*	(0.133)	(0.121)	(0.439)	(0.420)	(0.058)	(0.058)
Dep. Var. Mean	0.48	0.48	2.34	2.34	0.40	0.40
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry × Year Controls		Yes		Yes		Yes
Adjusted R^2	0.63	0.64	0.42	0.42	0.35	0.35
Observations	1,471	1,471	1,471	1,471	1,471	1,471

Table C4: Size and Age of SPAC Target Firms v. Traditional IPO Firms (Robustness)

This table replicates Table 2 from the main text while including operating financial firms. (We continue to exclude any REITs, closed-end funds, and other pooled investment vehicles). This table presents analysis at the firm-level on the size and age of firms that go public through a SPAC merger compared to firms that undergo a traditional IPO. The dependent variables in Columns (1), (2), and (3) are the natural log of total assets, the natural log of revenues, and the natural log of market cap, respectively. To examine firm characteristics as close to the public offering as possible, information from only the first annual report of each firm after the going-public year is used. Appendix C.3 shows the results are robust to including additional annual reports. Columns (4) through (6) examine firm age at the time of going public, where age of SPAC target firms is defined as the calendar year of SPAC merger approval minus the calendar year of founding, and age of IPO firms is defined as the calendar year of offer minus the calendar year of founding. There are a few cases where a SPAC merges with multiple targets to combine into one public firm. Columns (4) through (6) differ in how these are treated; specifically, each column considers either the average, minimum, or maximum age of the targets, respectively. The specification includes NAICS 3-digit industry fixed effects and fixed effects for the going-public year. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Firm Size			Firm Age		
	(1) Ln Assets	(2) Ln Revenue	(3) Ln MktCap	(4) Avg Age	(5) Min Age	(6) Max Age
SPAC Firm	-0.436***	-0.706***	-0.851***	-6.518***	-6.727***	-6.309***
	(0.088)	(0.184)	(0.097)	(2.136)	(2.142)	(2.131)
Dep. Var. Mean	5.67	4.77	6.27	19.08	19.05	19.11
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.25	0.33	0.21	0.19	0.19	0.19
Observations	2,088	2,088	2,088	2,311	2,311	2,311

Table C5: Fundamentals of SPAC Target Firms v. Traditional IPO Firms (Robustness)

This table replicates Table 3 from the main text while including operating financial firms. (We continue to exclude any REITs, closed-end funds, and other pooled investment vehicles). This table presents analysis at the firm-level on the operating volatility, financing, operating performance, and payout policy of firms that go public through a SPAC merger compared to firms that undergo a traditional IPO. Cash flow volatility in Column (1) is defined as the standard deviation of cash flow-to-assets over the first four annual reports after going-public, where cash flow is constructed as income before extraordinary items plus depreciation. Earnings volatility in Column (2) is defined as the standard deviation of net income-to-assets over the first four annual reports after going-public. The dependent variables in Columns (3) to (7) are cash-to-assets, debt (long-term debt plus debt in current liabilities)-to-assets, net income-to-assets, total dividends over income before extraordinary items, and share repurchases over income before extraordinary items, respectively. All values are winsorized at the 1st and 99th percentiles. To examine firm characteristics as close to the public offering as possible, information from only the first annual report of each firm after the going-public year is used in Columns (3) to (7). Appendix C.3 shows the results are robust to including additional annual reports. The specification includes NAICS 3-digit industry fixed effects and fixed effects for the going-public year. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1) Cash Flow Volatility	(2) Earnings Volatility	(3) Cash / Assets	(4) Debt / Assets	(5) Profits / Assets	(6) Dividends / Income	(7) Repurchases / Income
SPAC Firm	0.101***	0.105***	-0.007	0.040	-0.099***	-0.158*	-0.535***
	(0.022)	(0.022)	(0.031)	(0.028)	(0.021)	(0.094)	(0.147)
Dep. Var. Mean	0.19	0.19	0.34	0.18	-0.18	0.21	0.06
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.07	0.07	0.27	0.20	0.16	0.04	0.02
Observations	2,001	2,001	2,001	2,001	2,001	2,001	2,001

Table C6: Delisting of SPAC Target Firms v. Traditional IPO Firms (Robustness)

This table replicates Table 4 from the main text while including operating financial firms. (We continue to exclude any REITs, closed-end funds, and other pooled investment vehicles). This table presents analysis at the firm-level on the likelihood of delisting of firms that go public through a SPAC merger compared to firms that undergo a traditional IPO. The outcome variable is an indicator variable that, at some point in the future, the company delists, involuntarily delists, voluntarily delists, or delists due to an M&A transaction. Columns (2), (4), (6), and (8) additionally control for the size of the offering via the natural log of the total SPAC or IPO proceeds. The specification includes NAICS 3-digit industry fixed effects and fixed effects for the going-public year. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	All Delisting		Involuntary		Voluntary		M&A	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
SPAC Firm	-0.027	-0.028	0.085***	0.086***	-0.004	-0.003	-0.021	-0.022
	(0.025)	(0.026)	(0.021)	(0.021)	(0.006)	(0.006)	(0.028)	(0.028)
Ln Size		0.036***		-0.039***		-0.009***		0.040***
		(0.008)		(0.007)		(0.003)		(0.009)
Dep. Var. Mean	0.91	0.91	0.12	0.12	0.01	0.01	0.36	0.36
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.42	0.44	0.06	0.07	0.00	0.01	0.16	0.17
Observations	2,593	2,593	2,593	2,593	2,593	2,593	2,593	2,593

Table C7: Growth of SPAC Target Firms v. Traditional IPO Firms, Conditional on Staying Public (Robustness)

This table replicates Table 5 from the main text while including operating financial firms. (We continue to exclude any REITs, closed-end funds, and other pooled investment vehicles). This table presents analysis at the firm-level on differences in asset growth, revenue growth, and market capitalization growth of firms that go public through a SPAC merger compared to firms that undergo a traditional IPO. Each observation is a company that goes public in year t. The dependent variables in Columns (1) and (2) are $(\text{Revenue}_{t+1} - \text{Revenue}_t)/\text{Revenue}_t$ and $(\text{Revenue}_{t+2} - \text{Revenue}_t)/\text{Revenue}_t$, respectively. The dependent variables in Columns (3) and (4) are the analogous formulas applied to total market capitalization. The dependent variables in Columns (5) and (6) are the analogous formulas applied to total assets. All values are winsorized at the 1st and 99th percentiles. The specification includes NAICS 3-digit industry fixed effects and fixed effects for the going-public year. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Revenue Growth Over:		Market Cap Growth Over:		Asset Growth Over:	
	(1) 1 Year	(2) 2 Years	(3) 1 Year	(4) 2 Years	(5) 1 Year	(6) 2 Years
SPAC Firm	0.321	0.857***	-0.108	-0.088	-0.038	-0.085
	(0.195)	(0.294)	(0.075)	(0.133)	(0.048)	(0.078)
Dep. Var. Mean	0.56	1.24	0.04	0.20	0.21	0.40
FE: Industry	Yes	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.01	0.01	0.18	0.15	0.09	0.11
Observations	2,094	1,932	2,270	2,091	2,429	2,236

C.3 Robustness: Keeping Additional Annual Reports

Table C8: Size of SPAC Target Firms v. Traditional IPO Firms (Robustness)

This table replicates Columns (1) through (3) of Table 2 from the main text, but keeps up to three annual reports after going-public. This table presents analysis at the firm-level on the size and age of firms that go public through a SPAC merger compared to firms that undergo a traditional IPO. The dependent variables in Columns (1), (2), and (3) are the natural log of total assets, the natural log of revenues, and the natural log of market cap, respectively. To examine firm characteristics as close to the public offering as possible, information from only the first annual report of each firm after the going-public year is used in Columns (1) through (3). Appendix C.3 shows the results are robust to including additional annual reports. The specification includes NAICS 3-digit industry fixed effects and fixed effects for the going-public year. Financial firms are excluded from the analysis. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Firm Size		
	(1) Ln Assets	(2) Ln Revenue	(3) Ln MktCap
SPAC Firm	-0.508***	-0.742***	-1.010***
	(0.106)	(0.186)	(0.150)
Dep. Var. Mean	5.60	4.87	6.08
FE: Industry	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes
Adjusted R^2	0.23	0.35	0.20
Observations	5,500	5,500	5,500

Table C9: Fundamentals of SPAC Target Firms v. Traditional IPO Firms (Robustness)

This table replicates Columns (3) through (7) of Table 3 from the main text, but keeps up to three annual reports after going-public. This table presents analysis at the firm-level on the operating volatility, financing, operating performance, and payout policy of firms that go public through a SPAC merger compared to firms that undergo a traditional IPO. The dependent variables are cash-to-assets, debt (long-term debt plus debt in current liabilities)-to-assets, net income-to-assets, total dividends over income before extraordinary items, and share repurchases over income before extraordinary items, respectively. All values are winsorized at the 1st and 99th percentiles. To examine firm characteristics as close to the public offering as possible, information from only the first annual report of each firm after the going-public year is used in Columns (3) to (7). The specification includes NAICS 3-digit industry fixed effects and fixed effects for the going-public year. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1) Cash / Assets	(2) Debt / Assets	(3) Profits / Assets	(4) Dividends / Income	(5) Repurchases / Income
SPAC Firm	-0.013	0.055**	-0.099***	-0.069**	-0.169***
	(0.019)	(0.026)	(0.018)	(0.026)	(0.042)
Dep. Var. Mean	0.30	0.22	-0.24	0.08	0.05
FE: Industry	Yes	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.28	0.17	0.16	0.03	0.02
Observations	5,699	5,699	5,699	5,699	5,699

C.4 Robustness: Alternative Delisting Horizon

Table C10: Delisting and SPAC Sponsor Reputation (Robustness)

This table presents analysis at the firm-level on how SPAC sponsor background affects the likelihood of delisting for firms that go public through a SPAC merger. The outcome variable is an indicator variable that the company eventually delists, involuntarily delists, voluntarily delists, or delists due to an M&A transaction. Columns (2), (4), (6), and (8) additionally control for the size of the offering via the natural log of the total SPAC or IPO proceeds. Financial firms are excluded from the analysis. The specification includes NAICS 3-digit industry fixed effects and fixed effects for the going-public year. Robust standard errors clustered by NAICS 3-digit industry are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. SPAC Target Companies Only				
	Delisting at Any Point in the Future			
	(1)	(2)	(3)	(4)
Finance Background Sponsor	-0.140**	-0.142***		
	(0.052)	(0.052)		
Operations Background Sponsor			0.027	0.014
			(0.062)	(0.056)
Ln Proceeds		0.084**		0.081**
		(0.038)		(0.038)
Dep. Var. Mean	0.34	0.34	0.34	0.34
FE: Industry	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes
Adjusted R^2	0.14	0.15	0.13	0.14
Observations	319	319	319	319
Panel B. Traditional Companies and SPAC Target Companies				
	Delisting at Any Point in the Future			
	(1)	(2)	(3)	(4)
SPAC Firm	0.152***	0.153***	0.055	0.055
	(0.052)	(0.052)	(0.039)	(0.038)
SPAC Firm × Finance Background Sponsor	-0.106*	-0.106*		
	(0.055)	(0.054)		
SPAC Firm × Operations Background Sponsor			0.012	0.013
			(0.052)	(0.052)
Ln Proceeds		-0.008		-0.008
		(0.010)		(0.010)
Dep. Var. Mean	0.48	0.48	0.48	0.48
FE: Industry	Yes	Yes	Yes	Yes
FE: Year	Yes	Yes	Yes	Yes
Adjusted R^2	0.22	0.22	0.22	0.22
Observations	2,328	2,328	2,328	2,328

C.5 Appendix to Alternative Explanations

Table C11: Market Uncertainty Does Not Predict SPAC Activity

This table presents time-series regressions of measures of SPAC activity on lagged market volatility, as measured by the VIX volatility index. Each observation is a quarter from 2003 Q1 to 2020 Q4. The independent variable is the value of the VIX at the end of the prior quarter. SPAC share in Column (3) is defined as #SPACs/(#SPACs + #IPOs), where #IPOs excludes SPAC issuances. SPAC proceeds share in Column (4) is defined as SPAC Proceeds/(SPAC Proceeds + IPO Proceeds), where IPO Proceeds excludes proceeds from SPAC issuances. See Section 4 for a full description of the SPAC and IPO samples. Robust standard errors are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
	SPAC Count	SPAC Proceeds	SPAC Share	SPAC Proceeds Share
VIX in Prior Quarter	0.198	0.116	-0.000	-0.001
	(0.253)	(0.090)	(0.003)	(0.003)
Constant	4.996	-0.118	0.179***	0.203***
	(3.251)	(1.152)	(0.054)	(0.063)
Adjusted R^2	-0.01	0.01	-0.01	-0.01
Observations	72	72	72	72