Should SPAC Forecasts be Sacked?

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Abstract

Companies that go public through a special purpose acquisition company (SPAC) are merger targets of an already-public firm, and as such, their forward looking statements (FLS) are protected under the Private Securities Litigation Reform Act. In this paper, we study the characteristics of and investor responses to SPAC targets' revenue forecasts. We show that higher revenue growth projections are more likely to be optimistically biased. We also document a positive association between the compound annual growth rate in projected revenue and both market returns and abnormal retail trading during the five-day event window around the investor presentation. Last, we show that the stocks of firms with high projections underperform stocks of comparable firms during the two-year span following the SPAC merger. Overall, our results attest to the recent concerns expressed by both the SEC and the financial press, that SPAC firms' aggressive revenue projections attract retail investors, who end up faring worse on their investment.

Keywords: SPACs, financial projections, IPOs, retail investors

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"There's more forward-looking information in the SPAC space." Maybe one thing we can learn from this is that there should be more forward-looking information in the IPO space" - *Jay Clayton, Securities and Exchange Commission Chair*. Public Statement. November 19, 2020.

"Forward-looking information can of course be valuable….That is true for companies being acquired, as well as for companies going public. But forward-looking information can also be untested, speculative, misleading or even fraudulent" - John Coates, Acting Director in the Division of Corporation Finance at the SEC. Public Statement. April 8, 2021.

1. Introduction

In the past two years, the number of initial public offerings (IPOs) by Special Purpose Acquisition Companies (SPACs) has outpaced traditional IPOs (Figure 1). SPACs are blank-check companies that raise capital via an IPO for the sole purpose of acquiring a private company, a transaction known as a de-SPAC. Unlike IPOs, private companies that go public via de-SPAC are protected by the safe harbor provision (Safe Harbor) of the 1995 Private Securities Litigation Act (PSLRA). Safe Harbor enables SPACs to disclose merger targets' forward-looking statements ("FLS") and shields them from liability subject to certain conditions (Klausner, Ohlrogge, and Ruan 2022).[1] Because traditional IPO firms are excluded from the safe harbor provision, they typically refrain from making FLS. Conversely, given the protection afforded to private firms that elect to go public via de-SPAC, the majority of these companies do choose to provide FLS.

Practitioners, regulators, and the media have expressed concern about the economic consequences of permitting highly-speculative firms to disclose FLS when going public (Brown 2021, Coates 2021, Kruppa and Aliaj 2021). Supporting these concerns, Blankespoor, Hendricks, Miller, and Stockbridge (2021) provide descriptive evidence that revenue forecasts (the most commonly disclosed FLS of de-SPAC merger targets) are optimistic on average as compared with peer firms' projections and own-firm subsequent revenue realizations. But it is unclear whether,

[1] Beyond the ability to provide FLS, de-SPAC transactions benefit private firms by accelerating the process of going public and by allowing direct negotiations with the SPAC sponsor, thus eliminating the need for a formal roadshow.

and to what extent, capital markets find such FLS informative. Blankespoor et al. (2021) have called upon future researchers to explore this question.[2] Our study fills this gap in the literature.

There are at least two reasons why SPAC targets' FLS disclosures may constitute an important component of their investors' information sets. First, in a de-SPAC deal, the SPAC's shareholders must approve the merger by a majority vote. Prior literature suggests that disclosure can mitigate information asymmetry and valuation uncertainty, both of which are especially pronounced in IPOs and mergers where the target company is private (e.g., Leone, Rock, and Willenborg, 2007; Boone, Floros, and Johnson, 2016; Even-Tov, Ryans, Davidoff Solomon, 2021). Therefore, FLS disclosures may help shareholders make decisions when approving SPAC mergers. The SEC has also supported the view that providing increased disclosure, e.g., FLS, benefits investors over time (SEC 1989, 2003, 2020; Levitt 1996). Second, given that many private targets have limited historical performance, FLS offer an opportunity to explain their growth strategy to prospective investors (Damodaran 2021, Klausner et al. 2022). In sum, to the extent that FLS are deployed primarily as a communication tool, they may be additive to investors' information sets.

On the other hand, investors, particularly unsophisticated investors, could be misled by FLS in the SPAC setting. FLS are a key component of the acquisition narrative (Damodaran 2021) and are often used to value private firms (e.g., Kim and Ritter 1999). However, since FLS are covered by the Safe Harbor provision, SPAC targets and their acquirers may exploit the provision as a "license to lie" to convince investors to vote favorably on the de-SPAC transaction (141 Congressional Record 1995; Levitt 1995; Senate Report 1995; Coffee 1996; Horwich 2010;

[2] Even in the case of some optimistic FLS disclosures (Blankespoor et al., 2021), prior literature shows that investors can "see through" optimism when firms raise capital (Michaely and Womack 1999; Shivakumar 2000; Dambra, Field, Gustafson, and Pisciotta, 2018). For example, Shivakumar (2000) finds that investors expect and rationally undo earnings management around seasoned equity offerings.

McCann 2018). While the target's incentives to complete the merger are salient, the sponsor is also highly incentivized, since their compensation is largely derived from the merger's closure and retention of a large stake in the merged company (Jenkinson and Sousa 2011). Thus, the sponsor can profit from the acquisition even if the company's shares decline post-merger (Chung and Ramkumar 2021).[3]

To study whether FLS are informative to investors in the SPAC setting, we hand collect information from the investor presentations for de-SPAC transactions between January 1, 2010 and December 31, 2020. We restrict our sample to de-SPAC acquisitions with a single target and remove all SPACs that either delist before the merger effective date or trade on the OTC Market. This yields an initial sample of 142 firms. Similar to Blankespoor et al. (2021), we find that revenue forecasts are the most common and comparable financial statement line item provided by private firms. Thus, our study focuses on revenue forecasts, which are included in the investor presentations of 121 firms (85%). For our analyses, we create a measure based on the forecasted revenue compounded annual growth rate (Revenue CAGRs), which is commonly used in practice for valuation, especially in assessing the reasonableness of long-term projections for young, growth firms (Damodaran 2006). Given the extreme distribution of Revenue CAGRs, we partition this variable into quartiles.

We start our analyses by examining (1) whether de-SPAC target revenue forecasts are optimistically biased overall and (2) whether forecasts with high Revenue CAGRs are systematically more optimistically biased. We look at revenue realizations for the two years after a private firm has gone public through a de-SPAC. We compute forecast bias as the difference

[3] While the sponsor firm conducts due diligence on the target, the sponsor may acquiesce to the higher projections and the corresponding valuation given competition with other SPAC sponsors and strategic buyers to acquire the target firm (Blankespoor et al. 2021).

between forecasted and actual revenue scaled by actual revenue. In doing so, we corroborate Blankespoor et al.'s (2021) univariate evidence that revenue forecasts are biased overall. We then extend this descriptive evidence and find that the revenue forecast bias magnitude increases when revenue growth is projected to be higher. These results hold in a univariate setting that compares top and bottom quartiles of revenue CAGR forecasts and in a multivariate regression setting for revenue realizations for one and two years post de-SPAC merger.

Next, we examine whether forward-looking revenue forecasts are informative to investors by focusing on the SPAC's five-day cumulative abnormal return surrounding the issuance of the investor presentation for each acquisition target's Revenue CAGR quartile. We find that SPAC investors respond favorably to merger announcements as a function of the Revenue CAGRs disclosed in the investor presentations. The mean investor presentation window cumulative abnormal return is 2.0% for firms in the lowest Revenue CAGR quartile and 11.0% for firms in the highest Revenue CAGR quartile. This difference is significant. The result holds in a regression framework that controls for both determinants of merger announcement responses (e.g., deal value, relative size, and size) and SPAC-specific performance measures following Dimitrova (2017). Our initial tests suggest that investors find such forecasts informative, despite the SPAC's incentives to bias these forecasts optimistically.

We then explore whether retail and institutional investors differentially respond to the revenue forecasts in private-firm SPAC merger announcements. Banerjee and Szydlowski (2021) theorize that retail investors may overestimate their ability to process information in the SPAC setting. We follow Blankespoor, deHaan, and Zhu (2018) to compute a measure of abnormal retail trading volume and institutional trading volume in the five-day window surrounding the investor

presentation filing date.[4] We find that retail investors engage in larger abnormal trading as a function of the Revenue CAGRs surrounding the merger announcement. The mean value of *AbnRetailVolume* over the investor presentation window is 0.04% of shares outstanding for deals in the lowest Revenue CAGR quartile and 1.7% of shares outstanding for deals in the highest Revenue CAGR quartile. This interquartile difference is statistically significant. The result holds in a regression framework after including a host of variables used in prior IPO and SPAC studies. Conversely, we find no statistical relationship between abnormal institutional investor trading and Revenue CAGRs. This suggests that the response to Revenue CAGRs varies depending upon the investor's level of sophistication.

Our results thus far suggest that the capital market responds favorably to more positive forecasted revenue growth at the merger announcement, and that such disclosures capture the attention of retail investors. Thus, FLS may be deployed as a tool to communicate a firm's growth strategy rather than a realistic expectation of future cash flows. Prior IPO research suggests that retail investors overpay for IPO shares (e.g., Dorn 2009). Aboody et al. (2018), Derrien (2005), and Ljungqvist, Nanda, and Singh (2006) derive a theoretical basis for an equilibrium whereby investor sentiment can yield higher initial performance that is reversed as the market revises expectations of a firm's future cash flows. In the SPAC setting, existing research has found that SPACs severely underperform (Dimitrova, 2017; Kolb and Tykvova, 2016; Klausner et al. 2022). To better understand whether investors are misled by FLS in the SPAC setting, we expand on these studies and predict that SPAC stocks will underperform as a function of their revenue growth expectations at the time of the original transaction. Consistent with our expectations, we find that

[4] We identify retail trades using the method outlined in Boehmer, Jones, Zhang, and Zhang (2021) and proxy for institutional trading using large trades, defined as trades over $50,000, following Bushee, Cedergren, and Michels (2020).

higher Revenue CAGR firms underperform lower Revenue CAGR firms at the 6-, 12-, and 24-month intervals following the merger close date.[5] Thus, our results offer new insight regarding the informativeness of private firms' financial projections and, ultimately, the threat posed to unsophisticated investors in de-SPAC mergers.

Our research should interest researchers, practitioners, and regulators, as we make several contributions. First, we add to the literature on the consequences of disclosure in the IPO setting. Prior research on this setting examines the trade-off between disclosure's mitigation of information asymmetry versus its exacerbation of proprietary costs (e.g., Leone et al. 2007, Hanley and Hoberg 2010; Dambra, Field, and Gustafson 2015). Studies outside the U.S. have explored the role of earnings forecasts in IPO prospectuses and documented their overall informativeness to investors (e.g., Clarkson, Dontoh, Richardson, and Sefcik 1992; Jog and McConomy 2003). In the U.S., traditional restrictions do not apply to SPACs' FLS disclosures. Thus, we are able to study the market reaction and the consequences of forecasts provided within SEC disclosures prior to a firm going public. While these FLS disclosures *appear* to be informative and beneficial to investors, the subsequent underperformance of firms with high revenue forecasts illustrates that such forecasts may mislead unsophisticated investors. This is particularly worrisome in the SPAC setting, where perverse incentives may lead managers to optimistically bias their revenue forecasts.

Second, we contribute to the literature that examines the implications of Safe Harbor on FLS (e.g., Johnson, Kasznik, and Nelson, 2001; Johnson, Nelson, and Pritchard, 2007, Cazier, Merkley, and Treu, 2020). Extant research finds that the Safe Harbor effectively provides superior legal protection for FLS and that companies respond to such protection by issuing more forward-

[5] We follow the approach of Lowry, Michaely, and Volkova (2017) and measure buy-and-hold abnormal returns at 6-, 12-, and 24-month horizons following the merger's effective date as the raw buy-and-hold return adjusted for the return on a matched portfolio of 20 mature firms with the closest size and book-to-market.

looking statements. We extend this literature by documenting that SPACs appear to exploit the Safe Harbor and provide misleading FLS to elicit investments, especially from retail investors. We also find that these same companies are more likely to destroy long-term shareholder value. Thus, our empirical evidence echoes the concerns raised by regulators and legal scholars who have alleged that the PSLRA's safe harbor in effect grants firms a "license to lie" (Senate Report, 1995; Horwich, 2010; Olazabal, 2011; Asay and Hales 2018).

Lastly, we contribute to the nascent literature on SPACs. For example, Jenkinson and Sousa (2011) and Dimitrova (2017) study SPACs that went public before 2010 and document poor de-SPAC performance. Dimitrova (2017) finds that SPAC performance is worse in the following scenarios: acquisitions that are announced near the predetermined two-year deadline to secure a viable target, acquisitions with deferred IPO underwriting fees, and acquisitions with market value close to the required 80% threshold. Kolb and Tykviva (2016) also find long-term underperformance for up to 60 months following SPAC acquisitions.[6] Along with Blankespoor et al. (2021) and Chapman, Frankel, and Martin (2021), our paper is one of the first large-scale studies on FLS made by private firms acquired by SPACs.[7] We show that revenue forecasts are informative, particularly to retail investors, and that forecasted revenue growth is positively related to ex post forecast bias. While merger announcement returns co-move with forecasts revenue growth, this relation reverses as performance is impounded in the markets, suggesting that

[6] In a more recent paper, Klausner et al. (2022) focus on SPACs that went public in 2020–2021 and distinguish between high- and low-quality SPACs based on the sponsor's prior experience. They document significantly poorer de-SPAC performance for low-quality SPACs and show that a high redemption ratio predicts significant underperformance during the de-SPAC period.

[7] Chapman et al. (2021) offer a contemporaneous working paper that broadly examines the tone, existence, and frequency of FLS in the SPAC setting. By contrast, we examine specific quantitative characteristics (i.e., revenue forecast growth and forecast bias) of revenue forecasts in de-SPAC transactions, which have generated the most concern from the popular press, academics, and regulators (Brown 2021, Damodaran 2021, Coates 2021), and their associations with long-run stock performance. While Chapman et al. (2021) do not find that their measures of FLS lead to "hype" (e.g., thirty-day underperformance), our quantification of the detailed forecast information generates an alternative conclusion regarding the information quality of FLS in SPAC transactions.

investors appear to be misled by such FLS. Thus, we answer Blankespoor et al.'s (2021) call to understand the economic consequences of such disclosures and extend the existing literature on SPAC (under)performance by documenting an inverse relationship between forecasted revenue growth and long-term performance.

Our findings bear significant implications for policymakers. Specifically, our evidence of individual investors' greater propensity to invest in companies with high revenue projections that underperform in the long-term is relevant to Congress's recent proposal to exclude SPACs from the safe harbor provision (Glick 2021). On May 24th, 2021, the U.S. House Committee on Financial Services (HCFS) received draft legislation that would eliminate the current safe harbor exemption for FLS for all SPACs (HCFS, 2021).

2. Background

2.1. SPAC definition and recent momentum

SPACs are deployed to raise capital from a pool of investors via an IPO. The SPAC is a "blank-check company" that is solely founded to acquire an operating company. After a SPAC IPO, a minimum of 85% of the net proceeds are placed in escrow with the SPAC management (the "sponsor"), who then searches for an acquisition target (Dimitrova 2017). Those who invest in the SPAC IPO typically receive shares (usually priced at $10 per share) as well as warrants through a private placement to cover search costs borne from the future acquisition. The SPAC warrants serve as options to purchase shares of the SPAC IPO that can be exercised at the close of the merger transaction or after a period of at least 12 months following the IPO (Veal 2020). The largest component of the sponsor's compensation is a 20% share of the SPAC prior to the IPO (the "promote").

Once a SPAC goes public, the sponsor is typically allotted 18 to 24 months to find an acquisition target. When the sponsor identifies a target and agrees to a merger, the SPAC's public shareholders must decide whether to vote for or against it (Gahng et al. 2021). If the merger is completed, the sponsor's promote transfers to an equivalent share ownership of the newly combined company. If the merger is not completed, the SPAC must unwind, and each shareholder on record is repaid their initial investment. Because of this unique compensation structure, there are perverse incentives for the sponsor to complete a SPAC acquisition (Dimitrova 2017, Damodaran 2021). See Figure 2 for an illustrative example of the timing of key economic events that occur during a SPAC's lifecycle.

The SPAC's structure represents an innovative means of avoiding the punitive regulations imposed on blank check offerings that were enacted due to fraudulent penny stock offerings in the 1980s (Greenspan 2021). By 2007, SPAC IPOs made up one-quarter of all U.S. IPOs (Greenspan 2021). However, during the 2008–2009 Great Recession, IPO markets were reduced to near-zero activity, and it was not until 2020 that SPACs ramped up again. Although no single catalyst is responsible for the recent spike, it is commonly believed that the COVID-19-related IPO market shutdown, which made in-person IPO roadshows impossible to conduct (Osipovich 2020), as well as several notable de-SPAC transactions that generated significant positive media attention, such as DraftKings and Nikola (Sherman 2020), has driven the uptick. Figure 1 presents the total number of U.S. SPAC and traditional IPO transactions between January 1, 2010 and December 31, 2020 and the total dollar amount raised. In 2020, SPAC IPOs comprised 53% of the entire IPO market's proceeds.

Going public via a SPAC merger offers unique benefits. First of all, the timeline to go public is significantly shortened. A SPAC merger is typically finalized in 3 to 6 months, whereas

a traditional IPO usually takes 12 to 18 months to complete (Lambert 2021). The SPAC's compressed timeline more effectively allows private companies to time their decision to go public with optimal market conditions (Damodaran 2021). Second, SPAC structures facilitate direct pricing negotiations for target firms. Whereas traditional IPO proceeds and valuation are contingent on market demand and can fluctuate significantly, the SPAC structure grants more certainty about the target's value and its potential proceeds, which are finalized at the time of the merger agreement (Osipovich 2020). Third, SPACs' FLS are protected by Safe Harbor, which enables them to offer a more comprehensive narrative to prospective investors and to substantiate their future plans with quantitative data (Damodaran 2021). We describe the competing FLS disclosure regimes for traditional IPOs and SPAC acquisition targets in more detail in the next sub-section.

Despite its benefits, the SPAC structure has several disadvantages as compared with traditional IPOs. First, SPAC mergers incur indirect costs of dilution that do not exist in a traditional IPO. These costs consist of the sponsor's promote, which is usually 20% of shares outstanding after the IPO and warrants or rights held by public SPAC shareholders as well as sponsors. Second, the completion of the transaction is outside of the private firm's control, and depends upon the shareholder vote of the SPAC. Further, SPAC investors can choose to redeem shares at the SPAC IPO price if they chose not to invest in the merged company, which reduces the cash available to complete the transaction. These factors increase the uncertainty of both the target firms' entry into the public market, and the total cash a target receives from the acquisition (Klausner et al. 2022). Third, the costs (including underwriter fees and money left on the table) of going public are higher when firms go public via a SPAC versus a traditional IPO. Gahng et al. (2021) provide evidence that the total cost of the median company going public via a SPAC merger

in their sample is 14.6% of the post-issue market cap as compared to only 3.2% for traditional IPOs. This is partly attributable to discounted capital that certain investors receive through the acquisition. For instance, the capital provided by private placement in public equity (PIPE) investors in a SPAC transaction can be at a discounted price, relative to the deal price (Damodaran 2021).[8]

2.2. Safe Harbor for Forward-Looking Statements

In 1995, Congress passed the Private Securities Litigation Reform Act (PSLRA) to curtail abusive litigation that hindered firm managers' ability to provide forecasting communications to the public market (Johnson et al., 2000). The PSLRA offers public companies a qualified safe harbor from liability for forward-looking statements.[9] According to the PSLRA, if the company issues appropriate cautionary language and the FLS do not come to fruition, that company is not held liable unless they knowingly communicated a falsehood. This legislation introduced increased hurdles for a plaintiff wishing to sue an issuer, which in turn prompted more companies to provide FLS to the market (Johnson et al. 2001).

Based on their skepticism of the information integrity of speculative private firms, Congress decided to exclude IPOs from Safe Harbor. As a result, traditional IPO prospectuses in the U.S. tend to omit FLS entirely. Yet, the exclusion of IPOs from Safe Harbor bears significant consequences. Due to litigation concerns, managers may not provide prospective investors with quantitative details regarding expected future performance, which may influence investment

[8] PIPE is a method that allows the SPAC to raise certain additional capital from private investors to ensure that the SPAC has enough funds to close on the acquisition of a target company and/or to enable the SPAC to satisfy certain minimum cash conditions that are required by the target company.

[9] The PSLRA defines forward-looking statements as projections of revenues, income, or other financial items; management's plans and objectives for future operations (including products or services); and statements regarding future economic performance.

decisions. On a broader scale, firms may also be hindered in their capacity to raise capital given they are not able to explain their growth strategy.

SPACs offer a loophole for private companies that both want to go public and provide FLS. SPAC targets often include projections in investor presentations and proxy statements—the equivalent of an IPO prospectus—and argue that such projections are protected by Safe Harbor. Whether these protections apply to SPAC proxy statements is now up for debate.

In April 2021, John Coates, Acting Director of the SEC's Division of Corporate Finance, published a statement addressing the rise of SPACs. Coates maintained, "In simple terms, the PSLRA excludes from its safe harbor IPOs, and that phrase may include de-SPAC transactions. That possibility further calls into question any sweeping claims about liability risk being more favorable for SPACs than for conventional IPOs." On May 24th, 2021, the U.S. House Committee on Financial Services received draft legislation to exclude all SPACs from the safe harbor exemption for forward-looking statements (House Financial Services Committee, 2021).

3. Sample and data

3.1. Sample Selection

We use SPAC Analytics to gather our sample of 175 SPACs that merged with a private company through a de-SPAC transaction between January 1, 2010 and December 31, 2020.[10] We begin our sample period in 2010 to coincide with the start of the most recent SPAC regime, referred to as 'SPAC 3.0' (Gahng et al. 2021). To study the effect of FLS on a de-SPAC merger, we exclude transactions (1) that merged multiple target firms into one (11 obs.), (2) where the SPAC was delisted before the merger effective date due to non-compliance with minimum shareholder requirements (six obs.), (3) where the SPAC is listed only on the OTC Market (eight

[10] SPAC Analytics is the leading provider of SPAC data and research to portfolio managers and investment banks since 2007 (https://www.spacanalytics.com/index.php?link=info_serv_desc)

obs.), and (4) with missing data from CRSP (three obs.). Last, we exclude de-SPAC transactions with target firms in the biotech industry, identified by SIC codes 8731 and 8733 (five obs.). We implement the last restriction because biotech firms rarely provide projections since their investors focus mainly on product pipeline disclosures in IPO prospectuses (i.e., Guo, Lev, and Zhou 2004).[11] These steps result (summarized in Table 1 Panel A) in an initial sample of 142 observations.

Given our focus on the consequences of FLS in SPAC transactions, we first examine the frequency of different FLS measures provided by de-SPAC targets in investor presentations.[12] Panel B of Table 1 reports their distribution. Our hand-collected data yields a greater proportion of FLS (90% of observations) than documented in Blankespoor et al. (2021) (80% of observations) and Chapman et al. (2021) (60% of observations). Out of the initial sample of 142 transactions, 121 transactions (85.2%) provide revenue forecasts, 97 transactions (68.3%) provide EBITDA or adjusted EBITDA forecasts, 37 transactions (26.1%) provide capital expenditures forecasts, 32 transactions (22.5%) provide profit margin forecasts, and 19 transactions (13.4%) provide net income forecasts. Because revenue forecast is the most common and comparable measure disclosed in investor presentations, we limit our sample to de-SPAC transactions that provide revenue forecasts.

In Panel A of Table 2, we report the number of completed de-SPAC mergers by year. Given the recent surge in SPACs' popularity, the majority of our sample's transactions are

[11] Similar to Willenborg, Yang, and Wu (2015) and Dambra, Field, and Gustafson (2015), we conduct our analyses with and without biotech firms in our sample. Only one of the five SPAC merger biotech targets provides revenue projections. Our results and inferences are unchanged if we retain biotech observations and instead include a biotech industry indicator in our multivariate regressions.

[12] There are two deals in our initial sample of 142 deals that do not file an investor presentation. For these transactions, we collect FLS data from merger proxy statements and use the merger proxy statement filing date as the event date. Our results are unchanged if we remove these two observations from our sample.

concentrated in the years 2018–2020 (74%). Panel B of Table 1 reports the 12 Fama-French industry classification for the completed mergers in our sample. Although the target companies represent a range of industries, 56.2% of them are in either the computers, software, and electronic industry (25.6%), the finance industry (17.4%), or the wholesale, retail, and services industry (13.2%).

3.2. Empirical Approach and Variable Definitions

We are interested in understanding the capital market consequences of FLS. To do so, we deploy the following empirical design using a linear probability model (LPM):

$$[SPAC\ Outcome_{it}] = \alpha_1 Revenue\ CAGR_i + \sum Controls + \psi_i + \varphi_t + \varepsilon_i \qquad (1)$$

The FLS measure that has generated the most attention from the popular press is forecasted revenue.[13] For a consistent measure across firms, we focus our analysis on the compounded annual growth rate of the revenue projections included in investor presentations (*Revenue CAGR*). Compounded annual growth rates are commonly used in practice for valuation, especially in assessing the reasonableness of long-term projections for young, growth firms (Damodaran 2006). We compute *Revenue CAGR* as

$$Revenue\ CAGR = \left(\frac{Revenue_n}{Revenue_1}\right)^{1/n} - 1 \qquad (2)$$

where *n* is the total number of years forecasted, $Revenue_1$ is the revenue forecast for the first fiscal year after the merger, and $Revenue_n$ is the revenue forecast for the last projected year. When $Revenue_1$ is equal to zero, we replace the value with one. The average (median) *Revenue CAGR* in our sample is 71% (28%), and revenues are projected for 3.1 (3) years, on average (at the

[13] For instance, Brown (2021) notes that "It took Google eight years to reach $10 billion in sales, the fastest ever for a U.S. startup. In the current SPAC frenzy, a spate of electric-vehicle companies planning listings are vowing to beat its record—in some cases by several years."

median). Given the skewness of the Revenue CAGR distribution, we follow Even-Tov (2017) and normalize the Revenue CAGRs by converting them into quartile ranks. To compute *Revenue CAGR Quartile*, we first sort observations into quartiles numbered 0 to 3 by *Revenue CAGR*. Then, we divide the quartile ranks by 3 to achieve scaled ranks ranging from 0 to 1.

We explore four *[SPAC Outcomes]* and their relation to the revenue forecasts disclosed by the SPAC target. As our first SPAC outcome, we use data from *Compustat* to compute forecast bias. When *Compustat* data is missing, we hand collect revenue data from 10-K filings. In Eq. 1, we measure *Forecast Bias* as the difference between firm *i*'s forecasted revenue and its actual revenue scaled by actual revenue for the first (year *t*) and second (year *t+1*) fiscal year after merger completion.

Our second measure examines the market response to revenue forecasts disclosed in investor presentations, which is computed as the market-adjusted cumulative abnormal return over the five-day window surrounding the investor presentation filing date (*IP_CAR)*, using stock price data from *CRSP*. Third, we measure abnormal retail and institutional trading over the five-day window surrounding the investor presentation filing date. We follow Boehmer et al. (2021) to identify retail trades as trades in TAQ with exchange code 'D' executed at prices just above or below a round penny.[14] Following Bushee et al. (2020), we identify large trades as those over $50,000. To measure abnormal trading volume, we follow Blankespoor et al. (2018) and compute *AbnRetailVol (AbnLargeVol)* as the SPAC's daily average retail (large) shares traded over days [-2,+2] surrounding the investor presentation filing date divided by total shares outstanding, minus the firm's trailing average of the same measure over days [-41,-11].

[14] Retail trades are often filled internally by a broker rather than on registered exchanges. When this occurs, the trade is assigned an exchange code 'D' by TAQ. The broker will typically give a small amount of price improvement over the existing best bid or offer, so retail purchase orders can be identified as trades with exchange code 'D' and prices just below a round penny.

Finally, to examine the long-run performance of target firms after merger completion and its association with revenue forecasts, we follow Lowry et al. (2017) and measure long-run performance over six-, 12-, and 24-month periods after the merger effective date as the raw buy-and-hold return adjusted for the return of an equal-weighted portfolio of 20 firms with the closest size and book-to-market that were traded on the NYSE, Nasdaq, or AMEX for at least five years ($BHAR_t$). We measure long-term performance from the merger effective date, rather than the merger announcement date, to have a consistent return measure across observations that exclusively captures the target's performance.[15] We match firms to a portfolio of twenty firms rather than a single firm to reduce noise.[16]

In terms of control variables in Eq. 1, we collect deal characteristics such as *Deal Value*, *Relative Size*, the ratio of deal value to acquirer market value of equity, and merger announcement and completion dates from the Securities Data Company (*SDC*) Platinum. Following prior literature (e.g., Dimitrova 2017), we hand collect several SPAC deal characteristics, *Deferred Fees*, an indicator equal to one if a portion of underwriter fees are deferred until de-SPAC completion, *CEO From Target (Sponsor)* and *Chairman From Target (Sponsor)*, an indicator equal to one if the CEO or Chairman of the newly formed company is from the target (sponsor), and *Target (SPAC) Ownership*, the percentage of shares outstanding of the newly-formed company owned by target (SPAC) shareholders from Form DEFM 14A (proxy statements), Form S-4 (joint proxy/prospectus), and firm press releases.[17] To control for unobservable heterogeneity

[15] If we instead utilize the merger announcement period as a starting point, our fixed time period long run returns will incorporate a mix of the SPAC's performance and the merged company's performance differently across each SPAC transaction. Thus, the returns would not be comparable across our sample.

[16] Lowry et al. (2017) note that matching the returns to a portfolio reduces the noise from a one-to-one match. In Appendix II, we show that our results are similar when we use raw returns and alternative measures of market returns (e.g. value-weighted size and book-to-market matched portfolio and Russell 2000 index).

[17] See Appendix I for more detailed variable definitions.

across industries and over time we include Fama-French 12 industry- and year-fixed effects (ψ_i and ϕ_t, respectively). We winsorize all non-return continuous variables at 1% and 99%.[18] Standard errors in all regressions are clustered at the year-quarter level.

3.3. Descriptive Statistics

Table 3 shows descriptive statistics for the 121 de-SPAC transactions that provided revenue forecasts. The mean (median) *Forecast Bias* in year *t* (*t+1*) is equal to 0.614 (0.782). The mean (median) market reaction to the investor presentation (*IP_CAR)* is 4.6% (1.0%). The mean value of *AbnRetailVol* over the five-day investor presentation filing date window is 0.6% of shares outstanding, while the mean value of *AbnLargeVol* over the five-day investor presentation filing date window is 1.8% of shares outstanding.

Our long-run performance measures show that SPAC firms, on average, underperform a matched portfolio over six-, 12- and 24-month horizons. Specifically, the mean (median) buy-and-hold abnormal returns are -26.2% (-28.1%), -31.5% (-45.8%), and -61% (-74.7%) over the six, 12, and 24 months post-effective date, respectively. The average market value of equity for SPACs, measured as of the merger announcement date, is $284 million; the average transaction value is $863 million; and the average *Time To Acquisition* is 16 months.[19] Figure 2 presents the decomposition of the *Time to Acquisition* between: the SPAC IPO date and the merger announcement date (10.9 months, on average), the merger announcement date on the proxy statement date (1.5 months, on average), and the proxy statement and merger effective date (3.2 months, on average).

[18] Given the skewness of forecast outcomes (Abarbanell and Lehavy, 2003), we winsorize all forecast-level variables at the 2.5% and 97.5% level (Dambra, Field, Gustafson, and Pisciotta, 2018).

[19] In contrast to Dimitrova (2017), whose sample spans 2003–2010, the SPAC sponsors in our sample of post-2010 deals are less involved in management of the newly-formed company. Specifically, in our sample [Dimitrova (2017)], the chief executive officer (CEO) comes from the SPAC sponsor in only 5.8% [29.6%] of deals, and the chairman comes from the SPAC sponsor in only 30.6% [52.1%] of deals.

4. Results

4.1 Revenue Forecasts Bias

To begin our empirical analysis, we examine actual revenue realizations to (1) corroborate the findings in Blankespoor et al. (2021) that revenue forecasts are biased overall and (2) to determine whether the level of forecast bias is increasing in *Revenue CAGR*. Out of the 121 observations in our sample of de-SPAC mergers that provided revenue forecasts, we are able to collect actual revenue in the first (second) fiscal year after merger completion for 83 (68) observations.[20] Again, we measure the *Forecast Bias* in year *t* as:

$$Forecast\ Bias_t = \frac{(Forecasted\ Revenue_t - Actual\ Revenue_t)}{Actual\ Revenue_t}. \quad (3)$$

Using this measure, we investigate whether de-SPAC mergers with high revenue projections are systematically more biased. To facilitate interpretation of our main variable of interest, *Revenue CAGR Quartile*, we convert the revenue forecast quartile into scaled ranks, which vary from 0 to 1.

Panel A of Table 4 presents the average *Forecast Bias* in year *t* and year *t+1* for each *Revenue CAGR* quartile. For both years *t* and *t+1* projections, *Forecast Bias* is larger for the highest *CAGR Quartile* than the lowest *CAGR Quartile*, and the difference between the highest and lowest *CAGR Quartile* is statistically significant. Specifically, *Forecast Bias* for the highest *CAGR Quartile* is greater than *Forecast Bias* for the lowest *CAGR Quartile* by 1.622 (2.702) in year *t* (year *t+1)*. These univariate results corroborate the univariate evidence in Blankespoor et al. (2021) that higher growth revenue forecasts are more biased.

Next, we determine whether *Revenue CAGR Quartile* has incremental power in

[20] Since many of the transactions in our sample completed in 2020 (45.5%), our sample for this analysis is more limited.

predicting *Forecast Bias* in our regression specification. Thus, the coefficient on *Revenue CAGR Quartile* (α_1) in Eq, 1 can be interpreted as the difference in *Forecast Bias* between the highest and lowest *Revenue CAGR Quartile*, after controlling for other factors. Columns 1 - 3 (4 - 6) of Panel B of Table 4 report the relation between *Revenue CAGR Quartile* and *Forecast Bias* in the first (second) year following the SPAC acquisition closure. Across each specification, we observe that firms with higher revenue growth projections (in terms of CAGRs) are more likely to miss their forecasted revenue projections in the first two years following acquisition. The relationship between revenue CAGRs and revenue forecast bias holds in a simple regression (Cols. 1 and 4), a multivariate regression with deal controls (Cols. 2 and 5), and in a multivariate specification with controls from Dimitrova (2017) (Cols. 3 and 6). Our results thus far suggest that higher CAGR projections are more likely to be optimistically biased. Yet, it is unclear whether investors react to, and suffer losses as a result of, these optimistic forecasts. In other settings where firms are incentivized to bias information, investors are able to disentangle the bias or expect the bias ex ante. For instance, Shivakumar (2000) finds that investors expect and rationally undo earnings management around seasoned equity offerings. This insight may transfer to the SPAC setting, where the bias manifests through projected financials rather than earnings management. Thus, whether investors are harmed by SPAC forecasts is an unanswered empirical question.

4.2 Investor Reaction to Revenue Forecasts

We next examine whether investors find the revenue forecasts disclosed in the investor presentations informative. We focus on the relationship between Revenue CAGRs and market returns in the five-day window surrounding the SPAC merger announcement, centered on the date

of the 8-K filing.[21] Table 5, Panel A presents the univariate analysis of average *IP CAR* by Revenue CAGR quartile. We find that the average abnormal stock return is 11.0% for the highest quartile and 2.0% for the lowest quartile, representative of a significant difference of 9.0 percent. These findings demonstrate that FLS provide valuable information to investors.

We test the association between investor responses and revenue forecasts more vigorously by using the regression specification in Eq. 1. As seen in Column 1 of Table 5, Panel 1, where we do not include any controls, the coefficient on *Revenue CAGR Quartile* (α_1) is significantly positive. The results remain qualitatively unchanged when we add a host of merger-specific control variables in Column 2, as well as SPAC and private firm characteristics employed by Dimitrova (2017) in Column 3. In terms of economic significance, after controlling for SPAC and private firm characteristics (Column 3), the *IP CAR* for the highest *Revenue CAGR Quartile* is larger than the lowest *Revenue CAGR Quartile* by 10.7%. Overall, our evidence suggests that the revenue forecasts disclosed by SPAC targets are value-relevant to investors beyond the merger announcement itself. Investors find SPAC target forecasts informative and do not appear to unwind the optimism contained in the revenue forecasts, despite the *ex ante* known incentives to providing optimistic FLS. Our finding that investors find FLS informative is consistent with evidence from the M&A literature that valuation-based information such as fairness opinions are informative above and beyond merger announcements (Cain and Denis, 2013).

4.3 Who Reacts to Revenue Forecasts?

Our previous analysis indicates that investors find FLS included in SPAC targets' investor presentations value relevant, on average. Regulators have voiced concern about the potential for

[21] We use a five-day return window [-2,+2] given that (1) firms have up to four business days to file an 8-K following a triggering event such as a merger announcement, though they rarely wait the maximum number of days (Cheng, De Franco, Jiang, and Lin, 2019) and (2) merger-related news tends to leak prior to formal announcements (Schwert 1996).

such disclosures to mislead unsophisticated investors (Lee 2021). To examine whether revenue forecasts play a role in certain investors' investment decisions, we explore whether retail and/or institutional investors are more likely to purchase SPAC shares coincident with the five-day window surrounding the disclosure of the SPAC acquisition (and the related investor presentation) as a function of the *Revenue CAGR Quartile*. We examine this descriptively in Panel A of Table 6. In Column 2 of Panel A, we observe that our measure of abnormal retail trading in the 5-trading day investor presentation filing date window, *AbRetVol*, increases significantly when we move from the lowest *Revenue CAGR Quartile* (0.0004) to the highest *Revenue CAGR Quartile* (0.017). The difference in *AbRetailVol* between the high and low *Revenue CAGR Quartile* is statistically significant (p-value < 0.05). In contrast, Column 3 of Panel A does not provide evidence to suggest that institutional investors differentially engage in abnormal SPAC share trading as a function of expected revenue growth.

We find similar evidence in our multivariate specifications in Panel B of Table 6. As revenue (CAGR) projections increase, we observe that retail investors are more likely to trade SPAC shares. This evidence holds in a simple regression in Column 1, the deal characteristic multivariate regression in Column 2, and Dimitrova (2017) multivariate regression in Column 3. The coefficient on *Revenue CAGR Quartile* in Column 3 implies that *AbRetVol* is higher by 0.014 for the highest *Revenue CAGR Quartile* relative to the lowest *Revenue CAGR Quartile.* We fail to observe a relation between *Revenue CAGR* and institutional investor SPAC share purchases in Columns 4 through 6 of Panel B. Collectively, our evidence in Tables 5 and 6 suggests that while investors find the revenue forecasts informative as part of the SPAC acquisition disclosures, they appear to capture the attention of retail investors more so than institutional investors. This suggests

differential abilities of investors to unwind the expected biases in FLS disclosed as part of SPAC acquisitions.

4.4 Long-term Post-Merger Stock Returns

Our results thus far suggest that the capital market responds favorably to more positive forecasted revenue growth at the merger announcement, and that such disclosures capture the attention of retail investors. Thus, FLS may be deployed as a tool to communicate a firm's growth strategy rather than a realistic expectation of future cash flows. To better understand whether investors are misled by FLS in the SPAC setting, we calculate the buy-and-hold abnormal returns for 6, 12, and 24 months following the merger date announcement within each *Revenue CAGR Quartile*.[22,23] Table 7, Panel A presents the univariate results of this analysis. Panel A Column 1 shows the average abnormal stock return over the succeeding six-month period is -43.2% for the highest quartile and -9.7% for the lowest quartile. The difference between the BHAR for the highest and lowest quartiles is a significant -33.5 percent. Similarly, the difference between the BHAR for the highest and lowest quartiles is a significant -64.3% and -91.8% over the succeeding 12- (Column 2) and 24- (Column 3) month periods, respectively.[24] Figure 3 provides illustrative evidence that high revenue quartiles underperform low revenue quartiles. These findings support the negative association between the revenue CAGR forecasts and the target's post-merger stock price.

Using Eq. 1, we next explore whether the Revenue CAGR has incremental predictive

[22] Given our aforementioned evidence of higher revenue growth leading to higher initial returns and missing revenue projections, our long-run return tests are one-tailed.

[23] We collect returns from *CRSP* through June 2021 to increase our long-term sample. As such, our sample for this test consists of 121 targets in the 6-month period, 81 targets in the 12-month period, and 55 targets in the 24-month period.

[24] In Appendix II, we show that when assessing the Wilcoxon-Rank differences in long-term stock performance between our *Revenue CAGR Quartiles* using median stock performance, our results are qualitatively similar.

power over a set of deal and SPAC characteristics that have been identified in prior literature as indicative of long-term performance.[25] In addition to the control variables used in Eq. 1, we control for the level of institutional ownership given the documented relation between institutional holdings and stock returns (e.g., Sias, Starks, and Titman, 2005; Dimitrova 2017). Table 7, Panel B presents the results from estimating Eq. 1. As seen in columns 1, 4, and 6, the coefficient on the CAGR quartile (α_1) is significantly negative before the inclusion of controls for the 6-, 12-, and 24-month periods following the merger completion, respectively. These results are qualitatively unchanged when we add our set of basic control variables (Columns 2, 5, and 8). We continue to find a statistically significant, albeit weaker, negative relation between the *Revenue CAGR Quartile* when we add our full complement of control variables used in prior studies (Column 3, 6, and 9). In terms of economic significance, we find that after controlling for deal and SPAC characteristics, buy-and-hold abnormal returns for the highest *Revenue CAGR Quartile* are lower than returns for the lowest *Revenue CAGR Quartile* by 16.7% at the 6-month horizon, 40% at the 12-month horizon, and 89.3% at the 24-month horizon.[26] Overall, our evidence echoes concerns raised by the media and by Congress that retail investors are misled by FLS in de-SPAC mergers (Glick 2021, HCFS 2021).

5. Conclusion

In our examination of the characteristics and capital market consequences of de-SPAC revenue forecasts, we provide novel evidence that the safe harbor-protected FLS in SPAC acquisitions are overly optimistic and misleading to uninformed investors. Specifically, we show

[25] In columns 7-8 of Table 7 Panel B, *I(CEO From Sponsor)* is removed from the regression due to insufficient variation.

[26] In Appendix II, we find that the results remain qualitatively unchanged when we re-estimate *BHAR* using a value-weighted portfolio of 20 mature firms matched on size and book-to-market, when we re-estimate *BHAR* using the Russell 2000 as a benchmark, and using raw returns.

that companies that provide high revenue forecasts in their investor presentations attract significantly more retail investor attention and that these same firms underperform in the long term.

Our evidence that retail investors are disproportionately hurt by SPACs' Safe Harbor protection is worrisome and merits the SEC's attention, given their objective to protect Main Street investors (Even-Tov, Patatoukas, and Yoon 2021). Our study is especially timely considering that on May 24th, 2021, the U.S. House Committee on Financial Services received draft legislation to exclude all SPACs from the safe harbor exemption for FLS.

We do not advocate that providing FLS should be entirely prohibited for de-SPAC targets. These firms may need to leverage forecasts in order to illustrate their growth story and go public, and investors may benefit from gaining access to such companies in their investment portfolio. Therefore, we leave a more holistic assessment of FLS's effect on investors' stock portfolios to future researchers.

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Figure 1
Traditional IPO and SPAC IPO Counts and Proceeds 2010-2020

This figure shows the total number of and total amount raised by all special purpose acquisition companies (SPAC) and traditional initial public offerings (Traditional IPO) in the U.S. between January 1st, 2010 and December 31st, 2020. (Sources: SDC Platinum and SPAC Analytics)

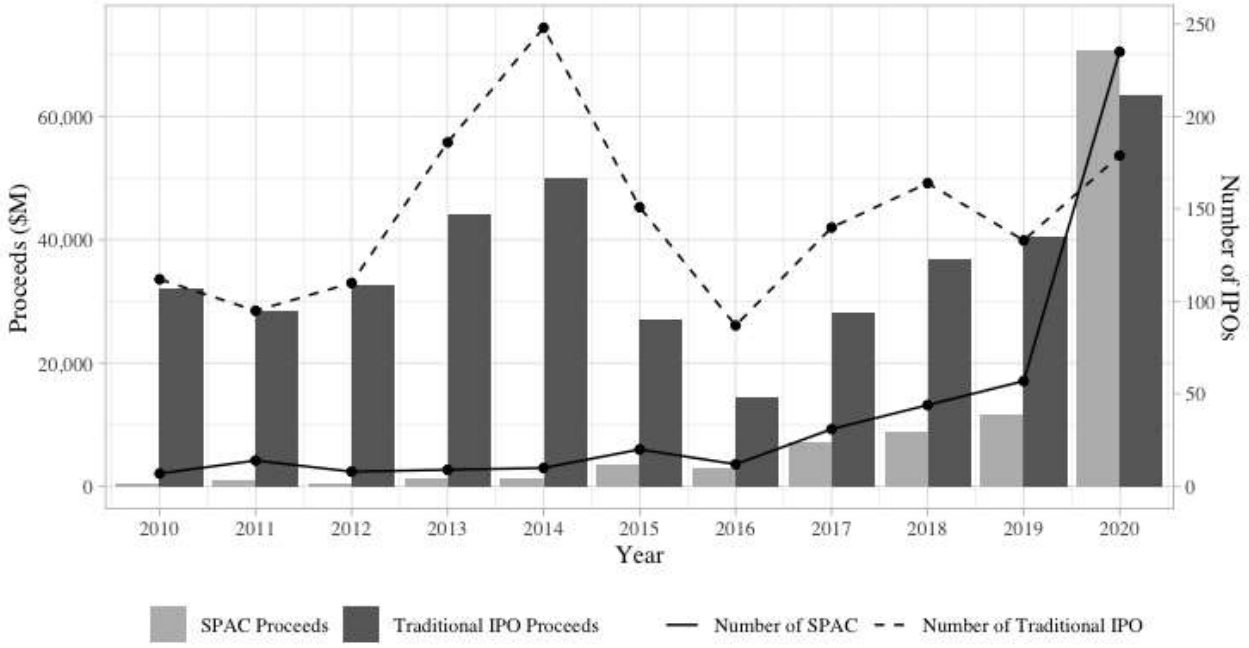

Figure 2
A Typical SPAC Timeline

This figure provides a timeline of the de-SPAC process. SPACs, often referred to as "blank-check companies", go public by raising capital from investors through a traditional initial public offering (IPO). Funds raised via the SPAC IPO are held in a trust until the SPAC management finds a target. Generally, SPACs are given 18 – 24 months to search for a suitable target and execute the merger. Once a formal merger agreement has been made, the merger announcement is publicly disclosed in a Form 8-K. In most cases, investor presentations are attached to the announcement 8-K or filed separately in the next 2 days. Investor presentations may include financial projections and historical financial data for specific line items such as revenue or EBITDA, but very rarely include full financial statements. Next, in most cases, SPACs disclose proxy statements (Form PRE 14A, PREM 14A, S-4, F-4, or DEFM 14A), which contain information required by the SEC, including historical financial statements for the target company. Following the filing of the proxy statement, SPAC investors vote to either accept or reject the SPAC's merger with the target. If approved by shareholders, the merger is executed and the target company becomes public – often called de-SPAC transaction. If SPACs fail to find acquisition target or the merger is rejected by SPAC shareholders, the capital raised is returned to the investors.

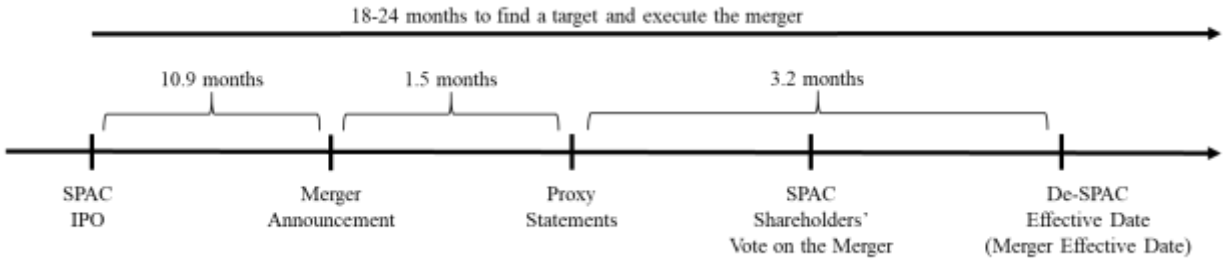

Figure 3
Buy-and-Hold Abnormal Returns by Revenue CAGR Quartile

This figure presents the buy-and-hold abnormal returns for portfolios formed on *Revenue CAGR Quartile* up to 24 months after the de-SPAC merger effective date for our sample of 121 de-SPAC mergers between January 1st, 2010 and December 31st, 2020. Abnormal returns are measured using a matched portfolio of 20 mature firms with the closest size and book-to-market.

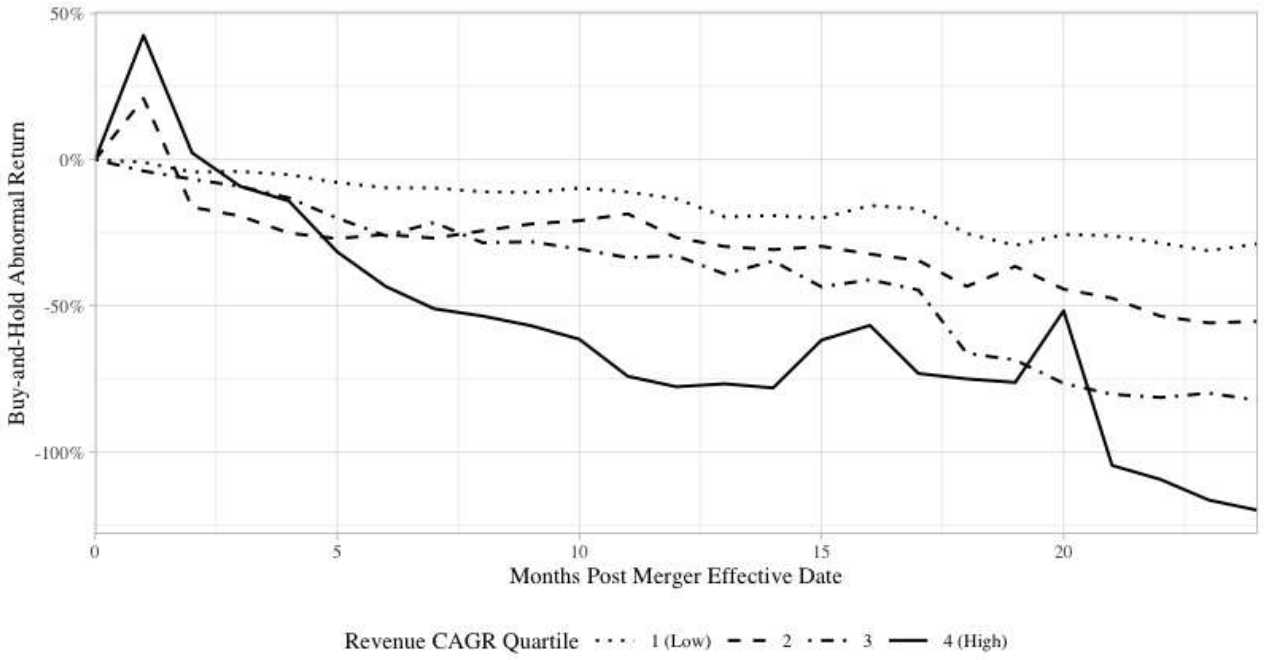

Table 1
Sample Construction

Panel A provides details on the construction of our initial sample of de-SPAC mergers. Panel B provides descriptive statistics on the frequency of forward-looking-statements (FLS) for various financial statement line items in de-SPAC target investor presentations.

Panel A: Initial Sample Construction

	Number of Observations
All SPACs completing de-SPAC mergers between 01/01/2010-12/31/2020	175
Less:	
de-SPAC mergers with multiple targets	(11)
de-SPAC mergers that delist before merger effective date due to non-compliance with minimum shareholder requirements	(6)
de-SPAC mergers that trade on the OTC Market	(8)
de-SPAC mergers that are missing from CRSP	(3)
de-SPAC mergers with biotech targets	(5)
Initial sample	142

Panel B: Frequency of Forward-Looking Statements

	Revenue	**EBITDA or Adj. EBITDA**	**Capital Expenditures**	**Profit Margin**	**Net Income**	**At Least One FLS Measure**
Number of Observations	121	97	37	32	19	128
Percent of Initial Sample	85.2%	68.3%	26.1%	22.5%	13.4%	90.1%

TABLE 2
Sample Distribution by Year and Industry

This table reports the sample distribution of 121 de-SPAC mergers with revenue FLS between January 1st, 2010 and December 31st, 2020. Panels A and B present the distribution by merger year and by the 12 Fama-French industry classification, respectively.

Panel A: Merger year

Industry	Number of observations	% of sample
2010	2	1.7%
2011	1	0.8%
2012	1	0.8%
2013	3	2.5%
2014	3	2.5%
2015	5	4.1%
2016	8	6.6%
2017	8	6.6%
2018	18	14.9%
2019	17	14.0%
2020	55	45.5%
Total	121	100.0%

Panel B: Target industry

Industry	Number of observations	% of sample
Consumer Nondurables	7	5.8%
Consumer Durables	5	4.1%
Manufacturing	6	5.0%
Oil, Gas, and Coal Extraction Products	4	3.3%
Chemicals and Allied Products	2	1.7%
Computers, Software and Electronics	31	25.6%
Telephone and Television Transmission	2	1.7%
Utilities	2	1.7%
Wholesale, Retail and Services	16	13.2%
Healthcare, Medical Equipment and Drugs	4	3.3%
Finance	21	17.4%
Other	21	17.4%
Total	121	100.0%

Table 3
Summary Statistics

This table provides descriptive statistics for our sample of 121 de-SPAC mergers between January 1st, 2010 and December 31st, 2020. All variables are defined in Appendix I.

Variable	Obs	Mean	SD	min	p25	p50	p75	max
Forecast Bias Analysis								
Forecast $Bias_t$	83	0.614	2.137	-0.855	-0.053	0.016	0.193	10.200
Forecast $Bias_{t+1}$	68	0.782	2.559	-0.560	-0.099	0.070	0.358	13.424
IP Window								
IP CAR	121	0.046	0.132	-0.098	-0.007	0.009	0.046	1.01
AbnRetailVol	113	0.006	0.019	-0.0003	0.00001	0.001	0.001	0.116
AbnLargeVol	113	0.018	0.022	-0.013	0.002	0.012	0.028	0.101
Long-Run Performance								
$BHAR_6$	121	-0.262	0.456	-1.215	-0.581	-0.281	0.052	1.193
$BHAR_{12}$	81	-0.315	0.757	-1.975	-0.780	-0.458	-0.022	2.469
$BHAR_{24}$	55	-0.610	0.618	-1.468	-1.067	-0.747	-0.376	1.137
SPAC Characteristics								
Revenue CAGR	121	0.710	1.239	0.032	0.120	0.280	0.620	6.366
# of Projected Years	121	3.112	1.739	1	2	3	4	10
Institutional Ownership	121	0.335	0.284	0	0.070	0.284	0.541	0.942
I(Cash Deal)	121	0.074	0.263	0	0	0	0	1
Relative Size	121	3.083	2.243	0.187	1.552	2.603	3.803	12.146
MVE	121	284.01	214.75	28.317	109.73	248.75	369.18	1106.8
ln(MVE)	121	19.177	0.805	17.088	18.514	19.332	19.727	20.823
Deal Value	121	862.80	909.91	23.000	264.4	520.9	1100.0	4700
ln(Deal Value)	121	6.232	1.120	3.134	5.577	6.256	7.003	8.446
Target Liquidity Index	121	0.010	0.020	0.0001	0.002	0.006	0.010	0.125
Time To Acquisition	121	458.79	201.62	66	313	463	595	1052
I(Deferred Fees)	121	0.851	0.357	0	1	1	1	1
SPAC Ownership	121	0.381	0.198	0.076	0.240	0.370	0.550	0.880
Target Ownership	121	0.532	0.214	0.060	0.40	0.540	0.710	0.908
I(Chairman From Target)	121	0.645	0.481	0	0	1	1	1
I(Chairman From Sponsor)	121	0.306	0.463	0	0	0	1	1
I(CEO From Target)	121	0.926	0.263	0	1	1	1	1
I(CEO From Sponsor)	121	0.058	0.234	0	0	0	0	1

Table 4
Revenue CAGR and Forecast Bias

This table reports the analysis of forecast bias for our sample of 82 (67) de-SPAC mergers with non-missing *Forecast Bias$_t$ (Forecast Bias$_{t+1}$)* between January 1st, 2010 and December 31st, 2020. *Forecast Bias$_t$* (*Forecast Bias$_{t+1}$*) is computed as the difference between forecasted revenue and actual revenue, scaled by actual revenue in year *t* (year *t+1*). Panel A reports the average *Forecast Bias$_t$* and *Forecast Bias$_{t+1}$* for each quartile of Revenue CAGR. *t-statistics* are calculated using the difference in *Forecast Bias$_t$* and *Forecast Bias$_{t+1}$* between the highest and lowest quartiles. Panel B reports OLS regressions of *Forecast Bias$_t$* in columns (1)-(3) and *Forecast Bias$_{t+1}$* in columns (4)-(6) on *CAGR Quartile* and controls. To compute *CAGR Quartile*, observations are sorted into quartiles by Revenue CAGR, numbered 0 to 3. This rank is divided by 3, resulting in scaled ranks ranging from 0 to 1. All explanatory variables are defined in Appendix I. Year and industry fixed effects are included. *t-statistics* in parentheses are based on standard errors clustered by year-quarter. ***, **, and * denote significance at the 1%, 5% and 10% levels for two-tailed tests, respectively.

Panel A: Univariate analysis

Revenue CAGR Quartile	**Number of observations**	**Forecast Bias Year t**	**Number of observations**	**Forecast Bias Year t+1**
	(1)	(2)	(3)	(4)
1 (Low)	21	0.142	17	-0.018
2	21	0.274	17	0.482
3	20	0.355	17	0.176
4 (High)	20	1.764	16	2.684
4 (High) – 1 (Low)		1.622*		2.702**
(t-statistic)		(1.874)		(2.352)

Panel B: Multivariate analysis

	Forecast Bias Year t			Forecast Bias Year t+1		
	(1)	(2)	(3)	(4)	(5)	(6)
Revenue CAGR Quartile	1.850** (2.28)	1.768* (1.70)	2.573** (2.56)	3.256* (2.01)	2.550** (2.23)	2.753** (2.44)
I(Cash Deal)		1.642	0.073		2.288	2.528
		(0.91)	(0.05)		(0.92)	(1.13)
Relative Size		-0.214**	-0.076		-0.33*	-0.331
		(-2.48)	(-0.79)		(-1.68)	(-1.63)
ln(MVE)		-0.579*	-0.656*		-0.346	-0.272
		(-1.81)	(-1.88)		(-0.57)	(-0.42)
ln(Deal Value)		0.529	-0.021		0.351	0.13
		(1.61)	(-0.09		(0.59)	(0.21)
Target Liquidity Index		-7.025	-16.359		62.605**	66.732***
		(-0.64)	(-1.43)		(2.50)	(2.77)
Time To Acquisition			-0.007***			0.004
			(-3.16)			(0.51)

Time To Acquisition^2			0.00**			0.00
			(2.62)			(-0.66)
I(Deferred Fees)			0.790			0.882
			(0.77)			(0.63)
SPAC Ownership			-1.398			-1.892
			(-0.35)			(-0.49)
Target Ownership			-1.476			1.691
			(-0.39)			(0.42)
I(Chairman From Target)			-1.126			-2.014
			(-1.18)			(-1.37)
I(Chairman From sponsor)			1.120			0.202
			(1.09)			(0.235)
I(CEO From Target)			3.933			
			(1.55)			
I(CEO From Sponsor)			4.399*			-0.195
			(1.68)			(-0.18)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	-0.087	-0.075	-0.007	-0.075	0.23	0.327
Observations	82	82	82	67	67	67

Table 5
Average Investor Presentation Stock Returns by Quartile of CAGR Revenue

This table reports the results of the market response to investor presentation filings for our sample of 121 de-SPAC mergers between January 1st, 2010 and December 31st, 2020. Panel A reports the average market-adjusted cumulative abnormal return over the 5-day window surrounding the investor presentation filing date for each quartile of Revenue CAGR. To compute *CAGR Quartile*, observations are sorted into quartiles by Revenue CAGR, numbered 0 to 3. This rank is divided by 3, resulting in scaled ranks ranging from 0 to 1. *t-statistics* are calculated using the difference in cumulative abnormal returns between the highest and lowest quartiles. Panel B reports OLS regressions of the market-adjusted cumulative abnormal return over the 5-day window surrounding the investor presentation filing date on *Revenue CAGR Quartile* and controls. All explanatory variables are defined in Appendix I. Year and industry fixed effects are included. *t-statistics* in parentheses are based on standard errors clustered by year-quarter. ***, **, and * denote significance at the 1%, 5% and 10% levels for two-tailed tests, respectively.

Panel A: Univariate analysis

Revenue CAGR Quartile	**Number of observations**	**Average cumulative abnormal stock return (days -2,2)**
	(1)	(2)
1 (Low)	31	0.020**
2	30	0.023**
3	30	0.031*
4 (High)	30	0.110**
4 (High) – 1 (Low)		0.090**
(t-statistic)		(2.108)

Panel B: Multivariate analysis

	Average cumulative abnormal stock return (days -2,2)		
	(1)	(2)	(3)
Revenue CAGR Quartile	0.086**	0.108**	0.107**
	(2.31)	(2.43)	(2.05)
I(Cash Deal)		-0.032	-0.024
		(-0.85)	(-0.56)
Relative Size		0.020**	0.015*
		(2.50)	(1.81)
ln(MVE)		0.079**	0.073*
		(2.02)	(1.97)
ln(Deal Value)		-0.025	-0.015
		(-1.371)	(-0.84)
Target Liquidity Index		0.206	0.387
		(0.64)	(1.09)
Time To Acquisition			-0.000*

			(-1.77)
Time To Acquisition^2			0.000*
			(1.68)
I(Deferred Fees)			-0.004
			(-0.16)
SPAC Ownership			-0.083
			(-0.91)
Target Ownership			-0.036
			(-0.34)
I(Chairman From Target)			0.059
			(1.16)
I(Chairman From Sponsor)			0.049
			(1.18)
I(CEO From Target)			0.033*
			(1.77)
I(CEO From Sponsor)			0.060*
			(1.71)
Industry FEs	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes
Adjusted R^2	0.014	0.081	0.043
Observations	121	121	121

Table 6
Institutional and Retail Investor Trading around Investor Presentations

This table reports the results of retail and institutional trading during the 5-day window surrounding the investor presentation filing date for our sample of 112 de-SPAC mergers with non-missing TAQ data between January 1st, 2010 and December 31st, 2020. *AbRetailVol (AbLargeVol)* is calculated as the average retail (large) percentage of shares traded during the days [-2, +2] relative to the investor presentation filing date, minus the equivalent amount over days [-41, -11]. Panel A reports the average *AbRetVol* and *AbLargeVol* for each quartile of Revenue CAGR. *t-statistics* are calculated using the difference in *AbRetVol* and *AbLargeVol* between the highest and lowest quartiles. Panel B reports OLS regressions of *AbRetVol* in columns (1)-(3) and *AbLargeVol* in columns (4)-(6) on *CAGR Quartile* and controls. To compute *CAGR Quartile*, observations are sorted into quartiles by Revenue CAGR, numbered 0 to 3. This rank is divided by 3, resulting in scaled ranks ranging from 0 to 1. All explanatory variables are defined in Appendix I. Year and industry fixed effects are included. *t-statistics* in parentheses are based on standard errors clustered by year-quarter. ***, **, and ** denote significance at the 1%, 5% and 10% levels for two-tailed tests, respectively.

Panel A: Univariate analysis

Revenue CAGR Quartile	**Number of observations**	**Average IP Window *AbRetVol***	**Average IP Window *AbLargeVol***
	(1)	(2)	(3)
1 (Low)	29	0.0004	0.021
2	28	0.002	0.012
3	28	0.006	0.016
4 (High)	28	0.017	0.025
4 (High) – 1 (Low)		0.017**	-0.004
(t-statistic)		(2.767)	(0.529)

Panel B: Multivariate analysis

	Abnormal Retail Volume			Abnormal Large Volume		
	(1)	(2)	(3)	(4)	(5)	(6)
Revenue CAGR	0.013***	0.015***	0.014***	0.002	0.007	0.010
Quartile	(4.10)	(4.23)	(6.80)	(0.40)	(1.04)	(1.28)
I(Cash Deal)		-0.002	0.001		0.005	0.001
		(-0.35)	(0.10)		(0.89)	(0.11)
Relative Size		-0.00004	-0.001		0.003	0.004**
		(-0.13)	(-1.57)		(1.16)	(2.08)
ln(MVE)		0.004	0.003		0.007**	0.005
		(1.33)	(0.55)		(2.03)	(0.97)
ln(Deal Value)		0.003***	0.006***		0.003	0.002
		(4.62)	(4.00)		(0.66)	(0.89)
Target Liquidity Index		0.035	0.049		0.092	0.026
		(1.06)	(1.39)		(0.94)	(0.22)
Time To Acquisition			-0.00004*			0.00002
			(-1.74)			(0.78)

Time To Acquisition^2			0.00000			-0.000
			(1.58)			(-0.11)
I(Deferred Fees)			-0.002			0.004
			(-0.31)			(0.82)
SPAC Ownership			-0.005			-0.011
			(-0.53)			(-1.27)
Target Ownership			-0.005			-0.033*
			(-0.52)			(-1.69)
I(Chairman From Target)			0.017			0.006
			(1.66)			(0.82)
I(Chairman From sponsor)			0.009			0.008
			(1.52)			(1.19)
I(CEO From Target)			-0.006			0.025***
			(-0.73)			(3.10)
I(CEO From Sponsor)			-0.002			0.013
			(-0.25)			(1.33)
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.158	0.196	0.193	0.058	0.227	0.252
Observations	113	113	113	113	113	113

Table 7
Post-Merger Buy-and-Hold Abnormal Returns

This table reports the analysis of long-run performance for our sample of 121 de-SPAC mergers between January 1st, 2010 and December 31st, 2020. Buy-and-hold abnormal returns at 6-, 12-, and 24-month horizons post-merger effective date are computed as raw buy-and-hold returns adjusted for the buy-and-hold return of an equal-weighted portfolio of 20 mature firms with the closest size and book-to-market. Panel A reports the average buy-and-hold abnormal return over 6-, 12-, and 24-month horizons post-merger effective date for each quartile of Revenue CAGR. *t-statistics* are calculated using the difference in BHAR between the highest and lowest quartiles. Panel B reports OLS regressions of BHAR6 in columns (1)-(3), BHAR12 in columns (4)-(6), and BHAR24 in columns (7)-(9) on CAGR Quartile and controls. To compute CAGR Quartile, observations are sorted into quartiles by Revenue CAGR, numbered 0 to 3. This rank is divided by 3, resulting in scaled ranks ranging from 0 to 1. All explanatory variables are defined in Appendix I. Year and industry fixed effects are included. *t-statistics* in parentheses are based on standard errors clustered by year-quarter. ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively, for one-tailed tests for our variable of interest, Revenue CAGR Quartile, and two-tailed tests for all control variables.

Panel A: Univariate analysis

Revenue CAGR Quartile	6 Month	12 Month	24 Month
	(1)	(2)	(3)
1 (Low)	-0.097	-0.135	-0.282
2	-0.272**	-0.272	-0.546***
3	-0.251***	-0.329*	-0.830***
4 (High)	-0.432***	-0.778***	-1.200***
4 (High) – 1 (Low)	-0.335***	-0.643***	-0.918***
(t-statistic)	(-3.26)	(-3.428)	(-5.358)

Panel B: Multivariate analysis

	6 Month			12 Months			24 Months		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Revenue CAGR Quartile	-0.271*** (-3.24)	-0.173* (-1.46)	-0.167* (-1.57)	-0.525** (-2.34)	-0.393* (-1.30)	-0.400* (-1.66)	-0.681*** (-3.96)	-0.962*** (-3.75)	-0.893* (-1.54)
Institutional Ownership		0.290	0.324		0.136	0.352		-0.276	-0.040
		(1.62)	(1.42)		(0.37)	(0.55)		(-0.73)	(-0.08)
I(Cash Deal)		-0.121	-0.078		-0.257	-0.122		-0.383	-0.633*
		(-1.23)	(-0.56)		(-1.61)	(-0.37)		(-1.11)	(-1.87)
Relative Size		0.045	0.041		-0.047	-0.055		-0.008	0.127
		(0.70)	(0.59)		(-0.61)	(-0.71)		(-0.04)	(1.03)
ln(MVE)		0.222	0.255		-0.178	-0.055		0.066	0.458
		(0.88)	(0.99)		(-0.53)	(-0.16)		(0.11)	(0.74)
ln(Deal Value)		-0.131	-0.146		0.299	0.319		-0.154	-0.578
		(-0.60)	(-0.63)		(1.22)	(1.25)		(-0.26)	(-1.04)
Target Liquidity Index		-2.174	-1.121		0.624	3.62		0.537	3.392
		(-1.22)	(-0.57)		(0.39)	(0.94)		(0.12)	(0.52)
Time To Acquisition			-0.001***			-0.003			-0.006**
			(-3.73)			(-1.65)			(-2.76)
Time To Acquisition^2			0.000***			0.000			0.000**
			(3.71)			(1.64)			(2.65)
I(Deferred Fees)			-0.041			-0.068			-0.273
			(-0.21)			(-0.13)			(-0.71)
SPAC Ownership			0.126			0.335			1.481
			(0.38)			(0.49)			(1.61)
Target Ownership			0.141			0.738			0.681
			(0.51)			(0.70)			(0.62)
I(Chairman From Target)			-0.265**			0.135			-0.817
			(-2.52)			(0.28)			(-0.98)
I(Chairman From Sponsor)			-0.326***			-0.134			-0.607
			(-2.88)			(-0.50)			(-0.74)
I(CEO From Target)			0.184			0.252			0.177

			(1.35)			(0.90)			(0.60)
I(CEO From Sponsor)			0.236						
			(1.22)						
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.012	0.039	0.005	0.02	-0.010	-0.080	0.201	0.137	0.199
Observations	121	121	121	81	81	81	55	55	55

Appendix I
Variable Definitions

Variable	Definition
Dependent Variables	
IP CAR	Cumulative market-adjusted return in the 5-day window (-2, +2) around the investor presentation filing date.
AbnRetailVol	Abnormal retail turnover: the firm's average retail percentage of shares traded during days [-2, 2] relative to the investor presentation filing date minus the equivalent amount over days [-41, -11] .
AbnLargeVol	Abnormal large turnover: the firm's average large percentage of shares traded during days [-2, 2] relative to the investor presentation filing date minus the equivalent amount over days [-41, -11]. Large trades are trades over $50,000.
Forecast Bias(t, t+1)	The forecasted revenue less actual revenue scaled by actual revenue. *Forecast Bias* is measured in the first (year *t*) and second (year *t+1*) fiscal year after the merger.
BHAR(6,12,24)	Buy-and-hold abnormal return, computed at 6-, 12-, and 24-month horizons post-merger effective date. Following Lowry et al. (2017), buy-and-hold abnormal return is computed as raw buy-and-hold return adjusted for the return of an equal-weighted portfolio of 20 mature firms with the closest size and book-to-market.
SPAC Characteristics	
Revenue CAGR Quartile	The scaled quartile rank of Revenue CAGR. Quartile ranks range from 0 to 1.
Institutional Ownership	Fraction of SPAC shares outstanding held by institutions that report their quarterly holdings in SEC Form 13F and N-30Ds. We use the last reported institutional ownership reported before the merger effective date.
I(Cash Deal)	An indicator variable equal to one if the medium of exchange is cash, and zero otherwise.
Relative Size	The transaction value as a fraction of the market capitalization of the acquirer.
ln(MVE)	The natural logarithm of market value of equity of the SPAC at the time of the acquisition.
ln(Deal Value)	The natural logarithm of the value of the transaction, in millions.
Target Liquidity Index	The ratio of the value of all corporate control transactions reported by SDC for each year and two-digit SIC code to the total book value of assets of all Compustat firms in the same two-digit SIC code and year.
Time To Acquisition	The number of days between SPAC IPO date and acquisition announcement date.

Variable	Definition
I(Deferred Fees)	An indicator equal to one if a portion of the IPO's underwriter compensation is deferred and paid only upon successful merger completion, and zero otherwise.
SPAC Ownership	Fraction of the firm held by SPAC shareholders immediately after the acquisition.
Target Ownership	Fraction of the firm held by target shareholders immediately after the acquisition.
I(Chairman From Sponsor)	An indicator equal to one if the chairman of the newly merged company is one of the sponsors, and zero otherwise.
I(Chairman From Target)	An indicator equal to one if the chairman of the newly merged company is one of the target insiders, and zero otherwise.
I(CEO From Sponsor)	An indicator equal to one if the CEO of the newly merged company is one of the sponsors, and zero otherwise.
I(CEO From Target)	An indicator equal to one if the CEO of the newly merged company is one of the target insiders, and zero otherwise.

Appendix II

Table A.1
Median Buy-and-Hold Abnormal Returns

This table reports the analysis of median long-run performance for our sample of 121 de-SPAC mergers between January 1st, 2010 and December 31st, 2020. Buy-and-hold abnormal returns at 6-, 12-, and 24-month horizons post-merger effective date are computed as raw buy-and-hold returns adjusted for the buy-and-hold return of an equal-weighted portfolio of 20 mature firms with the closest size and book-to-market (Panel A), value-weighted portfolio of 20 mature firms with closest size and book-to-market (Panel B), and Russell 2000 (Panel C). Panel D presents results using raw buy-and-hold returns at 6-, 12-, and 24-month horizons. To compute CAGR Quartile, observations are sorted into quartiles by Revenue CAGR, numbered 0 to 3. This rank is divided by 3, resulting in scaled ranks ranging from 0 to 1. *p-values* are calculated using a Wilcoxon-Rank test for the difference in BHAR between the highest and lowest quartiles. ***, **, and * denote significance at the 1%, 5% and 10% levels.

Panel A: Equal-Weighted Portfolio of 20 Mature Firms with Closest Size and BTM Benchmark

Revenue CAGR Quartile	6 Month	12 Month	24 Month
	(1)	(2)	(3)
1 (Low)	-0.141	-0.304	-0.374
2	-0.373	-0.458	-0.642
3	-0.294	-0.468	-0.846
4 (High)	-0.574	-0.878	-1.241
4 (High) – 1 (Low)	-0.433***	-0.574***	-0.865***
(p-value)	(0.0007)	(0.0004)	(0.0001)

Panel B: Value-Weighted Portfolio of 20 Mature Firms with Closest Size and BTM Benchmark

Revenue CAGR Quartile	6 Month	12 Month	24 Month
	(1)	(2)	(3)
1 (Low)	-0.058	-0.347	-0.428
2	-0.363	-0.505	-0.908
3	-0.322	-0.541	-1.191
4 (High)	-0.570	-1.005	-1.760
4 (High) – 1 (Low)	-0.512***	-0.658***	-1.332 ***
(p-value)	(0.003)	(0.0007)	(0.00009)

Panel C: Russell 2000 Benchmark

Revenue CAGR Quartile	6 Month	12 Month	24 Month
	(1)	(2)	(3)

1 (Low)	-0.108	-0.219	-0.173
2	-0.267	-0.367	-0.509
3	-0.231	-0.345	-0.838
4 (High)	-0.608	-0.796	-1.095
4 (High) – 1 (Low)	-0.500***	-0.577***	-0.922***
(p-value)	(0.0006)	(0.0004)	(0.00002)

Panel D: Raw Buy-and-Hold Returns

Revenue CAGR Quartile	6 Month	12 Month	24 Month
	(1)	(2)	(3)
1 (Low)	0.061	-0.083	-0.020
2	-0.126	-0.177	-0.517
3	-0.253	-0.322	-0.702
4 (High)	-0.365	-0.725	-0.781
4 (High) – 1 (Low)	-0.426**	-0.642***	-0.761***
(p-value)	(0.018)	(0.002)	(0.00002)

Table A.2
Buy-and-Hold Abnormal Returns – Value-Weighted Portfolio of 20 Mature Firms with Closest Size and BTM Benchmark

This table reports the analysis of long-run performance for our sample of 121 de-SPAC mergers between January 1st, 2010 and December 31st, 2020. Buy-and-hold abnormal returns at 6-, 12-, and 24-month horizons post-merger effective date are computed as raw buy-and-hold returns adjusted for the buy-and-hold return of a value-weighted portfolio of 20 mature firms with the closest size and book-to-market. Panel A reports the average buy-and-hold abnormal return over 6-, 12-, and 24-month horizons post-merger effective date for each quartile of Revenue CAGR. *t-statistics* are calculated using the difference in BHAR between the highest and lowest quartiles. Panel B reports OLS regressions of BHAR6 in columns (1)-(3), BHAR12 in columns (4)-(6), and BHAR24 in columns (7)-(9) on CAGR Quartile and controls. To compute CAGR Quartile, observations are sorted into quartiles by Revenue CAGR, numbered 0 to 3. This rank is divided by 3, resulting in scaled ranks ranging from 0 to 1. All explanatory variables are defined in Appendix I. Year and industry fixed effects are included. *t-statistics* in parentheses are based on standard errors clustered by year-quarter. ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively, for one-tailed tests for our variable of interest, Revenue CAGR Quartile, and two-tailed tests for all control variables.

Panel A: Univariate analysis

Revenue CAGR Quartile	6 Month	12 Month	24 Month
	(1)	(2)	(3)
1 (Low)	-0.111*	-0.210*	-0.519***
2	-0.268***	-0.343*	-0.785***
3	-0.266***	-0.413**	-1.109***
4 (High)	-0.434***	-0.970***	-1.730***
4 (High) – 1 (Low)	-0.323***	-0.760***	-1.211***
(t-statistic)	(-3.240)	(-4.418)	(-7.255)

Panel B: Multivariate analysis

	6 Month			12 Months			24 Months		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Revenue CAGR Quartile	-0.291*** (-2.48)	-0.198** (-1.33)	-0.179 (-1.20)	-0.544** (-2.12)	-0.413* (-1.36)	-0.337* (-1.55)	-0.955*** (-4.37)	-1.188 *** (-3.58)	-1.008* (-1.62)
Institutional Ownership		0.249	0.294		-0.021	0.184		-0.330	-0.174
		(1.31)	(1.24)		(-0.06)	(0.29)		(-0.69)	(-0.28)
I(Cash Deal)		-0.149	-0.108		-0.285	-0.178		-0.395	-0.581
		(-1.38)	(-0.70)		(-1.45)	(-0.52)		(-0.94)	(-1.38)
Relative Size		0.036	0.031		-0.061	-0.079		-0.029	0.067
		(0.52)	(0.41)		(-0.69)	(-0.93)		(-0.15)	(0.49)
ln(MVE)		0.216	0.246		-0.206	-0.143		0.046	0.284
		(0.79)	(0.88)		(-0.54)	(-0.40)		(0.07)	(0.47
ln(Deal Value)		-0.101	-0.114		0.385	0.440		-0.057	-0.332
		(-0.44)	(-0.47)		(1.37)	(1.66)		(-0.09)	(-0.60)
Target Liquidity Index		-2.147	-0.876		-0.575	2.431		-1.420	-0.194
		(-1.26)	(-0.47)		(-0.34)	(0.64)		(0.30)	(-0.03)
Time To Acquisition			-0.002***			-0.004**			-0.006**
			(-3.78)			(-2.15)			(-2.50)
Time To Acquisition^2			0.000***			0.000**			0.000**
			(3.93)			(2.28)			(2.52)
I(Deferred Fees)			-0.010			0.003			-0.118
			(-0.05)			(0.01)			(-0.23)
SPAC Ownership			0.144			0.134			0.729
			(0.44)			(0.19)			(0.70)
Target Ownership			0.186			0.552			0.234
			(0.61)			(0.51)			(0.18)
I(Chairman From Target)			-0.232*			0.159			-0.883
			(-1.89)			(0.23)			(-1.05)
I(Chairman From Sponsor)			-0.293**			-0.089			-0.675
			(-2.31)			(-0.26)			(-0.78)
I(CEO From Target)			0.223			0.075			0.095

			(1.48)			(0.37)			(0.29)
I(CEO From Sponsor)			0.367**						
			(2.13)						
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.022	0.051	0.019	0.092	0.100	0.046	0.234	0.182	0.126
Observations	121	121	121	81	81	81	55	55	55

Table A.3
Buy-and-Hold Abnormal Returns – Russell 2000 Benchmark

This table reports the analysis of long-run performance for our sample of 121 de-SPAC mergers between January 1st, 2010 and December 31st, 2020. Buy-and-hold abnormal returns at 6-, 12-, and 24-month horizons post-merger effective date are computed as raw buy-and-hold returns adjusted for the buy-and-hold return of the Russell 2000 portfolio. Panel A reports the average buy-and-hold abnormal return over 6-, 12-, and 24-month horizons post-merger effective date for each quartile of Revenue CAGR. *t-statistics* are calculated using the difference in BHAR between the highest and lowest quartiles. Panel B reports OLS regressions of BHAR6 in columns (1)-(3), BHAR12 in columns (4)-(6), and BHAR24 in columns (7)-(9) on CAGR Quartile and controls. To compute CAGR Quartile, observations are sorted into quartiles by Revenue CAGR, numbered 0 to 3. This rank is divided by 3, resulting in scaled ranks ranging from 0 to 1. All explanatory variables are defined in Appendix I. Year and industry fixed effects are included. *t-statistics* in parentheses are based on standard errors clustered by year-quarter. ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively, for one-tailed tests for our variable of interest, Revenue CAGR Quartile, and two-tailed tests for all control variables.

Panel A: Univariate analysis

Revenue CAGR Quartile	6 Month	12 Month	24 Month
	(1)	(2)	(3)
1 (Low)	-0.087	-0.052	-0.050
2	-0.198**	-0.138	-0.421**
3	-0.226**	-0.260	-0.706***
4 (High)	-0.429***	-0.661***	-1.072***
4 (High) – 1 (Low)	-0.342***	-0.609***	-1.022***
(t-statistic)	(-3.282)	(-3.151)	(-5.958)

Panel B: Multivariate analysis

	6 Month			12 Months			24 Months		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Revenue CAGR	-0.283***	-0.175*	-0.158	-0.574***	-0.427*	-0.376**	-0.806***	-0.977***	-0.856*
Quartile	(-2.77)	(-1.33)	(-1.14)	(-2.45)	(-1.39)	(-1.75)	(-3.98)	(-3.45)	(-1.34)
Institutional Ownership		0.336*	0.384		0.097	0.321		-0.211	0.010
		(1.71)	(1.59)		(0.28)	(0.51)		(-0.48)	(0.02)
I(Cash Deal)		-0.162	-0.122		-0.306	-0.196		-0.399	-0.556
		(-1.62)	(-0.87)		(-1.61)	(-0.66)		(-1.20)	(-1.67)
Relative Size		0.050	0.052		-0.042	-0.047		-0.006	0.115
		(0.81)	(0.79)		(-0.47)	(-0.62)		(-0.03)	(0.89)
ln(MVE)		0.229	0.272		-0.151	-0.058		0.112	0.433
		(0.95)	(1.14)		(-0.41)	(-0.18)		(0.17)	(0.73)
ln(Deal Value)		-0.146	-0.172		0.314	0.343		-0.101	-0.481
		(-0.69)	(-0.80)		(1.18)	(1.46)		(-0.16)	(-0.89)
Target Liquidity Index		-2.522	-1.400		-0.599	2.155		-1.237	0.526
		(-1.35)	(-0.71)		(-0.32)	(0.55)		(0.29)	(0.09)
Time To Acquisition			-0.001***			-0.004*			-0.005**
			(-3.10)			(-1.84)			(-2.34)
Time To Acquisition2			0.000***			0.000*			0.000**
			(3.43)			(1.98)			(2.49)
I(Deferred Fees)			-0.038			-0.058			-0.239
			(-0.19)			(-0.12)			(-0.55)
SPAC Ownership			0.247			0.388			1.349
			(0.74)			(0.54)			(1.51)
Target Ownership			0.196			0.639			0.452
			(0.64)			(0.62)			(0.44)
I(Chairman From Target)			-0.304***			0.172			-1.124
			(-2.88)			(0.33)			(-1.52)
I(Chairman From Sponsor)			-0.368***			-0.099			-1.059
			(-3.03)			(-0.32)			(-1.44)
I(CEO From Target)			0.292**			0.098			0.034

			(2.02)			(0.42)			(0.12)
I(CEO From Sponsor)			0.390**						
Sponsor)			(2.34)						
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.017	0.052	0.030	-0.003	0.001	-0.059	0.274	0.218	0.261
Observations	121	121	121	81	81	81	55	55	55

Table A.4
Raw Buy-and-Hold Returns

This table reports the analysis of long-run performance for our sample of 121 de-SPAC mergers between January 1st, 2010 and December 31st, 2020. Long-run performance is measured using buy-and-hold raw returns at 6-, 12-, and 24-month horizons post-merger effective date. Panel A reports the average buy-and-hold return over 6-, 12-, and 24-month horizons post-merger effective date for each quartile of Revenue CAGR. *t-statistics* are calculated using the difference in buy-and-hold returns between the highest and lowest quartiles. Panel B reports OLS regressions of 6-month buy-and-hold returns in columns (1)-(3), 12-month buy-and-hold returns in columns (4)-(6), and 24-month buy-and-hold returns in columns (7)-(9) on CAGR Quartile and controls. To compute CAGR Quartile, observations are sorted into quartiles by Revenue CAGR, numbered 0 to 3. This rank is divided by 3, resulting in scaled ranks ranging from 0 to 1. All explanatory variables are defined in Appendix I. Year and industry fixed effects are included. *t-statistics* in parentheses are based on standard errors clustered by year-quarter. ***, **, and * denote significance at the 1%, 5% and 10% levels, respectively, for one-tailed tests for our variable of interest, Revenue CAGR Quartile, and two-tailed tests for all control variables.

Panel A: Univariate analysis

Revenue CAGR Quartile	6 Month	12 Month	24 Month
	(1)	(2)	(3)
1 (Low)	-0.004	0.032	0.093
2	-0.084	0.047	-0.301*
3	-0.126	-0.108	-0.581***
4 (High)	-0.241**	-0.536***	-0.825***
4 (High) – 1 (Low)	-0.237*	-0.568***	-0.918***
(t-statistic)	(-1.441)	(-2.577)	(-4.984)

Panel B: Multivariate analysis

	6 Month			12 Months			24 Months		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Revenue CAGR	-0.244***	-0.190**	-0.185*	-0.472**	-0.364*	-0.337*	-0.724***	-0.827**	-0.775
Quartile	(-2.91)	(-1.85)	(-1.61)	(-1.966)	(-1.44)	(-1.43)	(-2.80)	(-2.26)	(-1.20)
Institutional Ownership		0.132	0.173		-0.094	0.109		-0.208	-0.118
		(0.82)	(1.09)		(-0.42)	(0.23)		(-0.49)	(-0.21)
I(Cash Deal)		-0.071	-0.026		-0.178	-0.059		-0.238	--0.384
		(-0.63)	(-0.18)		(-0.98)	(-0.19)		(-0.76)	(-1.28)
Relative Size		0.032	0.028		-0.035	-0.066		-0.054	0.021
		(0.48)	(0.39)		(-0.40)	(-0.96)		(-0.32)	(0.17)
ln(MVE)		0.200	0.235		-0.160	-0.138		-0.058	0.106
		(0.75)	(0.85)		(-0.48)	(-0.43)		(-0.10)	(0.192)
ln(Deal Value)		-0.094	-0.108		0.308	0.394*		0.094	-0.151
		(-0.41)	(-0.44)		(1.26)	(1.86)		(0.179)	(-0.30)
Target Liquidity Index		-2.226	-1.160		-1.105	1.576		-0.697	-0.268
		(-1.37)	(-0.71)		(-0.68)	(0.45)		(0.12)	(-0.037
Time To Acquisition			-0.002***			-0.003			-0.004*
			(-4.08)			(-1.26)			(-1.820)
Time To Acquisition2			0.000***			0.000			0.000*
			(4.59)			(1.34)			(1.89)
I(Deferred Fees)			-0.078			-0.044			-0.235
			(-0.48)			(-0.09)			(-0.56)
SPAC Ownership			0.051			-0.092			0.554
			(0.18)			(-0.13)			(0.63)
Target Ownership			0.087			0.372			-0.215
			(0.33)			(0.35)			(-0.20)
I(Chairman From Target)			-0.177			0.335			-1.044
			(-1.13)			(0.60)			(-1.57)
I(Chairman From Sponsor)			-0.244*			0.077			-0.834
			(-1.924)			(0.245)			(-1.21)
I(CEO From Target)			0.214			0.029			0.190

			(1.60)			(0.12)			(0.57)
I(CEO From Sponsor)			0.347**						
Sponsor)			(2.31)						
Industry FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Adjusted R^2	0.011	0.016	-0.011	0.088	0.061	-0.018	0.368	0.297	0.291
Observations	121	121	121	81	81	81	55	55	55