Performance Analysis of the “Back-Door” Approach to the Public Market

Britney Ramprasad

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Performance Analysis of the “Back-Door” Approach to the Public Market

An honors thesis presented to the Department of Finance, University at Albany, State University of New York in partial fulfillment of the requirements for graduation with Honors in Financial Analysis and graduation from The Honors College

Britney Ramprasad

Research Mentor and Advisor: Na Dai, Ph.D.

May 2022
Abstract

Special Purpose Acquisition Company (SPAC) mergers have significantly better market-adjusted 1-month returns than traditional Initial Public Offerings (IPOs), with no significant differences in the 3-month, 6-month, 12-month horizons after controlling for the size and profitability of the firm. This paper examines the performance of SPAC mergers and traditional IPOs. Stock (common share) returns, and accounting measures are the variables used to categorize the performance of SPAC mergers and traditional IPOs. These variables are examined throughout the data sample from January 2013 to September 2020, with a focus on the 1-month, 3-month, 6-month, and 12-month market-adjusted returns and the gross profit margin, Return on Assets (ROA), and total assets of SPAC mergers and traditional IPOs following their entry into the public market. A comparative analysis is conducted to see if either variable is drastically different for those of SPAC mergers than traditional IPOs, determining if SPACs are indeed an alternative for the traditional IPO approach to the public market.

Keywords: Special purpose acquisition company (SPAC), Initial public offerings (IPOs), Return on assets (ROA)
Acknowledgements

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Introduction

A. What is a SPAC?

SPACs are a publicly listed firm with a two-year lifespan, in which it must find a private company to merge with, thereby bringing the company public. To raise funds, a sponsor, which can be a fortune 500 Chief Executive Officer (CEO) or an individual with little relevant experience, works with an underwriter to bring the SPAC public via the traditional IPO path. Once the SPAC enters the public market, the SPAC sells units priced at $10, including a share, a warrant, and sometimes a right. A warrant is a contract granting the investor the right to purchase a certain number of additional shares of common stock, in the future, at a given price, usually at a premium to the stock price at the time the warrant was issued. All funds raised in the IPO are placed in a trust and invested in Treasury notes.

If the SPAC fails to merge with a private company in twenty-four months, the SPAC must liquidate and return the initial investment amount and interest to all SPAC shareholders. However, if the SPAC does proceed with a merger, SPAC shareholders are given the right to redeem their shares and not participate in the proposed SPAC merger. SPAC shareholders who choose to redeem their shares receive their initial investment amount back with an attractive return, in addition to the right to keep all warrants and rights included in the original unit purchased.

B. SPAC Lifecycle: SPAC Period and De-SPAC Period

SPAC shareholder's right to redemption causes the lifecycle of a SPAC to be broken into two periods, the SPAC period, which is between the SPAC IPO and merger, and the de-SPAC period, which begins on the first trading day for the successor company. Such a split in the lifecycle is due to the different investors of each period. In the SPAC period, the investors are
primarily hedge funds, industry insiders, and 13F filers, in sum those who have little intention to remain after the merger. Non-redeeming investors, those who chose to participate in the merger, are investors of the de-SPAC period of the SPAC lifecycle.

C. Motivation and Contributions

Previous studies have documented the stark differences in the returns of SPAC and de-SPAC period; empirical evidence has documented that common share investors earned, on average, -15.6% in the first post-merger year (Gahng et al., 2021). However, not much research has been conducted analyzing de-SPAC performance relative to the performance of traditional IPOs, considering both accounting measures and common share returns, after entering the public markets. Additionally, if a substantial difference is identified, what factors are driving such a difference in performance. The key motivation of this paper is to determine if SPACs are a good alternative for traditional IPOs, specifically, if the performance of SPAC mergers is less compared to traditional IPOs. Such a motivation is driven by the rise in the curiosity of regulatory bodies, specifically the Securities and Exchange Commission (SEC), on the quality of SPAC mergers. SEC chairman Gensler once said, "those who stand to earn significant profits from a SPAC merger may conduct inadequate due diligence and mislead investors", suggesting potential deal chasing done by sponsors.

This paper will provide a comparative analysis of all SPAC mergers and traditional IPOs from January 2013 to September 2020, using stock (common share) returns and accounting measures to characterize the performance. Specifically, the variables of SPAC mergers and traditional IPOs that will be compared are the buy-and-hold market-adjusted returns, equal-weighted (EW) and value-weighted (VW), over 1-month, 3-month, 6-month, and 12-month
horizons, in addition to the total assets, gross profit margin, and ROA of the IPO or SPAC merger year.

First, this paper will examine the volume of SPAC mergers and traditional IPOs. Based on the volume of SPAC mergers from January 2013 to September 2020, the industry distribution is identified, highlighting the six most common industry of SPAC mergers. The industry distribution highlights the industry trend of companies SPACs have brought public over the last seven years and the difference in volume, in those most frequent industries of SPAC mergers, of traditional IPOs.

Second, the buy-and-hold market-adjusted returns, EW and VW, over 1-month, 3-month, 6-month, and 12-month horizons, in addition to the total assets, gross profit margin, and ROA of the IPO or SPAC merger year, are examined in a univariate analysis. Such an analysis of the mentioned before variables help to identify if there is a significant statistical difference in the returns, size, or profitability of SPAC mergers compared to traditional IPOs, overall determining a difference in performance.

Finally, a multivariate analysis was completed, identifying potential correlations between common share returns and accounting measures. The correlations discovered further confirmed certain results of the univariate test and provided more insight into the stock performance of SPAC mergers, versus traditional IPOs, after considering the size and profitability of the firm.

Each method mentioned provided attractive findings into the performance differences between SPAC mergers and traditional IPOs. All findings will be touched on later. In this paper, all methods include data from IPO Scoop, Pitchbook, The Center for Research in Security Prices, LLC (CRSP), and Compustat- Capital IQ (Compustat).
Literature Review

Numerous studies have analyzed SPAC and de-SPAC performance due to the rise in popularity of both SPAC IPOs and SPAC mergers. Gahng et al. (2021) analyzed the stock performance of 114 business combinations between January 2010 and September 2020, accounting for dividend yields and capital gains. In this study, a buy-and-hold return strategy for one to three years was implemented to observe the returns of the de-SPAC period. This study found that common share investors earned, on average, -15.6% in the first post-merger year, underperforming the market by 24.3%, while warrant investors have a substantially greater return of 44.3%. Due to such a substantial difference in returns, Gahng et al. (2021) concluded that generally, warrant investors continue to outperform common share investors. The study stated that such a difference cannot be justified by the risk aspect of warrants, but may be explained by warrants being undervalued during the consummation of the business, improving the SPAC period return, due to the increase in warrant prices at the time of the merger. In relation to the underperformance of common shares in the de-SPAC period accompanied by the increase of SPAC IPOs in 2020 and early 2021, caused concerns to be raised of SPAC sponsors chasing deals, increasing the valuations most operating companies can negotiate.

Klausner, Ohlrogge, and Ruan (2020) analyzed 47 SPAC mergers between January 2019 and June 2020 and found that the structure of SPACs creates substantial costs, misaligned incentives, and most greatly, losses for investors who own shares at the time of SPAC mergers. This study highlighted that the SPAC period and de-SPAC period consist of different investors. Specifically, the investors who tend to invest during the SPAC period are 13F filers and the SPAC Mafia. The ownership of SPAC IPOs for 13F filers is 85% post-IPO and 87% pre-merger. The SPAC Mafia, also known as industry insiders; Klausner et al. (2020) further define the
SPAC Mafia as 13F filers that, between the time of a SPAC’s IPO and its announcement of a potential merger, hold at least 100,000 shares in at least ten SPACs that went public between 2010 and June 2020. The SPAC Mafia accounts for roughly 70% of total-post IPO holdings, with the top five SPAC Mafia funds holding 15% of total 2019-20 post-IPO shares. However, such investors do not remain shareholders after the merger is complete, as most of SPAC investors redeem recognizing the similarity of investing in the SPAC to that of investing in a risk-less bond. The paper concludes by summarizing its findings, that SPAC investors receive a “handsome” return by parking their cash with the SPAC during the merging process. However, the bulk of the return provided to investors such as the SPAC Mafia is from the warrants or rights included in the units purchased from the SPAC IPO, which said investors keep for free after redeeming their shares, thus diluting post-merger share value. Additionally, further dilution occurs as the SPAC pays the sponsors promote, a block of shares at a nominal price, and underwriting fees based on cash raised rather than cash delivered in the SPAC merger. The burden of the dilution is incurred by another group of investors, SPAC shareholder's that acquire shares around the time of the SPAC merger and hold them throughout the de-SPAC period. The poor de-SPAC performance, as founded by Klausner et al. (2020), reflects the depth of the dilution embedded in the structure of SPACs; this finding relates to the relationship between redemption percentage and de-SPAC performance found by Gahng et al. (2021); the higher the redemption ratio the worse the de-SPAC stock performance.

Chamberlain’s (2021) analysis focused on SPACs that made acquisitions between 2016 and 2018. The findings were consistent with those of the previously mentioned studies. Chamberlain found that the three-year return on the NASDAQ index composite is statistically greater than the return of SPAC common equities in an equivalent holding period, concluding
that SPAC common equities do not outperform the market. In efforts to enable investors to participate in SPACs, Chamberlain provided two alternative investments that limit investor losses. The first alternative is Exchange Traded Funds (ETFs), as such an investment limits investor exposure to volatility, which is present early on in a SPACs lifetime. The second alternative is warrants; by primarily investing in warrants investors lower their potential losses as warrants have outperformed SPAC common equity with a long-term buy-and-hold strategy post-merger.

Shachmurove and Vulanovic's (2018) paper provided insight into the loopholes of the SPAC structure. The study found that the structural integrity of SPACs primarily benefits investors or stakeholders, creating a conflict of interest and agency problems. Additionally, the study highlighted the inaccessible areas of SPACs, specifically earlier data on SPACs, such as information on market performance, which is necessary to make predictions that lead to successful transactions both for the SPAC and its investors. Such inaccessibility does not enable SPAC investors to determine their risk and affects the decision of assisting management when deciding whether to merge or liquidate. Specifically, such a lack of information does not enable SPAC investors to know, with certainty, if holding their investment in the de-SPAC period would be valuable.

In relation to the concerns raised by Gahng et al. (2021) of SPACs chasing deals, increasing the valuations most operating companies can negotiate, this paper aims to evaluate the accounting and return data of SPAC mergers to determine if the performance of SPAC mergers is greater, worse, or equal to those of traditional IPOs. This paper additionally aims to evaluate the return and financial data of SPAC mergers compared to traditional IPOs to further determine if SPACs are a good alternative for traditional IPOs.
Hypotheses

$H_0$: Companies that go public via SPACs perform no different than traditional IPO companies.

$H_1$: Companies that go public via SPACs have worse short-term and long-term performance compared to comparable traditional IPO companies.

Data and Sample

A. Data Sample and Restrictions

This paper examines the performance of SPAC mergers and traditional IPOs from January 2013 to September 2020 (including September 2020). Certain SPAC mergers and traditional IPOs were not included in this study due to the absence of data.

In this paper, the return data of 87 SPAC mergers and 1,325 traditional IPOs were studied. Additionally, the accounting data of 81 SPAC mergers and 1,191 traditional IPOs were analyzed.

B. Databases

Four databases were actively used in this study to obtain data for both SPAC mergers and traditional IPOs. To acquire a list of all SPAC mergers completed from 2013 to 2020, Pitchbook was utilized. Likewise, a list of all traditional IPOs was acquired from an online site called “IPO Scoop”; a website that provides a list of all IPOs priced from 2010 to the present day.

The return data for SPAC mergers and traditional IPOs were obtained from The Center for Research in Security Prices, LLC (CRSP). The returns pulled from this database were the monthly Holding Period Returns ($\text{ret}$); this data was then used to calculate the geometric mean, deriving the 1-month, 3-month, 6-month, and 12-month buy and hold return ($\text{BHR}$). Market return data was additionally acquired from CRSP, specifically the VW (including distributions).
and EW (including distributions) returns. The market data was then matched, based on holding period, and subtracted from said SPAC merger and traditional IPO BHR to obtain the market-adjusted return (BHAR).

Accounting data for both SPAC mergers and traditional IPOs were provided through Compustat- Capital IQ. The financial metrics acquired were Return on Assets (ROA), Gross Profit Margin, and Assets (Total), all from the IPO or SPAC merger year.

Both databases, CRSP and Compustat, were accessed through the Wharton Research Data Services.

C. Independent and Dependent Variables: Univariate Analysis

In the univariate analysis, the dependent variable is all data regarding SPAC mergers. The independent variable is data concerning traditional IPOs. The purpose of the univariate analysis is to highlight any differences regarding the variables analyzed in this study: BHAR, EW and VW, over 1-month, 3-month, 6-month, and 12-month horizons, in addition to the total assets, gross profit margin, and ROA of the IPO or SPAC merger year. By setting SPAC mergers as the dependent variable, it allows the analysis to spotlight the specific variables of SPAC mergers that are significantly different from those of traditional IPOs.

D. Independent and Dependent Variables: Multivariate Analysis

In the multivariate analysis, the dependent variable is all return data regarding SPACs, specifically BHAR, EW and VW, over 1-month, 3-month, 6-month, and 12-month horizons. The independent variables used are dummy variables and the total assets (ln), gross profit margin, and ROA of the IPO or SPAC merger year. The dummy variables used included the top industry classifications, based on the most frequently entered industries of SPAC mergers from January 2013 to September 2020, and SPAC mergers. For each dummy variable, each interest criteria
was set equal to one if fulfilled and zero if not. By controlling for the previously mentioned variables, it allowed the study to examine the stock performance of SPAC mergers while accounting for the size and profitability of the firm; such findings help to confirm or deny the findings of the univariate analysis.

Summary Statistics

A. SPAC Mergers vs. Traditional IPOs: Volume

Figure 1 and Table 1 displays the stark differences, in volume, between SPAC mergers and traditional IPOs from January 2013 to September 2020. In 2013, 251 companies entered the public markets through the traditional IPO path, while only 11 SPAC mergers occurred. However, there was a dramatic increase in the volume of SPAC mergers in 2018, with 34 and 255 SPAC mergers and traditional IPOs, respectively. Likewise, in 2019 and 2020, the frequency of SPAC mergers continued to grow, with 47 SPAC mergers and 232 traditional IPOs in 2019, and 480 traditional IPOs and 66 SPAC mergers in 2020.

B. Industry Distribution

Based on the SPAC mergers that occurred between January 2013 to September 2020, there are six prominent industries of SPAC mergers. Table 2 shows the industry distribution of SPAC mergers, classifying the industry using the Standard Industrial Classification (SIC) Code. The two most frequent industries of SPAC mergers are Biological Products (No Diagnostic Substances) and Services-Computer Programming, Data Processing, etc., with 14.81% of SPAC mergers entering both industries. Traditional IPOs outpace SPAC mergers, in terms of volume, in the Biological Products (No Diagnostic Substances) industry, as 23.59% of traditional IPOs entered the industry. However, in the third most frequent industry of SPAC mergers, Real Estate Investment Trust, SPAC mergers outpaced traditional IPOs, as there 8.64% of SPAC mergers,
compared to 3.78% of traditional IPOs within the industry. Other frequent industries of SPAC mergers are Operative Buildings, Banking, and Services-Prepackaged Software, with 4.94%, 3.70%, and 3.70% of SPAC mergers, respectively, in those industries between January 2013 to September 2020.

C. Univariate Analysis

The preliminary findings of the univariate tests are as follows. Table 3 shows that between January 2013 and September 2020, there is a significant difference between the 3-month, 6-month, and 12-month BHAR, both EW and VW, and total assets, on a 95% confidence level (alpha 0.05) and 99% confidence level (alpha 0.01), of SPAC mergers, compared to traditional IPOs.

The mean 1-month BHAR, VW, amongst SPAC mergers within the data sample, is 12.46%; the mean for traditional IPOs was 0.41%. The p-value, the measurement of significance, obtained by comparing the 1-month BHAR, VW, of SPAC mergers and traditional IPOs, was 0.489, indicating no statistical significance. Similarly, the mean 1-month BHAR, EW, for SPAC mergers was 12.84%; the mean for traditional IPOs was 0.86%. The p-value derived was 0.495, indicating no statistical significance. Hence, the 1-month BHAR of SPAC mergers and traditional IPOs, both EW and VW, are not significantly different; specifically, the 1-month BHAR of SPAC mergers, EW and VW, are not substantially worse than traditional IPOs.

3-month mean BHAR, VW, for SPAC mergers of the data sample, is -3.20%, while the return for traditional IPOs was higher, at -0.68%. Likewise, the mean 3-month BHAR, EW, for SPAC mergers was -3.61%, with the mean for traditional IPOs being -0.48%. The p-value derived for the 3-month mean BHAR, VW and EW, was 0.011 and 0.014, respectively.
The mean 6-month BHAR, VW and EW, for SPAC mergers was -3.90% and -3.61%, respectively; for traditional IPOs, the mean return was -1.86%, and -1.63%, respectively. The $p$-value obtained regarding VW returns was 0.068 and 0.066 for EW.

12-month mean BHAR, VW and EW, for SPAC mergers was -4.02% and -3.68%, respectively. Traditional IPOs have a mean of -1.37% and -1.33%, respectively. The respective $p$-values are 0.017 and 0.020.

Drawing from the statistical values above, the conclusion that can be derived is that the 3-month, 6-month, and 12-month BHAR, both VW and EW, for SPAC mergers is significantly different, specifically significantly less, than that of traditional IPOs, as the $p$-value are lower than 0.05. Though the $p$-value for the 6-month BHAR, VW and EW, is not less than 0.05, meaning it is not statistically significant on a 95% confidence interval, this study assumes that the value still displays some level of significance due to the $p$-value being relatively low.

Similar $p$-values were obtained regarding the difference in accounting measures for SPAC mergers compared to traditional IPOs. The mean gross profit margin and ROA of SPAC mergers were -33.01 and -0.61, respectively; the mean for traditional IPOs were -5.71 and -0.15, respectively. $P$-values for gross profit margin and ROA were .355 and 0.195, respectively, indicating that the previously mentioned accounting measures are not significantly less for SPAC mergers compared to traditional IPOs. However, the mean total assets for SPAC mergers are 1,217.01 million and 2067.64 million for traditional IPOs; the $p$-value derived was 0.049, indicating that companies that combined with SPAC IPOs are significantly smaller than traditional IPOs.
Methodology and Empirical Analysis

A. Regression Introduction

A multivariate analysis was conducted to confirm the results found in the univariate analysis to observe the correlation, if any, between multiple independent variables and each dependent variable. As previously mentioned in the data and sample section, the dependent variables are the BHAR, EW and VW, over the 1-month, 3-month, 6-month, and 12-month horizons, along with the independent variables total assets (ln), gross profit margin, and ROA, also used as control variables, and dummy variables, SPAC merger and industry classification. The first four regressions conducted are in regard to the 1-month, 3-month, 6-month, and 12-month BHAR VW, of both SPAC mergers and traditional IPOs. Likewise, the last four regressions included the 1-month, 3-month, 6-month, and 12-month BHAR, EW, of both SPAC mergers and traditional IPOs. All eight regressions conducted included all independent, control, and dummy variables previously mentioned. In each regression, there were 963 observations, taking into account the industry fixed effect, including the three most frequent industries SPAC mergers have entered. There were only 963 observations due to not all SPAC mergers and traditional IPOs having both return data and accounting measures available on the databases utilized in this study.

B. Multivariate Analysis: VW Returns

The first four regressions conducted, displayed in Table 4, analyzed the relationship between the VW BHAR of SPAC mergers and traditional IPOs over the 1-month, 3-month, 6-month, and 12-month horizons and the total assets (ln), gross profit margin, ROA, taking into account dummy variables, SPAC merger and industry classification. For the second, third, and fourth regression pertaining to the VW BHAR of SPAC mergers and traditional IPOs over the 3-
month, 6-month, and 12-month horizon set as the dependent variable, the coefficients were -0.009, -0.004, and -0.013, and the p-values were 0.641, 0.695, and 0.145, respectfully. Such statistical values, specifically, high p-values, indicate no statistically significant differences between the VW BHAR of SPAC mergers and traditional IPOs in the 3-month, 6-month, and 12-month horizon when accounting for the size and profitability of the firm.

The first regression, examining the relationship between the 1-month, VW, BHAR of SPAC mergers and traditional IPOs, and the independent variables previously mentioned, presented significant coefficients and p-values. The coefficient value obtained was 0.446 and a p-value of 0.000. Such a low p-value indicates that the 1-month BHAR of SPAC mergers is significantly different than the returns of traditional IPOs.

C. Multivariate Analysis: EW Returns

The last four regression conducted, displayed in Table 5, analyzed the relationship between the EW BHAR of SPAC mergers and traditional IPOs over the 1-month, 3-month, 6-month, and 12-month horizons and the total assets (ln), gross profit margin, ROA, taking into account dummy variables, SPAC merger and industry classification. For the sixth, seventh, and eighth regression pertaining to the EW BHAR of SPAC mergers and traditional IPOs over the 3-month, 6-month, and 12-month horizons set as the dependent variable, the coefficients were -0.002, -0.005, and -0.014, and the p-values were 0.898, 0.586, and 0.063, respectfully. Like the second, third, and fourth regressions explained above, such statistical values, specifically, high p-values, indicate no statistically significant differences between the EW BHAR of SPAC mergers and traditional IPOs in the 3-month, 6-month, and 12-month horizons when accounting for the size and profitability of the firm.
The fifth regression, examining the relationship between the 1-month, EW, BHAR of SPAC mergers and traditional IPOs, and the independent variables previously mentioned, similarly presented significant coefficients and $p$-values, similar to the first regression regarding the 1-month, VW, BHAR of SPAC mergers and traditional IPOs. The coefficient value was 0.447 and a $p$-value of 0.000. Such a low $p$-value indicates that the 1-month, EW, BHAR of SPAC mergers is significantly different than those of traditional IPOs.

D. Multivariate Analysis: Conclusion

The statistical values obtained from the multivariate analysis led the study to draw two conclusions; SPAC mergers have significantly better market-adjusted 1-month returns and that are no significant differences in stock performances in the 3-month, 6-month, 12-month horizons after controlling for the size and profitability of the firm. Additionally, the difference in market-adjusted 1-month returns for SPAC merger cannot be justified by the size or profitability of SPAC mergers, as the total assets (ln), gross profit margin, and ROA of SPAC mergers, one month after entering the public market, is not statistically different than those of traditional IPOs.

Conclusion

From the univariate test and multivariate regression analysis the following key findings should be noted. First, when examining each variable in the univariate test, specifically the BHAR, EW and VW, over 1-month, 3-month, 6-month, and 12-month horizons and the total assets, gross profit margin, and ROA of the IPO or SPAC merger year for SPAC mergers and traditional IPOs between January 2013 and September 2020, it was found that SPAC mergers have significantly worse stock performance than traditional IPOs within the horizons from 3-
month up to 12 months. Additionally, it was found that companies that combined with SPAC IPOs are significantly smaller than traditional IPOs.

The findings from the multivariate analysis, contradict the findings of the univariate analysis, after controlling for the size and profitability of the firm. In the multivariate analysis the variables examined were the BHAR, EW and VW, over 1-month, 3-month, 6-month, and 12-month horizons. The independent variables used are dummy variables and the total assets (ln), gross profit margin, and ROA of the IPO or SPAC merger year. The findings obtained were that SPAC mergers have significantly better market-adjusted 1-month return, with no significant differences in stock performances in the 3-month, 6-month, 12-month horizons after controlling for the size and profitability of the firm.

I believe that further studies conducting an analysis on the correlation of sponsor qualifications, stock returns, and accounting measures will provide great insight to see if SPAC mergers done by highly skilled professionals, performed better in regard to both stock returns and accounting measures, and how those values compare to traditional IPOs of the same time period.
References


Figure 1. SPAC Mergers vs. Traditional IPOs: Volume (Graph)

Note. This graph shows the volume of SPAC mergers and traditional IPOs from January 2013 to September 2020. All data was accumulated from Stock Analysis (2022) and Pitchbook.
Table 1
SPAC Mergers vs. Traditional IPOs: Volume

<table>
<thead>
<tr>
<th>Year</th>
<th>IPOs</th>
<th>SPAC Mergers</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>251</td>
<td>11</td>
</tr>
<tr>
<td>2014</td>
<td>304</td>
<td>4</td>
</tr>
<tr>
<td>2015</td>
<td>206</td>
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<td>2016</td>
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<tr>
<td>2018</td>
<td>255</td>
<td>34</td>
</tr>
<tr>
<td>2019</td>
<td>232</td>
<td>47</td>
</tr>
<tr>
<td>2020</td>
<td>480</td>
<td>66</td>
</tr>
</tbody>
</table>

Note. This table shows the volume of SPAC mergers and traditional IPOs from January 2013 to September 2020. All data was accumulated from Stock Analysis (2022) and Pitchbook.

Table 2
Industry Distribution

<table>
<thead>
<tr>
<th>Industry</th>
<th>SPAC Mergers</th>
<th>IPOs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological Products (No Diagnostic Substances) (2836)</td>
<td>14.81%</td>
<td>23.59%</td>
</tr>
<tr>
<td>Services-Computer Programming, Data Processing, etc. (7370)</td>
<td>14.81%</td>
<td>15.53%</td>
</tr>
<tr>
<td>Real Estate Investment Trusts (6798)</td>
<td>8.64%</td>
<td>3.78%</td>
</tr>
<tr>
<td>Operative Buildings (1531)</td>
<td>4.94%</td>
<td>0.76%</td>
</tr>
<tr>
<td>Banking (6020)</td>
<td>3.70%</td>
<td>4.11%</td>
</tr>
<tr>
<td>Services- Prepackaged Software (7372)</td>
<td>3.70%</td>
<td>2.27%</td>
</tr>
</tbody>
</table>
Table 3
Univariate Tests

Note. This table shows the univariate tests of BHAR, EW and VW, returns sliced into four time-periods, 1-month, 3-months, 6-months, and 12-months, displaying the mean of each return. The mean financial data of total assets, ROA, and gross profit margin is also displayed for the IPO or SPAC merger year. The $p$-value, the value of statistical significance is provided for each variable; the $p$-value is significant when under 0.05. All data was accumulated from Compustat and CRSP.

Table 4
Multivariate Analysis: BHAR, VW

Note. The table below displays the regression results for BHAR, VW, returns. The dependent variables are the BHAR, VW, over the 1-month, 3-month, 6-month, and 12-month horizons, along with the independent variables total assets (ln), gross profit margin, and ROA, also used as control variables, and dummy variables, SPAC merger and industry classification. The $p$-value is significant when under 0.05. All data was accumulated from Compustat and CRSP.

Table 5
Multivariate Analysis: BHAR, EW
Note. The table below displays the regression results for BHAR, EW, returns. The dependent variables are the BHAR, EW, over the 1-month, 3-month, 6-month, and 12-month horizons, along with the independent variables total assets (ln), gross profit margin, and ROA, also used as control variables, and dummy variables, SPAC merger and industry classification. The $p$-value is significant when under 0.05. All data was accumulated from Compustat and CRSP.