

Differences in Recent Special Purpose Acquisition Companies from Previous Years

Submitted by

Hayley Angeli

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Mentor: Dr. Hong Qian, Associate Professor of Finance

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Abstract

This thesis project will analyze Special Purpose Acquisition Companies (SPACs), focusing on their increased popularity in 2020 and 2021. The potential differences between SPACs of recent years versus SPACs of previous years will be identified and inspected, along with the causes for any changes in their structure. Existing research on related topics will be taken into consideration. Specifically, a comparison will be drawn between current papers related to SPACs and prior ones. The results of this research will help in understanding why there was an increased use of Special Purpose Acquisition Companies as a means for private companies to go public in 2020 and 2021. These findings may also provide insights on predicting future trends in the SPAC market. Personally, this research project will allow me to further explore a topic that I am interested in within my Finance major.

1. Introduction

Special Purpose Acquisition Companies (SPACs) collect funding from investors at an initial public offering (IPO) then find a private company to merge with. A private company is therefore able to go public without having its own IPO, which is the traditional route to becoming publicly traded. SPACs emerged in the United States prior to the Financial Crisis of 2008. In recent years, some well-known companies have gone public via SPAC. In 2019, Richard Branson's space flight company, Virgin Galactic, completed a merger with a SPAC known as Social Capital Hedosophia (Crabb, 2019). A variety of big-name companies including Betterware, DraftKings, Nikola, and Open Lending went public via SPAC in 2020 (Gahng et al., 2021). The SPAC market saw a spike in 2020 and 2021. As their usage increases, SPACs are becoming more widely known, even attracting the attention of retail investors. The dramatic increase in SPAC IPOs and proceeds in recent years leads to the question: why has the usage of SPACs increased? (1) Has the market environment changed? (2) Has the type of companies using the SPAC changed? (3) Have the investor profile and the return to investors changed? (4) Has the quality of underwriters changed? (5) Has the SPAC structure changed? This paper seeks to identify these changes that may have contributed to the surge in the SPAC market. I survey the literature and analyze differences between recent SPACs and past SPACs in order to better understand why they have become more popular in recent years.

The rest of the paper proceeds as follows. The SPAC process is described in section 2. Section 3 details the number of SPACs each year, demonstrating the recent growth in their usage. Section 4 analyzes the changes in the types of companies using SPACs, when, and why they are used. Section 5 looks at the changes in SPAC investors and the returns to investors. The recent increase in involvement of private investors is discussed along with a breakdown of returns into

first-day returns, SPAC period returns, deSPAC period returns, and warrant returns. Section 6 evaluates the quality of SPAC underwriters. Section 7 looks at new trends in the SPAC market.

2. Overview of the SPAC Process

Figure 1 illustrates the typical SPAC process.

(1) SPAC Creation: The sponsor of the SPAC creates a corporation and purchases their “promote” which is a block of shares that will become the sponsor’s compensation after the merger is completed.

(2) SPAC IPO: The corporation conducts its initial public offering, where investors purchase SPAC shares at \$10 per unit. Each unit consists of one share of common stock and usually some warrants and/or rights. The proceeds from the IPO are placed in a trust and invested in Treasury notes.

(3) Identify Target Company in Allotted Period: Following the IPO, the SPAC has an allotted period, typically 18 to 24 months, to search for and complete a merger with a private company. SPACs are not permitted to have a target arranged prior to their IPO but usually choose a specific industry that the sponsor will search within. Once the SPAC identifies a potential target company that it hopes to merge with and thereby bring public, it announces its intent. It is possible that the SPAC may not be able to find a private company that wishes to go public via SPAC, in which case, no target has been found over the allowed search period.

(4) Proxy Vote: For SPACs that have found a target, the next step is for the SPAC to conduct a proxy vote, where shareholders decide whether the merger should be completed. If the outcome of the vote is positive, the merger moves forward. Shareholders are allowed to redeem their shares if they do not wish to hold shares of the target company after the merger. When shareholders redeem their shares, they receive their initial investment plus interest and are

permitted to retain the warrants or rights that they received from the IPO. Shareholders can also sell their shares and warrants on the market.

(5) Additional Funding: Large redemptions often cause problems for the merger, as target companies frequently set a minimum cash requirement that must be delivered in the merger. If the SPAC is unable to meet this minimum requirement, it can seek additional funding. This funding can come from PIPEs (Private Investments in Public Equity), additional investments from the sponsor, or the sponsor giving inducements to large investors in the SPAC in exchange for them keeping their shares.

(6) Complete Merger: If the SPAC is able to deliver sufficient funds to the target company, the merger is completed. The target company is now listed on an exchange and publicly traded. The SPAC sponsor and SPAC investors become minority shareholders in the company.

(7) Liquidation: The SPAC may be forced to liquidate under several conditions. As previously stated in step (3), the SPAC may not find a target firm to bring public within the 18 to 24 month period in which it is permitted to search. Additionally, the shareholders may vote down the merger in step (4) or the SPAC may not have sufficient funds to deliver to the target company in the merger in step (5). In all of these cases, the SPAC could attempt to find another target company if time allows. If this attempt is unsuccessful, liquidation occurs. When the SPAC liquidates, the shareholders receive their initial investment plus interest. The sponsor receives nothing, losing their initial promote.

3. Growth in the SPAC Market

Panel A of Figure 2 illustrates the number of SPAC IPOs each year between January 2003 and September 2021. Panel B of Figure 2 depicts the proceeds from SPAC IPOs, in billions

of dollars, each year from January 2010 to September 2021. The data is from Kolb & Tykvová (2016) and Gahng et al. (2021). SPACs first became popular prior to the Global Financial Crisis. Kolb & Tykvová (2016) study 161 SPACs that went public in the United States from 2003 to 2008. These SPACs raised a combined \$22 billion in their IPOs, which accounted for 13% of capital raised in all IPOs during the time period. 2007 was the peak year for SPAC IPOs with 66 in total, making up 22% of all IPOs that year. In 2008, 36% of firms that went public chose to do so via SPAC. SPAC activity saw a decline during the Financial Crisis, but slowly began to rebound in the following years.

The second wave occurred most recently. Both the number of SPAC IPOs and proceeds increased dramatically in 2020 and 2021 from previous years. In 2020, there were 248 SPAC IPOs raising \$75.3 billion, which is more capital raised than all previous years combined (Gahng et al., 2021). Additionally, 165 operating companies went public via SPAC (Gahng et al., 2021). The percentage of SPAC IPOs among all IPOs, denoted as the percentage of SPACs in Figure 2, has also risen, surpassing 60% in both 2020 and 2021. As seen in Figure 2, 2021 saw a record pace of SPAC IPOs with 447 in the first three quarters (Gahng et al., 2021).

4. When and Why Do Some Companies Use SPACs?

This section seeks to identify differences from past SPACs to current SPACs regarding which operating companies use them and when and why they are used. When looking at what types of companies go public via SPAC as opposed to using a traditional IPO, market factors and firm characteristics are important features to analyze, along with other considerations.

4.1 Market Factors

Older SPAC research finds that SPACs are used in years where IPO activity is weak and market volatility is high. For example, in 2008 and 2009, years with low IPO activity, 31% of firms that went public used SPACs (Kolb & Tykvová, 2016). Additionally, IPOs are 13% less frequent in years with above average market volatility and IPO proceeds are 21% lower (Kolb & Tykvová, 2016). SPACs are more prevalent in these years because the SPAC has already undergone the IPO process and is, therefore, already liquid. Researchers also found that times when debt is more expensive are correlated with a lower quantity of SPAC acquisitions (Kolb & Tykvová, 2016). Newer research has studied the correlation between the market share of SPACs and equity market sentiment. An increase in equity market sentiment by one standard deviation is correlated with a 6% increase in the market share of SPACs (Bai et al., 2021). When the overall consensus on the stock market is positive, more SPACs enter the market. While it is uncertain whether any changes have occurred in the SPAC market as to when they are used, research has uncovered new relationships between SPAC use and certain market conditions.

Additionally, the investor sentiment towards mergers improved in late 2020 (Gahng et al., 2021). Over time, the percentage of SPAC liquidations and the percentage of SPACs that had 50% or more of their shares redeemed before the merger have decreased significantly. Figure 3 illustrates this trend, depicting the percentage of SPACs that have completed a business combination, liquidated, and are still seeking a business combination each year. The percentage of liquidated SPACs has clearly shrunk in recent years. In the fourth quarter of 2020, there were zero liquidations and only 27% of completed mergers had 50% or more of shares redeemed (Gahng et al., 2021). Investor sentiment may have increased due to recent large returns on high-profile deals such as Virgin Galactic, DraftKings, and Nikola (Gahng et al., 2021). Investors

may be seeking returns akin to these past deals. The increased use of PIPE investments also provides an assurance that the deal creates value and will be completed (Gahng et al., 2021). Since mergers are more likely to be completed (and with less redemptions) sponsors are more likely to enter the SPAC market.

4.2 Firm Characteristics

Past research has found that the industries of firms that were acquired by SPACs from 2004 to 2015 generally matched the industries of firms that went public with an IPO (Kolb & Tykvová, 2016). Panel A of Table 1 includes the number of SPAC acquisitions and traditional IPOs in each industry during this period. The industries with the most SPAC acquisitions and regular IPOs were manufacturing and service companies (Kolb & Tykvová, 2016). In contrast, when analyzing SPAC acquisitions between 2013 and 2020, research has found differences in the industries of firms that go public via SPAC and firms that use IPOs to go public. Panel B of Table 1 demonstrates these findings. A much higher percentage of biotech companies use traditional IPOs (37%) to go public than SPACs (8%) (Gahng et al., 2021). Additionally, companies that do not fit into a specific industry in the panel, those classified as “other,” make up a larger portion of SPAC mergers than traditional IPOs (Gahng et al., 2021). While previous SPACs acquired companies in the same industries as companies that go public via IPO, current SPACs acquire companies in specific industries. Based on these findings, it appears that more recent SPAC sponsors generally choose certain industries to search within that may not match the most common industries for traditional IPOs.

Previous research supports the idea that companies that go public via SPAC are “lemons” (Kolb & Tykvová, 2016). Based on a study of SPACs from 2003 to 2013, these firms are smaller, have more debt, and have lower growth opportunities than those that go public via IPO (Kolb &

Tykvová, 2016). When comparing firms that have gone public via SPAC to the market, they severely underperform. The average return on assets (ROA) of a SPAC firm during the study period is 1.4%, while that of a firm that has gone public via IPO is 3.2% (Kolb & Tykvová, 2016). The market-to-book ratio is also significantly lower for SPAC firms (Kolb & Tykvová, 2016). Based on these statistics, it appears that firms that went public using a SPAC are of lower quality and may have chosen to use a SPAC because they would not have had a successful IPO.

When analyzing the characteristics of firms that have more recently merged with SPACs, research indicates that there have been several changes. Companies that merge with SPACs now tend to have higher growth rates of firm size, R&D expenditures as a share of total assets, and revenue growth than IPO firms (Bai et al., 2021). It was also found that the standard deviations of these growth rates are higher for SPAC firms, illustrating the idea that SPAC firms are riskier, as will be discussed (Bai et al., 2021). Analysis on the size of companies that merge with SPACs has been somewhat inconclusive. Some research has found that SPAC firms are smaller, comparing cash to asset ratios, market capitalization, and total assets (Bai et al., 2021). Consistent with prior thinking, it was found that SPAC firms have higher leverage ratios as well (Bai et al., 2021). Other researchers have found that SPAC firms are larger and older than companies that go public with an IPO (Gahng et al., 2021). In this case, firm size was measured by median sales. In terms of the profitability of SPAC firms as opposed to IPO firms, SPAC firms have been found to be as profitable to slightly more profitable than companies using an IPO (Gahng et al., 2021), (Bai et al., 2021). While some aspects of companies that merge with SPACs have not changed, it is clear that SPAC firms are no longer “lemons” and are now more comparable to IPO firms.

A new theory for which firms choose to go public via SPAC was introduced by Bai, Ma, and Zheng in their paper “Reaching for Yield in the Going-Public Market: Evidence from SPACs.” These researchers classified firms that wish to be publicly traded as either “good” or “bad” and as either “safe” or “risky” (Bai et al., 2021). Firms that are “good” and “safe” go public via traditional IPO with the help of investment banks (Bai et al., 2021). “Good” and “risky” firms go public via SPAC with the help of the SPAC manager, and all “bad” firms stay private (Bai et al., 2021). Their findings indicate that the increased use of SPACs allows for market equilibrium, as all “good” firms are able to go public. Yield-seeking investors will choose to invest in SPACs and conservative investors will invest in regular IPOs, which has been found to be true, as more SPAC IPOs and less regular IPOs occur during times with more yield-seeking investors (Bai et al., 2021). This theory contradicts the previously-held idea that “lemon” firms go public with SPACs, demonstrating that SPAC firms are just riskier than IPO firms. This theory also helps to explain why firms in certain industries may choose to go public via SPAC merger while others hold their own IPO. Firms in riskier industries would therefore go public via SPAC while those in safer industries would utilize an IPO. This theory is somewhat contradicted in Panel B of Table 1, since biotech companies are among the riskiest and still choose to go public via IPO more often (Gahng et al., 2021). Other characteristics, other than relative risk, inherent to biotech companies may explain why they generally choose IPOs to go public.

4.3 Other Considerations

When seeking to understand why companies choose to go public by merging with a SPAC, researchers have discovered several main reasons. Older publications focused on the idea that existing shareholders of the target company have a cash-out motive. When the SPAC merger takes place, shareholders of the operating company can cash out their holdings immediately

using the cash that is delivered in the merger (Kolb & Tykvová, 2016). An analysis of SPACs that completed a merger between 2003 and 2015 found a larger cash-out ratio for existing shareholders of a company merging with a SPAC than for those of a company completing a regular IPO (Kolb & Tykvová, 2016). Therefore, companies whose shareholders wish to have a lower stake in the company after it goes public would prefer to use a SPAC.

A commonly discussed idea regarding SPAC acquisitions is whether it is faster for a company to go public via SPAC or IPO. Older research indicates that a company that is not prepared for an IPO may be able to go public faster using a SPAC (Kolb & Tykvová, 2016). Research on more recent samples of SPACs indicates that, while it is difficult to determine, the idea that the SPAC process is faster than an IPO is overstated (Klausner et al., 2020). The speed at which a company hopes to go public may not be a reason that companies choose to use a SPAC anymore.

Newer research places an emphasis on the expert advice that sponsors can provide to a company. SPAC sponsors are often former executives from the industry in which they are searching for a target. Entrepreneurs who bring their company public with a SPAC frequently discuss the benefits of the advice that the sponsor provides to the target company after the merger is completed (Gahng et al., 2021). Knowledgeable sponsors can provide great value to a company and help them become more successful after going public.

Another characteristic of companies that merge with SPACs to go public is that their business value is often difficult to convey to investors. SPACs provide a safe harbor for forward looking statements, meaning that forecasts of revenue or earnings in proxy statements, annual reports, and other SEC filings are protected from lawsuits (Klausner et al., 2020). There is therefore lower underwriter liability and no liability for misstatement, unless those involved

knew something was false. Firms who would have difficulty having a successful IPO due to a complex business idea would therefore benefit from going public via SPAC because they can release these statements. Recent statements from the SEC indicate that this regulatory arbitrage opportunity may go away soon, removing this benefit of SPACs (Gahng et al., 2021). This change may impact which companies choose to go public using SPACs and also the quantity of SPACs that complete mergers in the future. The safe harbor for forward looking statements inherent in SPAC structure may explain why some companies currently choose to go public using a SPAC.

A final reason for a company to choose to go public via SPAC is the recent increased use of provisions. Operating company ownership is able to negotiate the conditions of the merger with the SPAC sponsor. Provisions can be put into place, such as earnout provisions for the sponsor, which only allow the sponsor to receive their full compensation if the merged company's share price reaches a target level (Gahng et al., 2021). Since 2015, 31% of SPAC business combinations have included vesting provisions (Gahng et al., 2021). These provisions incentivise the SPAC sponsor to create value for the company after the merger. Operating companies can customize the details of the merger to better suit their needs. The increased popularity of these provisions may entice companies to choose to go public via SPAC.

5. Who Invests in SPACs and Returns to Investors

This section inspects changes in SPAC investors and the returns they receive. Investors in SPACs have changed significantly over time. SPACs were previously thought to be a “poor man's private equity” (Klausner et al., 2020). Recent research on SPACs that completed mergers between 2019 and 2020 indicates that this is not true; a majority of SPAC owners are actually large funds. 85% of post-IPO SPAC owners are 13F filers. 13F is a report that institutional

investors with \$100 million or more in their portfolio are required to file quarterly with the SEC (*Form 13F - SEC*). 87% of pre-merger SPAC owners are 13F filers (Klausner et al., 2020). These statistics actually understate the amount of shares owned by large investors including insiders, wealthy individuals and institutional shareholders who are not required to file a 13F report (Klausner et al., 2020). The emergence of the “SPAC Mafia,” which is a group of large hedge funds who generally invest in SPAC IPOs then redeem or sell their shares prior to the merger, has transformed the SPAC market. 70% of the total post-IPO shareholders are members of the “SPAC Mafia” (Klausner et al., 2020). On average, the divestment rate for these investors prior to the merger is 97% (Klausner et al., 2020). The main investors in SPACs are not retail investors and SPACs do not fit the previous classification as a “poor man’s private equity.” This change in SPAC shareholders from smaller investors to large institutional investors, including hedge funds, may have contributed to the recent rise in SPAC activity as SPAC IPOs are likely to be more successful with big players involved.

The participation of private equity in SPACs has dramatically increased in recent years. Previous research on SPACs from 2003 to 2015 indicates that private investor and venture capitalist activity in SPACs was not common. At the time, 20.8% of regular IPOs acquired private equity, while only 12.6% of SPACs were backed by private equity (Kolb & Tykvová, 2016). In contrast, it is now common for SPAC sponsors to invite PIPEs (Private Investments in Public Equity) to provide additional capital in the merger (Gahng et al., 2021). PIPE investors are given access to more information about the target company than IPO investors are given (Klausner et al., 2020). These investments are often needed to meet minimum cash requirements due to high redemption rates, largely due to the investment strategy of the “SPAC Mafia,” and to keep weaker deals from falling through. A PIPE investment also provides a certification of deal

quality, discouraging SPAC shareholders from redeeming their shares. 80% of SPAC mergers involve new capital (after the IPO), and 41% of the cash delivered to the operating company comes from this new capital (Gahng et al., 2021). The median amount of cash delivered in the merger that is contributed by PIPEs is 25% (Klausner et al., 2020). PIPE investors are frequently able to invest in the SPAC at a discount (Klausner et al., 2020). Inducements, which are shares and warrants forfeited by the sponsor, are frequently given to PIPEs, along with some large shareholders (so they don't redeem their shares). Sponsors often invest their own capital (in addition to their original investment) in the SPAC as PIPEs (Gahng et al., 2021). The involvement of private equity has become very prevalent in the SPAC market. Their increased participation decreases the fears of SPAC sponsors that deals will fall through due to high redemptions, as sponsors now have an alternate method of financing the SPAC merger. This may have contributed to the rise in SPAC IPOs in recent years as sponsors are less worried about losing their initial contribution to the SPAC.

Older analysis on SPAC returns only focuses on the long-term returns for the companies that merge with SPACs. These firms were found to severely underperform the overall market, their respective industries, and firms of similar size (Kolb & Tykvová, 2016). Evaluations of returns on newer samples of SPACs break returns down into offer-day returns, SPAC period returns, deSPAC period returns, and returns on warrants.

Offer-day returns are the returns realized on the first day of trading. Based on a sample of SPACs from 2010 to 2019, SPACs with an offer price of \$10 per unit generally finish the first day of trading with a price between \$10 and \$10.05 (Gahng et al., 2021). This return is minimal and larger returns are realized gradually. The first quarter of 2021 saw an increase in offer-day returns with an average return of 3.7% (Gahng et al., 2021). Investors began to realize the

lucrative returns of the SPAC period investment on the first day of trading rather than slowly over several months; therefore, the SPAC market became more efficient. This change reduces the return available for pre-merger investors which is similar to that seen in the traditional IPO market (Gahng et al., 2021). The second quarter of 2021's average offer-day return however was 0.3%, indicating that the market resumed previous patterns (Gahng et al., 2021).

The SPAC period provides more lucrative returns to investors. SPAC period investors invest at the IPO and either redeem or sell their shares prior to the merger. In a study on SPACs with mergers between 2019 and 2020, the average SPAC period return was found to be 11.6% (Klausner et al., 2020). In a similar study looking at a sample of 210 SPACs from 2010 to 2019, the average return for SPAC period investors was 15.9% (Gahng et al., 2021). When weighted by IPO-proceeds, the average return is 19.0% (Gahng et al., 2021). Larger SPACs therefore provide a higher return than smaller SPACs. Even SPACs that were unable to find a target company and liquidated provide a positive return of 2%, although this return is much lower than that of SPACs that did complete a business combination (Gahng et al., 2021). The SPAC period investment is essentially risk free since investors can always get their initial investment back. Researchers therefore compare the SPAC period investment to a default-free convertible bond with extra warrants (Gahng et al., 2021). Table 2 demonstrates that SPAC period returns based on SPAC IPO year have generally been increasing over the period from 2010 to 2019 (Gahng et al., 2021). Returns for SPAC IPOs in 2019 are by far the highest of the recorded period. SPAC period investors realize high returns, especially when considering the limited risk, and these returns have increased over time. These high returns attracted big players to the SPAC market like the "SPAC Mafia" and other 13F filers previously mentioned and increased the number of successful SPAC IPOs in 2020 and 2021.

DeSPAC period investors are those who purchase shares of the newly-public company after the merger is completed. DeSPAC period returns have been found to be very low, and often negative for many investors. This is a stark contrast to the lucrative returns realized by SPAC period investors. Table 3 details the one-year and three-year deSPAC period returns for mergers completed between 2012 and 2020. The equally weighted one-year return for deSPAC period investors is -8.1%, underperforming the market by an average of 24.7% (Gahng et al., 2021). Over time these returns have increased slightly, but even the years with the highest deSPAC period returns in this sample have performed worse than the market. Additionally, 29% of SPAC mergers have common share returns lower than -90% in the first three years after merger (Gahng et al., 2021). Higher redemption ratios and late timing of deals have been found to be correlated with lower returns in both the SPAC and deSPAC periods (Gahng et al., 2021). Other researchers found that for a large majority of SPACs, post-merger share prices fall by one third of their value or more within a year following their merger (Klausner et al., 2020). The price drops are correlated with the extent of dilution in the SPAC (Klausner et al., 2020). The consensus from research on recent SPACs is that the return in the deSPAC period is dismal.

In contrast, the returns on warrants greatly outperform the deSPAC common share returns. The one year average return for warrants is 68% (Gahng et al., 2021). When there are more warrants or rights outstanding, deSPAC period returns on common shares are lower (Gahng et al., 2021). Because these warrants are out-of-the money, they are risky, which explains some of the increased returns realized. Since SPAC period investors are able to keep their warrants even if they redeem their shares, a large portion of these returns benefit SPAC period investors.

6. Quality of Underwriters

The quality of SPAC underwriters has improved over time. In 2016, Goldman Sachs, Morgan Stanley, and JP Morgan started to underwrite SPAC IPOs and their market shares increased substantially in 2020 and 2021 (Gahng et al., 2021). SPACs with more reputable lead underwriters tend to have both higher SPAC and deSPAC period returns (Gahng et al., 2021). In 2020 and 2021, deSPAC returns were high when the prestige of underwriters was higher and dilution was lower (Gahng et al., 2021). Table 4 illustrates this trend. The highest ranked underwriters provided the highest SPAC period and 1-year deSPAC period returns. Reputable underwriters may provide certification of the quality of the SPAC and therefore increase SPAC investor confidence and attract more desirable target companies. The increase in credible lead underwriters in the SPAC market likely contributed to the increase in SPAC activity as more sponsors were interested in working with these underwriters. Operating companies would also find mergers with SPACs that are underwritten by better underwriters more attractive, which explains the increase in SPAC mergers in recent years.

7. New Trends in the SPAC Structure

Several new trends have been introduced to the SPAC structure in recent years. These include the use of contingent warrants, an earnout provision for sponsors, and some investor-protecting policies. These trends in the SPAC market may have motivated their increased use in recent years and may bring about future changes.

Contingent warrants were first introduced to the SPAC market in 2021 (Gahng et al., 2021). SPACs that have used this type of warrant offer additional warrants to shareholders who do not redeem. Those who choose to redeem still keep the warrants they were issued at the IPO, but do not receive the additional warrants given to those who keep their shares through the

merger. With contingent warrants, the SPAC period investors would collect less economic value while the deSPAC period investors would capture more. This would start to balance the dramatically unequal returns between periods.

Gahng et al (2021) also find that an earnout or vesting provision for sponsors has become more common. These provisions require the stock to stay above a threshold for the sponsor to receive their compensation. This concept has been used in a larger percentage of SPACs each year since 2016. An earnout provision would motivate the sponsor to merge with a profitable firm and provide meaningful advice after the merger is completed.

The SPAC market has adopted more investor-protecting policies since its introduction (Bai et al., 2021). For example, it became a requirement that the majority of SPAC IPO proceeds are locked in the trust account. The shareholder vote to approve or reject the merger was not always required for SPAC acquisitions. Additionally, a one-year lockup period of the sponsor's shares was put into place. These policies have likely caused more companies wishing to go public and more sponsors to get involved in the SPAC market.

8. Conclusion

The SPAC market has surged in 2020 and 2021. The major transformations that have occurred when comparing recent SPACs to older ones can help explain this rise in activity. The types of companies that merge with SPACs have dramatically changed from "lemon" companies that would not have been able to have a successful IPO to companies that experience higher growth and similar profitability to IPO firms. The recent inclusion of vesting provisions makes SPAC mergers more appealing to operating companies, as they can incentivize the sponsor to contribute to the company's success after the merger. Additionally, the positive sentiment

towards mergers seen in late 2020 would contribute to more favorable conditions for SPAC mergers. SPAC investors have shifted to include large institutional investors with the emergence of the “SPAC Mafia” and investments from PIPEs prior to the merger. Returns for SPAC period investors and deSPAC period investors have increased in recent years, however deSPAC period returns still significantly underperform the overall market. The quality of underwriters has improved over time as well-known investment banks such as Goldman Sachs began to underwrite SPACs. New trends in the SPAC structure such as contingent warrants will likely impact the market in the future. Future research regarding the influence of these specific changes on the quantity of SPAC IPOs and mergers may be useful in better understanding the causes of the surge in their use.

Acknowledgements

This project has allowed me to increase my knowledge on a topic of interest that is currently very relevant to the finance community. I hope that my work will be beneficial and may provide motivation for future researchers. I also would like to thank my mentor, Professor Hong Qian, who has been an integral benefactor of mine throughout the entire thesis process. I have appreciated her willingness to provide feedback and guidance whenever necessary.

Appendix

Figure 1: SPAC Process Diagram

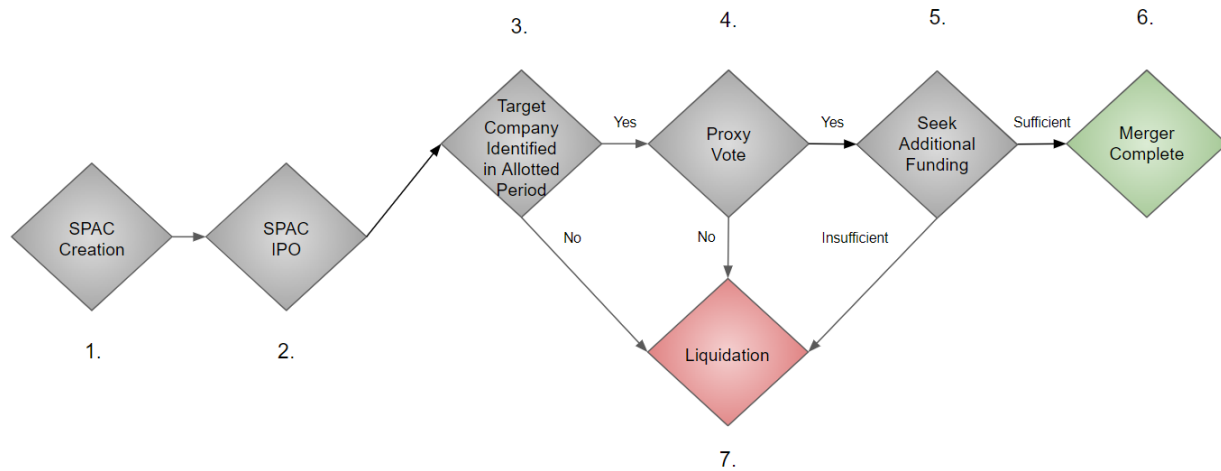
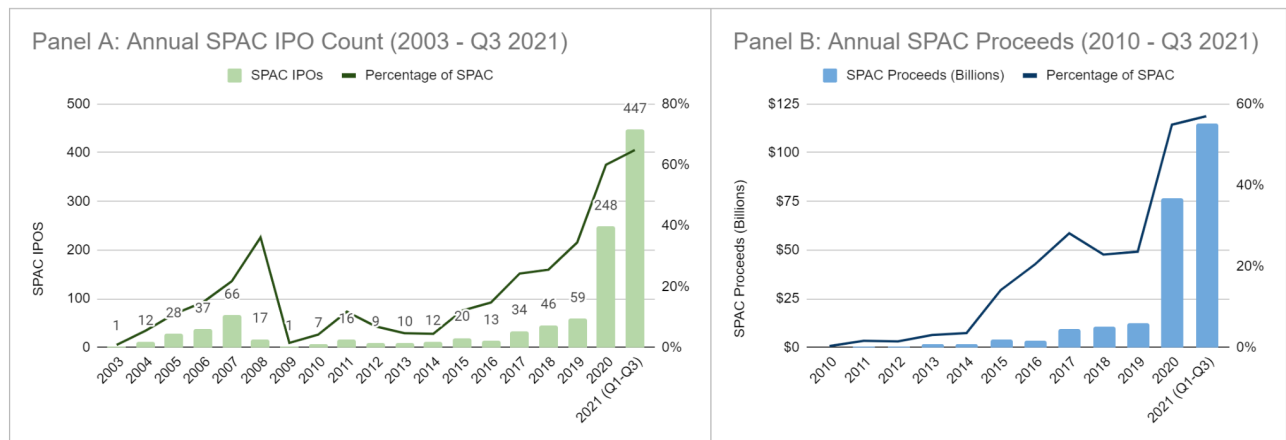


Figure 2: Annual SPAC IPO Count & SPAC Proceeds

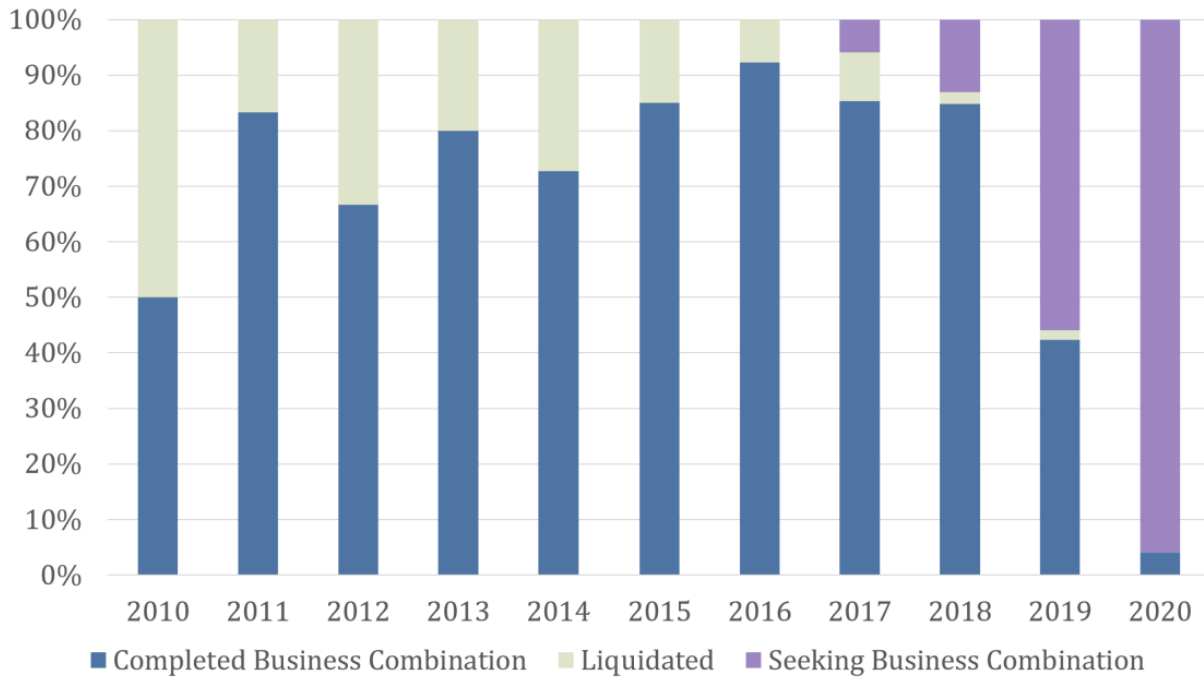


Data Source: Panel A: 2003-2015 (Kolb & Tykvoa, 2016), 2016-2021 (Gahng et al., 2021),

Panel B: (Gahng et al., 2021)

Note: Panel A displays a count of SPAC IPOs each year and SPAC IPOs as a percentage of all IPOs. Panel B depicts the proceeds from SPAC IPOs each year in billions of dollars and SPAC proceeds as a percentage of all IPO proceeds.

Figure 3: “SPAC IPO Outcomes by Percentage (as of December 2020)”



(Gahng et al., 2021)

Table 1: SPAC Acquisitions and Traditional IPOs by Industry

Panel A: January 2004 - December 2015			Panel B: January 2013 - December 2020		
Industry	SPAC Acquisitions	IPOs	Industry	SPAC Acquisitions	IPOs
Manufacturing	30%	33%	Tech	24%	28%
Services	24%	27%	Energy	9%	4%
Transportation & Public Utilities	16%	8%	Biotech	8%	37%
Finance, Insurance, Real Estate	10%	17%	Others	59%	31%
Retail Trade	7%	6%			
Other	13%	9%			

Data Source: Panel A: Kolb & Tykvová (2016), Panel B: Gahng et al. (2021)

Table 2: “SPAC Period Returns”

Year	Number of SPACs	Annualized Returns
2010	2	1.4%
2011	6	3.4%
2012	9	3.9%
2013	10	11.0%
2014	11	5.4%
2015	20	6.1%
2016	13	19.6%
2017	34	9.5%
2018	46	19.1%
2019	59	26.1%
Total	210	15.9%

(Gahng et al., 2021)

Table 3: “deSPAC Period Common Share Returns”

Year	Number	One Year Returns			Three Year Returns		
		SPACs	CRSP	Diff.	SPACs	CRSP	Diff.
2010	0	-	-	-	-	-	-
2011	0	-	-	-	-	-	-
2012	1	-53.2%	20.4%	-73.6%	-98.1%	37.2%	-135.3%
2013	5	-30.1%	17.9%	-48.0%	-41.1%	28.0%	-69.1%
2014	4	-51.6%	5.7%	-57.3%	-89.6%	26.7%	-116.2%
2015	9	-19.5%	0.7%	-20.2%	87.7%	33.1%	54.6%
2016	9	-5.2%	19.0%	-24.2%	-35.1%	40.3%	-75.3%
2017	13	-11.0%	11.7%	-22.6%	-44.5%	30.3%	-74.7%
2018	23	-35.0%	8.8%	-43.8%	-7.0%	48.4%	-55.4%
2019	25	2.0%	8.8%	-6.8%	29.8%	45.2%	-15.5%
2020	25	24.0%	39.9%	-15.9%	10.5%	44.3%	-33.8%
Total	114	-8.1%	16.5%	-24.7%	0.7%	41.1%	-40.4%

(Gahng et al., 2021)

Table 4: “Underwriter Prestige Ranks and SPAC and deSPAC Period Returns”

	SPAC Period	deSPAC Period Common Shares	
	Annualized Returns	One-Year Returns	Three-Year Returns
$UWRANK < 5$	8.7%	-27.7%	-45.7%
$5 \leq UWRANK < 8.5$	13.3%	-2.3%	34.9%
$8.5 \leq UWRANK$	21.6%	-0.7%	0.1%

(Gahng et al., 2021)

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