INVESTOR REACTION AND ANTICIPATION TO SPAC LITIGATION

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Abstract: I examine the effect of shareholder-initiated lawsuits on stock prices by doing an event study. These lawsuits are often started because founders of a Special Purpose Acquisition Companies have incentives to maximise their own benefit. Second, I examine if investors partially anticipate lawsuits when have been lawsuits in earlier years. Third, I examine if investors partially anticipate lawsuits when there have been lawsuits in the same industry. I find that the market reaction to the filing of a class action lawsuit is negative. Furthermore, I find that cumulative abnormal returns are lower for litigation in earlier years. I find that cumulative abnormal returns are lower for companies operating in industries where it is the first time that a class action lawsuit has been filed. At last, I find no evidence for partial investor anticipation through regression analyses.

Keywords: SPACs, class action lawsuit, event study, partial investor anticipation

Contents

1. Introduction

In recent years, the special purpose acquisition company (SPAC) has become quite a phenomenon. Although, this form of initial public offering (IPO) has been possible for a lot of years. Its popularity has increased over the last two years (Morgan Lewis). SPACs have grown from 59 in 2019 to 613 in 2021 (Investopedia). This is further exemplified by the fact that in 2010 not even 1% of IPOs were done through SPACs, in 2021 it is more than 50% (Blankespoor et al. 2022).

However, as the number of SPACs has grown, the amount of class action lawsuits initiated by investors concerning SPACs has increased drastically (JDSupra, 2021). These lawsuits by investors are often initiated because they feel that SPACs have given misleading prospects when merging with private companies. Therefore, this paper will answer the following question

How does the market react to class action lawsuits concerning SPACs?

The process of a company going public by merging with a SPAC is protected by the safe harbor rule (Dambra, Even-tove & George, 2021). This means that management can give forward-looking statements about the firms' performance after the merger, and they cannot be sued for these statements unless the statements are misleading to investors. Despite the protection, many SPACs have seen securities class action lawsuits filed against them based on misleading investors (Reuters, 2021). In many of these cases, misleading means that management gives too positive forward-looking statements that lead investors to accept the merger of a private company and the SPAC. Lakicevic and Vulanovic (2013) have found empirical evidence that management is financially incentivized to give positively biased forecasts because their pay-out is dependent on a successful merger.

Because of this reason, investors have started many class-action lawsuits in the past few years. The question that arises is how the market reacts to the filing of a class-action lawsuit. Early research on this topic did not find any negative abnormal returns to the filing of class action lawsuits (Romano, 1991). However, more recent research has found empirical evidence that abnormal share returns are negative around the filing of a lawsuit (Klock, 2015). In general, research agrees with the paper of Klock. Therefore, in this paper, I expect that the abnormal returns around the filing of securities class action lawsuits concerning SPACs are negative.

As the last few years have seen a rise in litigation concerning SPACs, it could well be

that investors start to expect, and thus, anticipate this litigation. The market reaction could be less negative. This mild reaction to a certain economic event is called the anticipation effect. Earlier research has indicated that the anticipation effect exists (Offenberg and Officer, 2012). Gande and Lewis (2009) found that investors can anticipate lawsuits and that the abnormal returns are less negative than when investors do not anticipate the litigation. Furthermore, they find that litigation can be anticipated when litigation has already been filed in the past with companies in the same industry. I expect that the abnormal returns will be less negative for litigation concerning SPACs initiated in the most recent years (2022-2021) than for the first years of litigation (2019-2020). Due to the fact that investors are likely to anticipate the lawsuits in the later years, because a trend has started in 2019-2020. Furthermore, I expect abnormal returns to be less negative for companies that operate in an industry where more class-action lawsuits concerning SPACs have been started than for companies that operate in industries where no class-action lawsuits have been initiated.

To see the market reaction to the filing of a lawsuit, I gathered the returns around the filing of a lawsuit for 40 different companies. With the help of these returns, cumulative abnormal returns could be calculated to obtain the results. The results show, as expected, that the market reaction to the filing of a lawsuit is negative. The abnormal returns are the lowest and most significant, just one day before the filing of a lawsuit. During and after the event, abnormal returns become less negative and insignificant.

For the next hypothesis, I try to see if the market partially anticipates lawsuits. I make two samples to test this hypothesis. The first sample contains companies where litigation has been filed against them in 2019 and 2020. The second sample contains the litigation cases from 2021-2022. I find that cumulative abnormal returns are the lowest for the companies in the 2019-2020 sample. The second sample contains companies that operate in an industry where no lawsuits concerning SPACs have been filed against companies in the same industry and companies where lawsuits have been filed before, against companies in the same industry. Cumulative abnormal returns are lowest for companies that operate in an industry where no lawsuits have been filed as of yet.

The relation between these samples and the cumulative abnormal returns are also tested through regression analyses. These regressions do not give evidence for the existence of partial investor anticipation.

This study contributes to the current literature because there has not been any research on the market reaction to litigation concerning SPACs. While there are studies that have looked at the market reaction to class action lawsuits, a specific look at lawsuits concerning SPACs

has not been done before (Gande and Lewis, 2009). SPACs are a broadly discussed topic and especially because of the rise in lawsuits, it is important to see how investors react and if they are beginning to anticipate the lawsuits. This research gives useful information about SPACs that is much needed as going public through SPACs is bigger than going public through IPOs at the moment. Furthermore, this research can contribute to research on the anticipation of economic events as there has not been much research on this topic.

Hereafter, this paper will go through prior literature to explain concepts and form the hypothesis. Then, the data and methodology will be discussed, and the results will be shown. At last, a conclusion will be made and limitations and recommendations will be given.

2.   Literature review and hypothesis development

2.1.   Literature review

As has been mentioned in the introduction, this research will be about SPACs and the merger with a target company called the de-SPAC. These two important concepts will be explained in the following paragraphs,

A SPAC is a company that is created for the sole purpose of later merging with another company, this merger is called a de-SPAC. The SPAC will try to find some initial investors. Hereafter, the company goes public through an IPO (PwC). After the IPO, the SPAC goes searching for a target company. This company is a private company. If the SPAC finds a good company, then the majority of the SPAC and the target company must agree with the merger, and then the merger is completed. If a merger is not ratified in 18-24 months, the SPAC will dissolve, and money will go back to its investors.

As you can see, this de-SPAC is a way for private companies to become public without having to do an IPO. The SPAC will raise money and can negotiate a price with the target company. If the price is too low for the target company, the SPAC can raise more money by issuing debt or equity. What is important, is that the private company knows what it will earn by going public. When keeping this in mind, it becomes clear why the number of SPACs has risen so much over the last few years. With the COVID-19 crisis the stock market became more volatile (Engelhardt et al. 2021). Therefore, it became riskier for private firms to do an IPO. It would be beneficial for the company to know upfront what they will earn by going public, as is the case with SPACs.

However, there seems to be one big downside to the SPAC construction. The protection of SPACs by the safe harbor provision of the 1995 Private Securities Litigation Act (Dambra,

Even-tove & George, 2021). This provision protects companies from liability when making earnings forecasts. This provision does not work for normal IPOs. Therefore, companies are careful with giving earnings forecasts when doing an IPO because of the risk to be held liable for these forecasts. For a de-SPAC, this risk is lower because a part of the liability is being protected by the safe harbor provision. This could give a company incentive to give optimistic and biased forecasts before a de-SPAC. Dambra, Even-tove & George find that some SPAC companies give too optimistic forecasts.

Although, there is, to some degree, protection for liability. Litigation through class action filings concerning securities has been the biggest trend for SPACs over the last 6 years with 61 filings starting from 2019 until now (Stanford Law School, 2022). This litigation is possible because the safe harbor provision does not shield companies from litigation when the given prospects are misleading to investors. Almost all SPAC litigation cases are brought forward because investors state that management has provided them with false or misleading statements (Reuters, 2021). Three of these class action lawsuits are described in the Appendix.

But why is management inclined to give misleading forecasts? A SPAC has founders[1]. Those founders do not have any pay-out if there is no merger with a target company (Jenkinson & Sousa, 2011). Their pay-out consists of promotes (Dambra, Even-tove & George, 2021). This entails a 15-20% ownership in the shares, founder shares. However, these founder shares are only accessible if a de-SPAC happens. If the SPAC does not merge with a target company in 18-24 months, then the money will flow back to the investors and the SPAC will cease to exist. The founder shares will not be worth anything and the founders will have earned nothing with the SPAC. The founders of a SPAC need the merger between the SPAC and the target company to happen to get remuneration for their, time, effort, and investments.

Furthermore, for a de-SPAC to happen, the shareholders of the SPAC have to accept the merger with the target company (Riemer, 2007). Lakicevic and Vulanovic (2013) have found empirical evidence that the threshold for a de-SPAC to happen is that a maximum of around 32% of investors can decide not to accept the merger. This is because investors get their investment back when they opt out of the SPAC. As a result, less money will be available to make the transaction happen and at some point, there would not be enough money to pay the transaction price that the target company is willing to accept. Lakicevic and Vulanovic found evidence that the founders are financially incentivized to let a merger happen. The same has been discovered by Dimitrova (2017) and numerous other papers.

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[1] In this paper, founders and management are both used to describe the people controlling the SPAC.

So, for a de-SPAC to happen, founders need to get the other investors on board with the merger, otherwise, the founders get no pay-out. The founders will try to convince other shareholders that the merger is lucrative and that it will result in an increase in shareholder wealth in the future. And, because of the safe harbor provision, management is allowed to accommodate the shareholders with statements regarding the future performance of the company. The earlier discussed financial incentive is seen as a reason for management to give prospects that are too positive (Klausner, Ohlrogge, & Ruan, 2020). Investors could be led to believe through these statements that the merger will increase the stock price in the future, and they could accept the de-SPAC. The result of this is that there has been a steep increase in litigation concerning SPACs

2.2. Market reaction to a lawsuit

Management has a financial incentive to give too optimistic statements about the future performance of the SPAC after the merger. This has resulted in many class-action lawsuits since 2019 (Stanford Law School, 2022). A class-action lawsuit is initiated by many claimants at the same time towards one or more defendants (Scott, 2001). It is good to know that this paper will investigate the market reaction to these class action lawsuits.

There has already been done different research on the relationship between stock prices and lawsuits. Gande and Lewis (2009) state in their paper that class-action lawsuits by investors result in a negative market reaction. Keep in mind, that a negative market reaction entails that the abnormal return of the stock price is negative. This means that the actual stock return is lower than the expected stock return (Strong, 1992). Pritchard and Ferris (2001) researched the market reaction to class action lawsuits concerning fraud. They found that the most negative market reaction was to the uncovering of the potential fraud. However, they also found a negative reaction to the filing of the lawsuit.

Furthermore, Gande and Lewis argue that the reaction on the day of the filing of the lawsuit is more negative when the lawsuit is not anticipated by the investors. So, the other way around, when investors do anticipate the lawsuit, share prices will decrease before the filing of the lawsuit because the losses are anticipated by the investors. However, the lawsuit is not fully anticipated, as every time, an abnormal negative return can be seen on the day of the filing of the lawsuit. This is confirmed by Klock (2015).

Where there seems to be some consensus that litigation will result in a negative market reaction, there are also dissenting voices. Romano (1991) discusses the effect of class action lawsuits on stock prices. She found little evidence of this. Her research states that the market

does not react to the initiations of class action lawsuits. Furthermore, letting it come to litigation should not have to happen if investors would listen to the market (Jenkinson & Sousa, 2011). This paper states that investors can vote on whether a de-SPAC can happen. So, if the investors look at the companies and the market, they should be able to make a good choice. Therefore, litigation should not even be a problem as investors could judge the quality of the acquisition.

However, the argument made by Jenkinson and Sousa does not put any notion to the fact that companies can try to mislead investors by giving positively biased earnings. Investors are not always perfectly informed and could rely on false information. This false information is not protected by the safe harbor rule and therefore, shareholders could choose to initiate a class action lawsuit. When looking at the papers concerning class action lawsuits, recent papers agree that there is a negative correlation between litigation and abnormal returns. There is some evidence that points in another direction, but most of the papers agree. Based on this, I thought of the following hypothesis:

H1: *Abnormal returns will be negative around the filing of a class-action lawsuit concerning SPACs.*

2.2.   Partial investor anticipation

The first hypothesis is not an entirely new research subject as it has been researched in the past. However, market reaction to class action lawsuits, particularly about SPACs has not been researched up until now. As it is still about class action lawsuits, the expectation is that market reaction will not differ significantly from other papers about this subject. As has been mentioned before, there has been a trend in SPACs litigation over the last three years. Currently, the most securities class action filings are about SPACs (Stanford Law School, 2022). The first lawsuit dates from 2019 and the last is in 2022. This trend could result in some sort of anticipation of the class action lawsuits. In other words, because there are so many lawsuits concerning SPACs in the last few years, it would be likely that investors partially anticipate the lawsuits and that their reaction to litigation will be less severe because it does not come as a surprise. Prior research has already found evidence that when investors partially anticipate an event, that the market reaction is less negative/positive than normal (Offenberg & Officer, 2012; Guo & Mech, 2000).

I am interested if investors partially anticipate the class action lawsuits concerning SPACs because a trend has originated in 2019. News outlets have published articles about SPACs litigation. Woodruff Sawyer (2022) mentions that SPAC securities class action

litigation has skyrocketed in 2021 with an increase 0f 520%. They expect that this increase will not stop in 2022 and investors should be careful. Another article from the end of 2020 warns not only investors but also directors of the SPAC target companies for the scrutiny of SPACs (Pillsbury, 2020). They expect litigation to increase, which it did. At last, there is another article in 2020 that explains why more SPACs could lead to more litigation (ABA, 2020). When this article was written, not many securities class-action lawsuits had been started, but it was already clear that SPACs would become a scrutinized subject.

These articles show that news outlets and companies were expecting SPAC litigation to increase in the years 2021 and further. The authors of these articles expected these lawsuits to happen. If investors also expected these lawsuits, then that would mean that their reaction would be less negative because of the anticipation effect. Barber and Odean (2008) found empirical evidence that investors make decisions based on news articles that they find. Therefore, it could be the case that investors partially anticipate the litigation concerning SPACs because they find articles that inform them about the litigation. This would not have been the case for the years 2019-2020, because then, not many sources saw the litigation coming. However, especially in the last two years, there are a lot of sources that wrote about litigation concerning SPACs. Therefore, I expect the market reaction to be less negative for the years 2021-2022 because investors partially anticipate the lawsuits.

Gande & Lewis (2009) wrote about partial investor anticipation because of lawsuits in the same industry. Their research differs from earlier research on investors' anticipation. In earlier years, studies about anticipation were often made based on firm-specific information. Gande and Lewis changed this by looking at industry spillover and the propensity of being sued. In their research, they find that the abnormal returns could be less negative when investors anticipate the lawsuits. They find evidence that lawsuits can be anticipated in industries when companies in the same industries have had litigation started against them at an earlier instance. So, because investors see that a lawsuit has been started against a company that operates in the same industry as the company they invested in. The investors partially anticipate that litigation could be started against the company they invested in. As a result, my expectation is that abnormal returns will be less negative for industries where more SPAC-related litigation has happened.

In short, I expect two reasons why investors partially anticipate lawsuits. Firstly, investors anticipate lawsuits because there have been lawsuits concerning SPACs in earlier years. Secondly, investors anticipate lawsuits because there have been lawsuits before in the same industry. Based on this, I developed the following hypotheses.

H2a: *Abnormal returns around the filing of class action lawsuits concerning SPACs will be less negative in 2021-2022 than in 2019-2020.*

H2b: *Abnormal returns around the filing of class action lawsuits concerning SPACs will be less negative because of industry spillovers.*

3. Sample selection and methodology

3.1. Sample selection

The sample that is used in this paper consists of 60 companies that have had securities class action lawsuits filed against them between 30 January 2019 and 6 May 2022. These companies are obtained from the Securities Class Action Clearinghouse website. The information needed for calculating abnormal returns will be obtained from Datastream. The financial information that is necessary for hypothesis 2 is obtained from Eikon and the Center for Research in Securities Prices (CRSP) database. 40 of these firms will be used, as for the other firms, no sufficient information could be gathered from the databases. The sample selection is shown in Table 1.

[Insert Table 1 here]

3.2. Event study

To test both hypotheses, an event study will be used. The event study was introduced by Fama, Fischer, Jensen and Roll (1969). The event that they studied was the announcement of a stock split. They were the first to develop a methodology to study events. This can be done with the help of different models. Recent empirical research has often preferred the market model introduced by Brown and Warner (1985).

The approach used by Brown and Warner will be followed by this paper. To measure the effect of a certain economic event, abnormal returns need to be calculated. Abnormal returns are the difference between the actual returns of a stock and the expected returns of a stock . The actual returns of a stock price are defined by the following formula:

$$R_{it} = aj + \beta_j\ Rm_t + \varepsilon_{it} \tag{1}$$

Where R_{it} means denotes the return of a stock from a company *i* at time *t*. The *a* is a constant and *Rmt* is a market portfolio at a certain time. The *β* is a specific coefficient that is authentic for the market where it operates. At last, there is an error term that is expected to be

zero.

However, this is not enough to calculate abnormal returns, as expected returns should be used. Brown and Warner (1980) proposed to use a benchmark stock market index to calculate the expected returns. In this research, the stock market indices that will be used are the New York Stock Exchange (NYSE) and the National Association of Securities Dealers Automated Quotations (NASDAQ),because all companies that are used, are listed on the NASDAQ or the NYSE. The expected return is formulated in the following way:

$$ER_{it} = a + \beta_j\ Rm_t \tag{2}$$

In this formula, the a and β are calculated with an ordinary least square (OLS) regression. Rm_t is the return of the benchmark. The eventual expected returns are an average of actual returns over an estimation window. This estimation window should be long enough to get a grasp of the returns for the chosen benchmark or index. The period should stop before the event, because otherwise the estimation is also based on the actual returns during the event window. There have been different papers which propose different estimation windows. This paper follows the [-135, -11] window used by Gande and Lewis (2009) because they also researched the effect of class action lawsuits and therefore, this has similarities with the research done in this paper. The length of the event window is approached with the same logic, Gande and Lewis use an event window of [-10, 1]. Day 0 denotes the filing of the lawsuit. Now that estimated returns can be calculated, we can continue with the abnormal returns. The formula of the abnormal returns is as follows:

$$AR_{it} = R_{it} - ER_{it} \tag{3}$$

Because abnormal returns do not give much information on themselves, they should be aggregated. One way to do this, is by taking the average abnormal returns (AAR) (Ma, Pagan & Chu, 2009). The AAR are calculated by taking the average of the abnormal returns per day of the event window. The following formula is used.

$$AAR_t = \sum_{i=1}^{N} ARit/N \tag{4}$$

The AAR is a measure to see how the market reacts from day to day on a certain event. Cumulative abnormal returns (CAR) are used to calculate the total market reaction. The CAR adds all cumulative returns per company so you will have the total abnormal returns during the event window. The formula is as follows:

$$CAR_t\ (\text{t-10}, \text{t1}) = \sum_{t-10}^{t1} ARit \tag{5}$$

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Where t-10 and t1 are the total length of the event window in days. At last, it is important to measure if the AAR and CAR are statistically significant. This is usually done by a t-test. The hypothesis that should be disputed is that the AAR and CAR are zero. Or in other words, the filing of a class action lawsuit does not have a significant effect on the stock returns of the aforementioned companies. The formulas for the hypotheses are:

$$H0 : AAR_t = 0 \tag{6}$$

$$H0 : CAAR_t = 0 \tag{7}$$

Where CAARt denotes the average cumulative abnormal returns. These are calculated by dividing the cumulative returns by the number of days in the event window. The hypotheses will be rejected on a significance level of 1%, 5% and 10%(Armitage,1995). The following formulas will be used for the t-test:

$$t\ AAR_t = \sqrt{N}\ \frac{AARt}{\sigma ARi} \tag{8}$$

$$t\ CAAR_t = \sqrt{N}\ \frac{CAARt}{\sigma CARi} \tag{9}$$

Where σ denotes the standard deviation and $t\ AAR_t$ is the t-test value for the abnormal returns per event day. At last, it is important that abnormal returns are uncorrelated. Brown and Warner (1985) argue that abnormal returns are uncorrelated when the events do not take place on the same day. In the sample of this paper, every filing of a securities class-action lawsuit is on a different date. Therefore, we can assume that the abnormal returns are uncorrelated.

3.3. Comparing abnormal returns

To test the second hypothesis, I will perform more event studies. However, the event study will not be performed on the whole sample. To test hypothesis 2a, the sample will be divided in companies that have had litigation filed against them in 2019-2020 and companies that had litigation filed against them in 2021-2022. My expectation is that the cumulative abnormal returns will be less negative for the years 2021-2022 because investors start to anticipate the class action lawsuits because they have seen it happen in 2019-2020 and they have been informed by media that it is likely that more class action lawsuits concerning SPACs will happen.

The second part of hypothesis 2 will also be tested by dividing the sample in two groups. The first group contains companies that operate in an industry where they are the first company which have had a class action lawsuit concerning SPACs filed against them. The second group

contains companies that operate in an industry where they are not the first company which have had filed lawsuits against them. My expectation is that cumulative abnormal returns will be less negative for the second group because investors will partly anticipate the lawsuit.

3.4. Regression analysis

The next part of the paper will contain an analysis of the impact of certain factors on the abnormal returns around the filing of a lawsuit. At first, a regression analysis will be used to look at the effect of the year when the lawsuit was filed on abnormal returns. The expectation is that abnormal returns will be more negative for the years 2019-2020 than for 2021-2022 due to the fact that investors can partially anticipate lawsuit concerning SPACs in the later years because the rise of lawsuits in 2019-2020. Furthermore, I expect that abnormal returns will be lower for companies that operate in industries where no lawsuit concerning SPACs has been filed before. The regression that will be used contains a few control variables that are common during event studies.

The first is the price to earnings ratio (P/E ratio). Prior literature has stated that this ratio is negatively related to abnormal returns (Ahern, 2009). The reason for this, is that a high P/E ratio could be due to an overvaluation of the company's stock. Investors could react negatively (positively) to a high (low) P/E ratio.

The second control variable that will be used is the book-to-market ratio. Liu (2006) found that there is a positive relationship between abnormal returns and the book-to-market ratio. A high ratio could mean that the company is undervalued and therefore, investors could react positively to a high book-to-market ratio

Thirdly, the firm's size will be used as a control variable. Prior research indicates that the size of the firm is positively related to the abnormal returns. (Wijayanti et al., 2020). The reason is that bigger companies are more frequently watched by investors and therefore, the market reaction to positive and negative news will be bigger than for smaller companies. The company's size will be calculated by taking the logarithm of the total assets of the firm. A fourth variable is the share turnover (Polk & Sapienza, 2009). Prior studies find a positive relationship between abnormal returns and share turnover. The reason is that investors have more attention for shares that are traded more regularly and thus, their reaction to positive or negative news will be bigger than when a companies' shares is traded less often. Share turnover is calculated by taking the total traded shares in a fiscal year and divide it by the shares outstanding.

The last variable is the earnings per share. Earlier studies indicate that there is a positive relationship between earnings per share and abnormal returns (Holthausen & Larcker, 1992).

The last two parts of hypothesis 2, the following two formulas are constructed:

$$CAR_i = \hat{\alpha} + \beta1 Start + \beta3 P/E + \beta4 BM + \beta5 SIZE + \beta6 ST + \beta7 EPS \ \varepsilon_i \quad (10)$$

$$CAR_i = \hat{\alpha} + \beta1 Lwst + \beta2 P/E + \beta3 BM + \beta4 SIZE + \beta5 ST + \beta6 EPS \ \varepsilon_i \quad\quad (11)$$

Where *Start* is a dummy variable that is 1 when the lawsuit was filed in 2019 or 2020 and 0 otherwise when the lawsuit was filed in 2021-2022. *Lwst* is another dummy variable that is 1 when there has been filed a lawsuit against a company in the same industry before the current lawsuit and zero otherwise. Keep in mind that this regression is possible because the actual cumulative abnormal returns of the companies' stocks are known. A further description of the variables can be found in the Appendix.

4.   Empirical results

Before showing the results of the event study, I will provide the descriptive statistics of the data.

[Insert table 2]

4.1.   Event study results

Table 3, Panel A shows the market reaction to the filing of a class-action lawsuit by shareholders on day 0. This is shown by displaying the average abnormal returns, the t-statistic of those returns and the amount of negative abnormal returns as a percentage of total returns per event day. Table 3, Panel B shows the different event windows, these are (-10, -1), (-1+1), (-10,+1) and (+2,+10). For those event windows, cumulative abnormal returns, the t-statistic and the amount of negative abnormal returns as a percentage of total returns are shown. These different event windows are chosen to see which one is the most statistically significant.

It becomes clear from Table 3 that the overall reaction of the market to the filing of a class-action lawsuit is negative inside the (-10, +1) event window. When looking at the abnormal returns, almost all event days contain negative returns. However, the average abnormal returns are only significant for days -4, -2 and -1. For these days, the returns are -1,36%, 1,38% and -2,51%. This can also count as evidence that the market reaction to the filing of a class-action lawsuit is negative.

Table 3, Panel B, shows that event windows, (-10, -1), (-1+1), and (-10,+1) are statistically significant. The mean cumulative abnormal returns are negative for all these event windows. However, the mean cumulative abnormal return is positive for event window (+2, +10), this does not matter as the mean cumulative abnormal returns are not statistically significant. This is also proof that the market reaction to the filing of a class-action lawsuit concerning SPACs is negative. Furthermore, the (-10, +1) event window has the best t-statistic and thus, in line with Gande and Lewis (2009) the right event window is chosen.

[Insert Table 3 here]

Figure 1 shows the development of the abnormal returns over time. The average abnormal return during the event window. The abnormal returns are negative almost every day. They are the lowest during the four days before the event and their negative peak is the day before the event. Interestingly, the average abnormal returns are smaller on and after the event date in comparison to just before the event. This could mean that the market has some knowledge of the filing of the lawsuit before it is officially filed and therefore, reacts early on to the upcoming filing. There is logic in this behavior because a filing must be triggered some days before the filing, this is called the trigger date. The trigger of a filing could be known to investors. This could be the reason that the market reaction is the greatest before the event date.

[Insert Figure 1 here]

4.2. Results of comparing abnormal returns

Table 4, Panel A shows the market reaction to the filing of a class action lawsuit concerning SPACs. The same is shown in Table 5, Panel A for lawsuits filed between 2021-2022. What stands out, is that the most significant market reaction in Table 4 is four days prior the filing of the lawsuit. For Table 5 it is one day before the filing of the lawsuit. Furthermore, the abnormal returns in Table 4 are more volatile than in Table 5. There are some very negative and some very positive abnormal returns. When looking at the event windows, you can see that the [-10, +1] window is significant in Table 4, but not significant in Table 5. This is not that big of a problem, because I do not use the whole sample. This can result in some event windows not being significant because not all companies are used.

The main goal of doing the event studies on these two samples is to compare the cumulative abnormal returns. These are found in Panel B of Table 4 and Table 5. When looking

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at the cumulative abnormal returns for the [-10, +1] window, it becomes clear that the cumulative abnormal returns for the 2019-2020 sample are much more negative than the cumulative abnormal returns for the 2021-2022 sample. The difference is 6,43%. This could mean that investors partly anticipate the lawsuits in the later years.

[Insert Table 4]

[Insert Table 5]

Table 6, Panel A shows the market reaction to the filing of a class action lawsuit concerning SPACs. This is also the case for table 7. Table 6 features companies that operate in an industry where this is the first time that a class action lawsuit concerning SPACs has been filed. To elaborate, the first class action lawsuit was filed against a company operating in the conglomerates industry. Table 7 features companies that operate in an industry where a class action lawsuit concerning SPACs has been filed before. This company is a part of the sample of Table 6. Half a year later, another class action lawsuit was filed against a different company that also operates in the conglomerates industry. This company is a part of the sample of Table 7.

When comparing the two tables, you can see that abnormal returns are the lowest in the days around the filing of the lawsuit. However, the abnormal returns are lower in Table 6. When looking at cumulative abnormal returns for the [-10, +1] window, the returns are yet again lower for the sample of Table 6. The difference is 5,15%. This could mean that investors anticipate litigation because there already have been lawsuit(s) in the same industry.

[Insert Table 6]

[Insert Table 7]

4.3. Results of the regression analysis

Table 8 shows the result of the first regression. The goal of this regression was to see if the year of the filing of the lawsuit could have any influence on the abnormal returns. Unfortunately, the coefficient of the independent variable Start, is insignificant. This is also the

case for the price to earnings ratio and the earnings per share. However, the coefficients of the book to market ratio, the size and the share turnover are all significant. This means that there is a relationship between these variables and the cumulative abnormal returns. You would expect that all three coefficients would be positive. A higher book to market ratio is an indicator that a company could be undervalued. Therefore, cumulative abnormal returns will increase when the book to market ratio is higher. Bigger size and share turnover indicate that more investors are looking at this company. This means that the reaction of investors will be more extreme to positive **and** negative news. However, Table 8 shows that the coefficient of the share turnover is negative, this was not expected. Furthermore, the F-score of the model in general is also significant, but unfortunately, I cannot make inferences about the independent variable, because it is insignificant.

[Insert Table 8 here]

However, when looking at Table 9, you can see that the independent variable is significant. Although, the coefficient is positive where I would expect it to be negative. I expected that investors would anticipate lawsuits when a lawsuit against a company in the same industry had ben filed before and thus, the reaction and therefore the cumulative abnormal returns would be smaller. The positive coefficient indicates that cumulative abnormal returns are lower for companies that operate in industries where a lawsuit has been filed before. Therefore, these results cannot be used as evidence that investors anticipate the lawsuits concerning SPACs. The three significant variables are the book to market ratio, the size and the share turnover. This is the same as in Table 8. The F-score of the regression is yet again significant.

[Insert Table 9 here]

5.1. Conclusion

I chose to write this paper because there has not only been a surge in companies going public through using SPACs, but also a steep increase in class action lawsuits concerning SPACs. The reason for this increase seems to be the safe harbor provision that allows companies that go public trough SPACs to give statements about the future performance of the company. However, in some instances, investors have felt that these statements are misleading and thus, started class action lawsuits against some of these companies.

The research in this paper has focused on the market reaction to the filing of a lawsuit.

Different research has pointed out that the market reacts negative to the filing of lawsuits. Furthermore, some research has indicated that it is possible for the market to anticipate these lawsuits. When the market partly expects a lawsuit to happen, their reaction would be less severe than when the lawsuit comes as a surprise.

At first, I hypothesized that the market would react negative to a lawsuit concerning SPACs. This was researched by looking at the abnormal returns around the filing of a lawsuit. The event window that I chose is a (-10, +1) window. The results pointed out that this is the most significant event window. Furthermore, results point out that the abnormal returns are, as expected, negative. This proofs the first hypothesis.

Hereafter, I was interested if the market could partially anticipate the filing of the lawsuits. There could be two reasons for this anticipation. The first reason entails that the lawsuit is anticipated because there have been lawsuits concerning SPACs in the past. The second reason is that the market could anticipate a lawsuit if there has already been a lawsuit concerning SPACs against a company operating in the same industry. At first, I divided the sample in two groups for both reasons. The division was based on companies where the market should partially anticipate the lawsuit and companies where the market should not partially anticipate the lawsuit. Abnormal returns were less negative for companies where the market should anticipate the lawsuit, this is an indication that there could be some anticipation.

However, I tested the relation between these two reasons and the cumulative abnormal returns through a regression. The result of this regression indicated that there is no relationship for the first reason and that the sign of the second reason is positive where the relationship was thought to be negative. So, no relationship was found.

The research question of this paper is: How does the market react to class action lawsuits concerning SPACs? Based on my results I can say that the market reaction to the filing of the lawsuits is negative. However, I have found no proof that investors do anticipate these lawsuits

5.1. Limitations and recommendations.

This paper is not free from its limitations. Firstly, the regression analysis could be more extensive. The paper of Gande and Lewis (2009) had a proxy variable for investor anticipation due to lawsuits in the same industry. However, the model to come up with this variable is pretty difficult and I thought it would be too much for my master thesis. Therefore, I chose my own method to choose companies where the market could anticipate a lawsuit.

Furthermore, the sample is somewhat small. There is no other possibility because I have

chosen all companies that have had class action lawsuits filed against them. A bigger sample is not possible. However, if lawsuits will keep getting filed, then in the future it would be possible to research this topic with a bigger sample.

At last, you could argue if the regression model used could be enough to proof partial investor anticipation. To clarify, if the regression model would find proof that there is a positive relationship between lawsuits filed in 2019-2020 and cumulative abnormal returns. This would not be direct proof for investor anticipation. It would be circumstantial and thus, only an indication. It is hard to really know if the market reacts in a way because they anticipate the lawsuit, the reaction could be due to other reasons.

Based on my paper, I have some recommendations for further research. At first I would recommend to follow the methodology used by Gande and Lewis (2009) to determine investor anticipation. This could enhance the paper.

What becomes clear is that class action lawsuits concerning SPACs are increasing. Where the process of an IPO is regulated pretty well, this is not the case with SPACs, which results in the aforementioned lawsuits. My recommendation for further research is that the process of going public through SPACs will be analyzed and that researchers will advice governmental bodies like the SEC on how to better regulate this process so it will result in less lawsuits.

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Appendix 1: Litigation cases

In this part of the appendix, I show the short description of three class action lawsuits. *Arrival SA*: This company manufactures and distributes electric cars, vans and buses. The reason for the lawsuit is as follows: "The Complaint alleges Arrival made false and misleading statements to the public throughout the Class Period and failed to disclose material adverse facts about the Company's business, operational, and financial prospects. Specifically, the Complaint alleges Arrival made false and/or misleading statements concerning: (i) the Company would record a substantially greater net loss and adjusted EBITDA loss in the third quarter of 2021 compared to the third quarter of 2020; (ii) the Company would experience far greater capital and operational expenses required to operate and deploy its micro factories and manufacture EVs than disclosed; (iii) the Company would not capitalize on or achieve profitability or provide meaningful revenue in the time periods disclosed; (iv) the Company would not achieve its production and sales volumes; (v) the Company would not meet the disclosed production rollout deadlines; (vi) accordingly, the Company materially overstated its financial and operational position and/or prospects; and (vii) as a result, the Company's public statements were materially false and misleading at all relevant times."

Bowl America: This company has around 20 bowling centres through America. The reason for the lawsuit is as follows: "On July 13, 2021, Defendants filed a proxy statement with the United States Securities and Exchange Commission in connection with the Proposed Transaction. The Complaint alleges that the Proxy Statement omits material information with respect to the Proposed Transaction, which renders the Proxy Statement false and misleading."

Virgin Atlantic Holdings, Inc.: This company is an aerospace company that develops space flights for private purposes. The complaint states: "The Complaint alleges that, throughout the Class Period, Defendants made materially false and misleading statements regarding the Company's business, operations, and compliance policies. Specifically, the Complaint alleges Defendants made false and/or misleading statements and/or failed to disclose that: (i) for accounting purposes, SCH's warrants were required to be treated as liabilities rather than equities; (ii) Virgin Galactic had deficient disclosure controls and procedures and internal control over financial reporting; (iii) as a result, the Company improperly accounted for SCH warrants that were outstanding at the time of the Business Combination; and (iv) as a result, the Company's public statements were materially false and misleading at all relevant times."

Appendix 2: Variable Definitions

Variable:	Definition:
Variables used in the regression analysis	
CAR	This variable contains the cumulative abnormal returns per company used in the sample.
Start	indicator variable equal to one if the lawsuit has been started in 2019 or 2020 and zero otherwise.
Lawsuit	indicator variable equal to one if the lawsuit has been filed against a company that operates in an industry where a lawsuit concerning SPACs has been filed before against another company in the same industry.
P/E	This is the price to earnings ratio. This ratio is calculated by dividing the earnings per share with the close share price.
B/M	This is the book to market ration. This ratio is calculated by dividing the book value of a company by the market value of a company.
Size	The size of the company is calculated by taking the natural logarithm of the total assets of a company.
ST	The share turnover is calculated by taking the natural logarithm of the total annual shares traded divided by total outstanding shares.
EPS	Earnings per share are calculated by dividing total average net income by total average outstanding shares.

Figure 1: Average abnormal returns during the event window
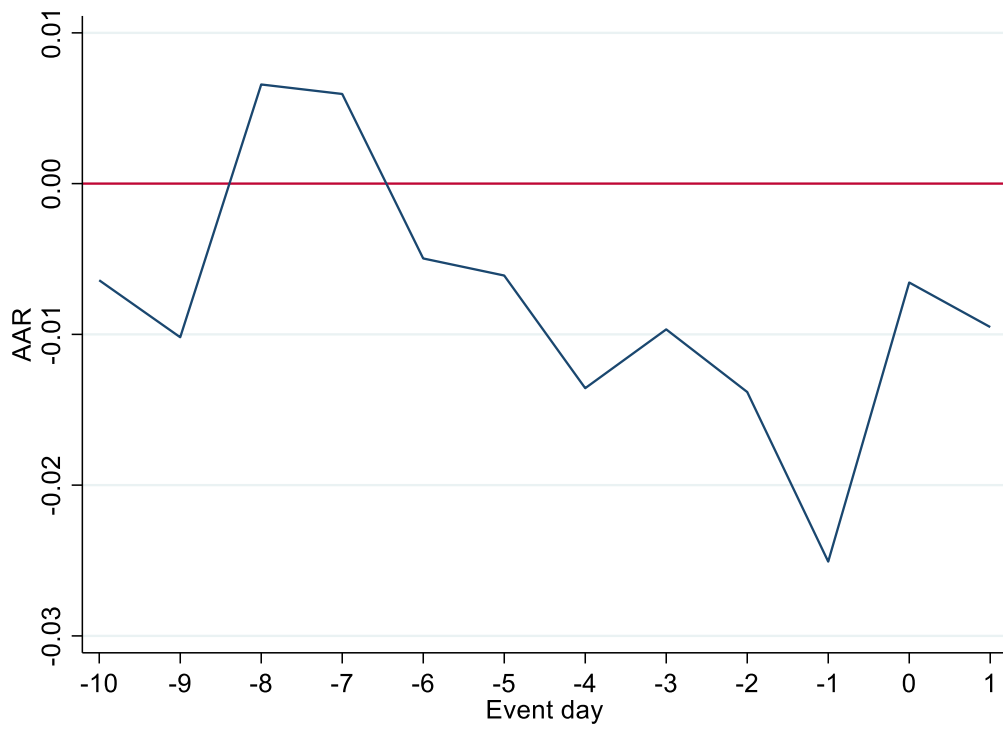
Table 1: Sample selection

Sampling procedure	Number of companies
Companies that have had a class action lawsuit filed against them between 2019 and 2022	62
After eliminating companies not matched with Datastream	57
After eliminating companies not matched with Compustat	40

Table 1 shows the sample selection that results in the final sample

Table 2: Descriptive statistics

Variable	Obs	Mean	Std. Dev
Cumulative abnormal returns	40	-0,11	0,28
Price to earnings (P/E)	40	-8,9	4,25
Book to market (B/M)	40	0,89	1,38
Size	40	2,8	0,47
Share turnover (ST)	40	6,26	0,63
Earnings per share (EPS)	40	-0,91	4,85

Table 2 shows the descriptive statistics of the variables of the two regressions.

Table 3: Market reaction to the filing of a lawsuit

Panel A: Abnormal Returns

Event day	N	AAR (%)	T-test
-10	40	-0,64	-0,84
-9	40	-1,02	-1,33
-8	40	0,66	0,86
-7	40	0,59	0,78
-6	40	-0,50	-0,65
-5	40	-0,61	-0,80
-4	40	-1,36	-1,77*
-3	40	-0,97	-1,26
-2	40	-1,38	-1,81*
-1	40	-2,51	3,28***
0	40	-0,66	-0,86
1	40	-0,95	-1,24

Panel B: Event window

Event window	CAR (%)	Positive/Negative (%)	T-test
(-10, -1)	-13,05	61,60	-3,21***
(-1, +1)	-5,20	62,33	-2,17***
(-10, +1)	-14,59	62,18	-3,70***
(+2. +10)	-1,08	54,55	-0,56

Panel A of the table shows the average abnormal returns of the stock prices of the companies for every event day around the filing of a lawsuit. Furthermore, it shows thee percentage of the returns that was negative, the t-test of the abnormal returns and at last the cumulative abnormal returns. Panel B shows the total cumulative returns, the percentage of negative returns and the t-test for different event windows. These returns are between 2019 and 2022.

Table 4: Abnormal returns for companies in 2019-2020

Panel A: Abnormal Returns

Event date	N	Abnormal returns (%)	T-test
-10	11	-4,34	-1,76
-9	11	-1,43	-0,64
-8	11	-5,34	-2,27*
-7	11	2,27	0,58
-6	11	-0,05	-0,03
-5	11	3,88	0,65
-4	11	-6,73	-2,42**
-3	11	-3,12	-1,53
-2	11	-7,81	-1,84
-1	11	3,88	0,63
0	11	-2,68	-0,67
1	11	0,73	0,60

Panel B: Event Window

Event window	N	CAR (%)	T-test
(-10, -1)	11	-13,65	-2,91***
(-1, +1)	11	2,46	0,61
(-10, +1)	11	-15,43	-2,07**
(+2, +10)	11	-11,92	-1,29

Panel A of the table shows the average abnormal returns of the stock prices of the companies for every event day around the filing of a lawsuit. Furthermore, it shows the sample size and the t-test of the abnormal returns. Panel B shows the total cumulative returns, the sample size and the t-test for different event windows. These returns are between 2019 and 2020. The signs *, ** and *** indicate that the returns are significant on a 1%, 5% or 10% level.

Table 5: Abnormal returns for companies in 2021-2022

Panel A: Abnormal Returns

Event date	N	Abnormal returns (%)	T-test
-10	29	0,13	0,16
-9	29	0,33	0,26
-8	29	2,31	1,06
-7	29	-0,84	-0,52
-6	29	-0,30	-0,40
-5	29	-0,70	-0,87
-4	29	-0,77	-0,59
-3	29	-2,11	-1,12
-2	29	-1,99	-1,32
-1	29	-4,98	-2,20**
0	29	0,22	0,22
1	29	-1,27	-0,76

Panel B: Event Window

Event window	N	CAR (%)	T-test
(-10, -1)	29	-8,92	-1,7*
(-1, +1)	28	-6	-2,17**
(-10, +1)	29	-9	-1,63
(+2, +10)	29	1,15	0,37

Panel A of the table shows the average abnormal returns of the stock prices of the companies for every event day around the filing of a lawsuit. Furthermore, it shows the sample size and the t-test of the abnormal returns. Panel B shows the total cumulative returns, the sample size and the t-test for different event windows. These returns are between 2021 and 2022. The signs *, ** and *** indicate that the returns are significant on a 1%, 5% or 10% level.

Table 6: Abnormal returns for lawsuits filed for the first time in an industry

Panel A: Abnormal returns

Event date	N	Abnormal returns (%)	T-test
-10	18	-1,01	-0,77
-9	18	1,44	0,82
-8	18	-0,41	-0,19
-7	18	-0,89	-0,49
-6	18	0,06	0,05
-5	18	1,40	0,63
-4	18	-3,28	-1,70
-3	18	-5,38	-2,37**
-2	18	-3,27	-1,44
-1	18	-2,33	-0,67
0	18	-0,14	-0,08
1	17	-1,31	-1,38

Panel B: Event Window

Event window	N	CAR (%)	T-test
(-10, -1)	18	-11,78	-1,72
(-1, +1)	16	-3,2	-1,3
(-10, +1)	18	-13,79	-2,06*
(+2, +10)	15	-3,4	-0,69

Panel A of the table shows the average abnormal returns of the stock prices of the companies for every event day around the filing of a lawsuit. The companies are included in this sample if they operate in an industry where this is the first filing of a class action lawsuit concerning SPACs. Furthermore, it shows the sample size and the t-test of the abnormal returns. Panel B shows the total cumulative returns, the sample size and the t-test for different event windows. These returns are between 2019 and 2022. The signs *, ** and *** indicate that the returns are significant on a 11%, 5% or 10% level.

Table 7: Abnormal returns for lawsuits filed more than one time in an industry

Panel A: Abnormal returns

Event date	N	Abnormal returns (%)	T-test
-10	22	-0,41	-0,41
-9	22	-1,59	-1,25
-8	22	2,23	0,71
-7	22	0,46	0,19
-6	22	-0,60	-0,87
-5	22	-1,19	-1,04
-4	22	-0,39	-0,27
-3	22	1,09	0,57
-2	22	-2,91	-1,50
-1	22	-4,35	-1,61
0	22	-0,56	-0,43
1	22	-0,43	-0,16

Panel B: Event Window

Event window	N	CAR (%)	T-test
(-10, -1)	22	-9,79	-1,73
(-1, +1)	22	-5,89	-1,45
(-10, +1)	22	-8,64	-1,27
(+2, +10)	22	-1,65	-0,57

Panel A of the table shows the average abnormal returns of the stock prices of the companies for every event day around the filing of a lawsuit. The companies are included in this sample if they operate in an industry where this is not the first filing of a class action lawsuit concerning SPACs. Furthermore, it shows the sample size and the t-test of the abnormal returns. Panel B shows the total cumulative returns, the sample size and the t-test for different event windows. These returns are between 2019 and 2022. The signs *, ** and *** indicate that the returns are significant on a 1%, 5% or 10% level.

Table 8: Year Analysis

Variable	Sample	Coefficient	P >t		
Intercept	40	-0,05	0,89		
Start	40	0,06	0,5		
P/E	40	-0,01	0,98		
B/M	40	0,05	0,02**		
SIZE	40	0,26	0,00***		
ST	40	-0,14	0,02**		
EPS	40	0,01	0,95		
R²				0,25	
Prob > F				0,02**	

Table 8 shows the outcome of the regression that looks on the effect of the year of the filing on cumulative abnormal returns. The table gives the coefficient and p-values of a dummy variable which is one when the year is 2019-2020 and zero otherwise, the price to earnings ratio, the book to market ratio, the size of the company, the share turnover and the earnings per share. *, ** and *** indicate that the returns are significant on a 1%, 5% or 10% level.

Table 9: Litigation in same industry

Variable	Sample	Coefficient	P >t		
Intercept	40	-0,13	0,72		
Lawsuit	40	0,17	0,06*		
P/E	40	-0,00	0,74		
B/M	40	0,05	0,01**		
SIZE	40	0,28	0,00***		
ST	40	-0,15	0,02**		
EPS	40	-0,01	0,19		
R²				0,33	
Prob > F				0,01**	

Table 9 shows the outcome of the regression that analyses if cumulative abnormal returns change if a lawsuit has been filed in the same industry. The table gives the coefficient and p-values of a dummy variable which is one when when a lawsuit has been filed in the same industry and zero otherwise, the price to earnings ratio, the book to market ratio, the size of the company, the share turnover and the earnings per share. *, ** and *** indicate that the returns are significant on a 1%, 5% or 10% level.