

**Abnormal returns from insider trades on
Special Purpose Acquisition Company's (SPAC's) warrants**

By

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Abstract

This Master Research Paper explores the disgraceful impact in the finance industry, and the lucrative returns from the Special Purpose Acquisition Company (SPAC) warrants with insider and trader trades (information).

A SPAC, also known as “blank check company”, is an innovative publicly-traded investment vehicle which began in 1993 for companies to raise funds via an initial public offering (IPO) to complete a targeted acquisition. An event study methodology was conducted to provide a systematic review of the pre-announcement and post-announcement of price and volume movement on SPAC warrants from different industries. A sample size of 11 events was utilized.

This study finds that the insider traders causes abnormal movement on warrant price and volumes trades over the event period (between trading day -5 to trading day 30) on those SPAC warrant before any positive announcement from the SPAC companies.

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List of Abbreviations

SPAC	-	Special Purpose Acquisition Company
IPO	-	Initial Public Offering
MRP	-	Master Research Project
NASDAQ	-	National Association of Securities Dealers Automated Quotations
SEC	-	U.S. Securities and Exchange Commission
U.S.	-	United States
CSA	-	Canadian Securities Administrators
OHLC Chart	-	Open-high-low-close chart
SMAVG	-	Simple Moving Average
USD	-	United States dollar
CAAR	-	Cumulative Average Abnormal Return

Chapter 1: Introduction

1.1 Purpose of Study

The Special Purpose Acquisition Company (SPAC) has become a significant trend in financial markets and play an important role for companies who are interested to be publicly listed with an easier process, instead of a Initial Public Offering (IPO). The easier policy from the U.S. Stock Exchanges has caused the claim there is unacceptable and unfair insider information sharing on SPAC warrant trades. As a result, insider traders with an unpublished information advantage can gain abnormal returns before the information(s) had been publicly shared with the market.

This Master Research Project (MRP) will conduct an Event Methodology to test and identify the informational value for insider trades to gain an abnormal return from SPAC warrants. The result of the studies will be examined based on the data collected (volume and shares price movement) from Bloomberg, before and after the event announcement.

Two (2) hypotheses are tested, (i) the abnormal volume of trades before the SPAC warrant companies announcement(s), and (ii) the abnormal return (SPAC warrant price movement).

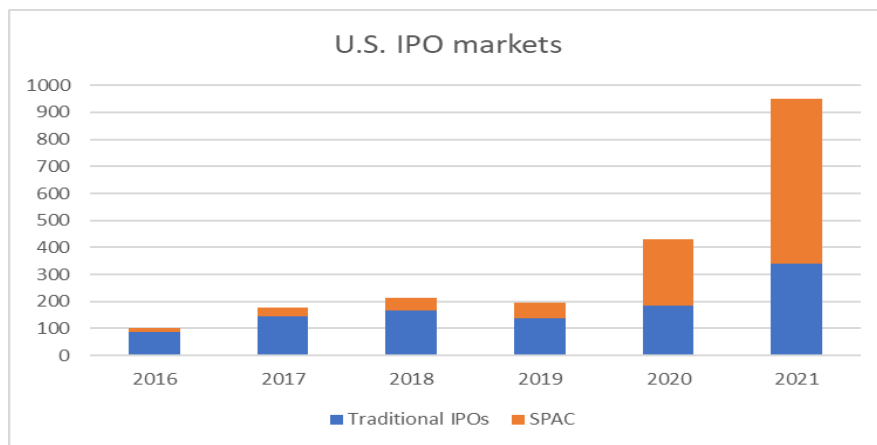
Eleven (11) SPAC warrants that are listed on the U.S.'s (United States) stock exchange, National Association of Securities Dealers Automated Quotations (Nasdaq) and Over-The-Counter (OTC) market are examined, with the abnormal trade volume before the announcement.

1.2 Background of Special Purpose Acquisition Company (SPAC)

A Special Purpose Acquisition Company (SPAC) was ‘invented’ by the U.S. Securities and Exchange Commission (SEC), David Nussbaum in 1993 (Excelsior Capital, 2020). SPAC’s can benefit those private companies who are interested to be publicly listed on the stock exchange, but doesn’t meet certain Initial Public Offering (IPO) requirements from SEC or want to be publicly listed within a shorter period.

There are a number of corporations seeking to be publicly traded on a U.S. stock exchange, such as Nasdaq, NYSE, New York Stock Exchange (NYSE), or the Chicago Stock Exchange (CHX). Even though, as a public listed company, it will be facing stock dilution for the founder(s) of the company, there are still lots of companies that have submitted the application to be publicly listed. According to PWC, (2022) there were, notwithstanding the Covid 19 pandemic, 951 companies that had IPOs in the U.S. market – see Figure 1.1 (PWC, 2022).

Figure 1.1
United States IPO’s volume (2016-2021)



Source: PwC, Dealogic. Copyright 2022 by PwC, Dealogic.

According to the Nasdaq official website, to be listed on the U.S. Nasdaq stock exchange, does have number of disclosure requirements. First of all, Nasdaq does require the company shareholders' equity for at least USD\$2,000,000, and with a total assets worth USD\$4,000,000 (Nasdaq, 2022). Moreover, it also requires the company to have a USD\$3 minimum bid price for its company stock. Lastly, Nasdaq takes at least four to six weeks to process a listing application. However this time frame is variable, and it doesn't include the time for a company to prepare documents required for an IPO, which can lead the whole process timeline to be a year to eighteen months.

Although the process of being a public listed company does takes time and dilutes the shares and controlling rights for the company owner(s), there are benefits too. Most companies that have chosen to be publicly listed, do so to raise funds for upcoming projects or expansion. For example, Saudi Aramco, as one of well known and largest oil and gas company chose an IPO on the Tadawul Stock Exchange in 2019 with USD\$29.4 billion (CNBC, 2020). IPO's can also improve the credibility and image of a company.

With the above attractions of being a public listed company, the SPAC method to be publicly listed on the U.S. stock exchange has become very popular. According to the SEC commissioner, Caroline A. Crenshaw, a sudden SPAC boom raises more than USD\$80 billion in 2020 and USD\$160 billion in 2021. With the advantage of regulatory flexibility, the cost of a SPAC is much lower than an IPO too. A SPAC listing costs standard 5.5% of underwriting and completion fees, whereas an IPO requires at least 5% to 7% of additional fees, such as legal and audit fees (Ians & Berlin, 2021).

For an example, WeWork Inc. had failed its traditional IPO in 2019 and successfully went public through a SPAC within a year, 2021 (Subin, 2021). WeWork Inc. as the first provider of co-working spaces started with a new business idea by reducing the operating cost for its customers. WeWork as a USD\$9 billion of unicorn, had merged with BowX Acquisition Corp (Farrell & Putzier, 2021). Based on Nasdaq information provided, WeWork Inc. SPAC of redeemable warrants, with each warrant exercisable for one share of Class A common stock at an exercise price of USD\$11.50 per share. WeWork fundraised USD\$1.3 billion.

1.3 SPAC Warrants

The Intelligent Investor author, Benjamin Graham did mention warrants as one of the financial instruments in his classic book at the 1949. Companies that have been publicly listed by using the SPAC method, are not selling as stocks, but a unit, will each warrant exercisable on a SPAC share. Most likely, two months later, SPAC warrant holder could exercise their warrant to the SPAC stocks.

The SPAC stock warrant gives the warrant holder the right to buy the stock at a particular price, the exercise price, after the warrant is exercisable, and till the warrant expires. SPAC shares are usually priced at USD\$10, and the public warrants are usually priced at the strike price of USD\$11.50 or higher.

Based on the information provided by the Financial Industry Regulatory Authority (FINRA), to exercise the warrant, the investor must accumulate a whole number of warrants in order to trade the warrant or exercise the warrant (FINRA, 2021). With the information provided by the SEC, a SPAC IPO is often structured to offer investors a

unit of securities consisting of one share of common stock and two warrants (US Securities and Exchange Commission, 2021).

For an example, according to WeWork Inc.'s Form S-1 Registration Statement to SEC, it stated that for warrant holders who purchased WeWork's SPAC IPO unit each warrant per unit was 0.333, and as mentioned previously, the exercise price is USD\$11.50 (WEWork, Inc., 2019).

1.4 Structure of research

This MRP project will be conducted by studying the abnormal returns from potential insider trades on the Special Purpose Acquisition Company (SPAC) warrant. This present chapter, has introduced the background of SPAC's and a SPAC warrant, the objectives of the MRP project, and the limitations of the research. Chapter 2, provides a literature review on the test of abnormal trade volume and share price movement from insider trade information on SPAC warrant before the announcements. Moreover, Chapter 3 will explain the data sources and methodologies utilized, that are used to measure the abnormal return. It presents the abnormal price and volume movement on SPAC warrant during the pre-announcement and post-announcement time periods. Chapter 4 will examine the results of the regression analysis and analyze the possible reason for the above results. Lastly, a conclusion is covered in Chapter 5.

1.5 Limitation of research

This project had conducted within the limitations of times given, four months and given time limitation, the study cannot analyse all the SPAC warrants in the U.S. market.

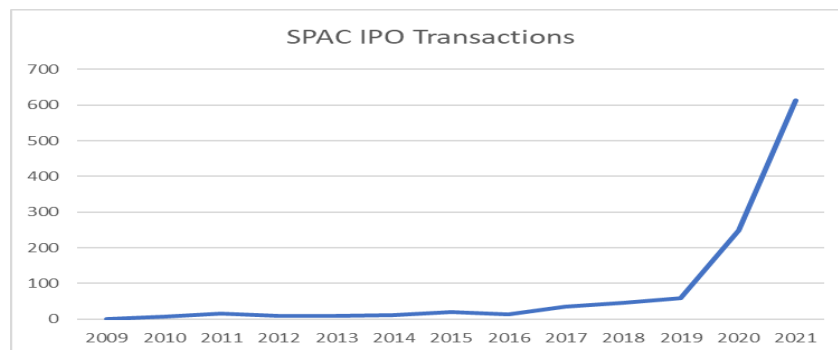
Despite this, a sample of eleven (11) SPAC warrants listed in U.S. stock exchanges by are analysed. Given that SPAC's were only introduced in 1993 by David Nussbaum, within three decades, investors around the world are still not familiar with the SPAC products and many assume they are high-risk financial instruments. Which causes SPAC's not to be commonly traded around the world, although as the next chapter will illustrate by 2021, 21 countries have them listed on their stock exchanges. Not surprising this has limited the sources of often studies both in the academic literature and on the internet.

Chapter 2: Literature Review

2.1 Motives of Special Purpose Acquisition Company (SPAC) warrant

The explosive growth of SPACs has led to not only stock trades, but warrant trades too. Based on the data provided by Nasdaq, the number of SPAC IPO's has shown rapid growth since 2009 from just 1 company successfully launching an IPO through the SPAC method, to 613 companies in 2021 (Mackintosh, 2022). This is shown in Figure 2.1, below.

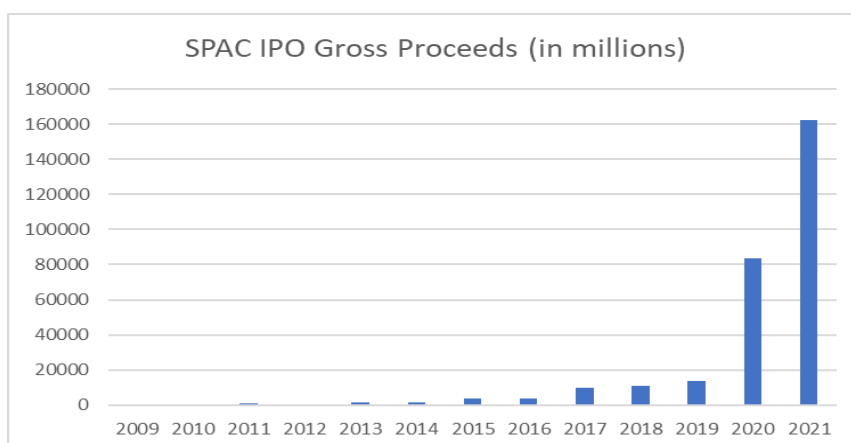
Figure 2.1
SPAC IPO Transactions (2009-2021)



Source: Nasdaq. Copyright 2022 by Nasdaq.

In addition, the amount of capital raised from SPAC IPO's has shown significant growth which attracted more companies to be choose a SPAC, as a cost-saving and time-saving method to be publicly listed on Nasdaq. 753 companies took that route on Nasdaq in 2021, hence the SPAC IPO method did attract 613 companies. Based on the data calculation from SPACInsider, approximately USD\$162.5323 billion was raised for those 613 companies who used the SPAC method to IPO. See Figure 2.2.

Figure 2.2
SPAC IPO Gross Proceeds (in millions) (2009-2021)



Source: SPACInsider. Copyright 2022 by SPACInsider.

SPAC's have attracted interest across many industry sectors, including traditional sectors as well as the newer innovation sectors of companies, such as WeWork referenced in Chapter 1, Grab a Southeast Asia ride-hailing giant and others. The latter has been classified by CNBC Disruptor 50 list in 2020 and was named at the top of the list of most valuable SPAC mergers with USD\$39.5 billion (Riley, 2021).

In addition, SPAC's, despite the skepticism of many investors, have been accepted by lots of stock exchanges around the world, not just in the U.S. including the Cayman Islands, Hong Kong, Singapore, United Kingdom, Israel, Malaysia and others. In 2019, there were 5 countries and by 2021, 21 countries. See Figure 2.3 and Table 2.1

Figure 2.3
Number of SPAC issuers around the world in 2021



Source: White&Case. Copyright 2022 by Refinitiv.

Table 2.1
Number of SPAC issues by country in 2021

Issuer	Number of issues
United States	539
Cayman Islands	26
Hong Kong SAR	16
Singapore	5
United Kingdom	5
Israel	4
Malaysia	4
China	2
Bermuda	1
Mexico	1
Switzerland	1
Germany	1
Taiwan	1
South Africa	1
Netherlands	1
Kazakhstan	1
Bahamas	1

Cyprus	1
Brazil	1
Canada	1
Industry Total	1

Source: White&Case. Copyright 2022 by Refinitiv.

2.2 The warrants of a Special Purpose Acquisition Company (SPAC's)

As has been illustrated, SPAC issues have benefited and attracted companies around the world to list their company much more easily by means of a SPAC. As J. Michael once said, “There are always two sides to every story. Your side, their side and the truth in the middle. Get all the facts before you jump to conclusions.” (Long, 2015).

which contains one share and a certain amount of warrant.

A SPAC when issued is sold as a unit which contains one share and a certain amount of warrants, which can cause some trades with inside information on news and announcements to be made from the company before the company makes the public announcement. As a result, the shares price and also the warrant prices are manipulated. Based on the data shown on Bloomberg, there were some SPAC companies with abnormal trades volume a few days before the company made an announcement.

The research conducted by Buhayar and Robinson (2022), which was published in Bloomberg Businessweek shows abnormal trading volume on SPAC warrants, such as VectoIQ in 2020. One trading day before the announcement of a signed letter of intent to combine with BurgerFi International, VectoIQ SPAC's trading volume was more than 60 times the normal amount. Based on both calculations, for those insider trades who

placed the order earlier would gain 888% if they held those SPAC warrant(s) four months later through to June 30, 2020.

2.3 Event study

Austin (2016), stated that Canadian Securities Administrators (CSA), the umbrella organization of Canada's provincial and territorial securities regulators, has reported the number of investigations into insider trading and market manipulation successfully concluded each year across Canada. Based on her research on CSA data collection by 2013, there were 17 insider trading investigations concluded by the Agency. According to the CSA's newest data in 2020/2021, 13 cases of illegal insider trading have been responded to.

As earlier study by Tartaroglu (2008) observed that there were 1345 stocks with abnormal moves from January, 1996 to August, 2002. Out of the number of stocks, he analysed and concluded that 0.0965 of insider sales and 0.1628 of insider purchases were statistically significant at the 1% a level. Through his research regarding post-announcement insider trading and earnings surprises, he concluded that 0.0592 of insider sales and 0.0472 of insider purchases of insider trading were denoted significant at the 1% level.

2.4 Factors related to the abnormal trade volume

2.4.1 Insider information

Insider information is one of the ways for investors to gain an “unfair” advantage and lucrative returns from a SPAC warrant. Traders would use the advantages of insider

information by placing the order on pre-announcements before the market reflects the actual share price. In this imperfect market, with no full disclosure of information about the company's upcoming decision, insider trades could place an order and leave the market much earlier than others. The examples of insider information include:

1. Financial statement revision
2. Anticipated earnings that are consistent or inconsistent with expectations
3. Changes in the fiscal year of the company
4. Company's activities such as auction, stock repurchase plans, take-over bids, change in dividends, consolidation, stock splits, private placement, public offering and others.

Chapter 3: Methodology

3.1 Objective of test

The objective of this study is to test for abnormal trading volume pre-announcement from SPAC companies and the abnormal return from insider trades. It will use an Event Study Methodology as the statistical method to assess the impact of an event (pre-announcement of insider information) on the value of firm (abnormal trading volume pre-announcement and abnormal return from insider trades).

3.2 Data Collection

3.2.1 Sample Construction

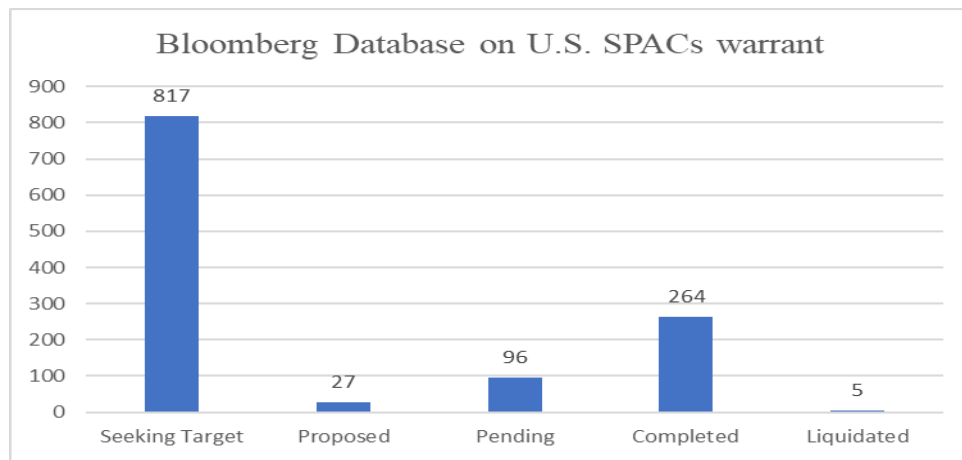
The investigated samples of acquisitions was constructed from Bloomberg's Database. The sample deals had to meet the following criteria:

1. The abnormal trading volume between 2020 to 2022 on a SPAC warrant.
2. Those SPAC companies were publicly listed in the U.S..
3. The sample of SPAC companies with potential insider trades from different industries.
4. The sample of SPAC companies with potential insider trades from at least 3 out of 4 different categories on Bloomberg Database (Seeking Target, Proposed, Pending, Completed & Liquidated).
5. The abnormal trading volume with at least 18,000 on a SPAC warrant.

6. Public announcements from the company, the day(s) after the abnormal trading volumes.
7. The potential insider trades with long and short positions on SPAC warrant.

Figure 3.1 shows the Bloomberg database and Table 3.1 the sample of warrants with abnormal trading.

Figure 3.1
Bloomberg Database on U.S. SPACs warrants from 2018 to 2022



Source: Bloomberg. Copyright 2022 by Bloomberg.

Table 3.1
List of SPAC warrants with abnormal trade volume before company announcement.

NAME	IPO ID	Group	Ticker	Industry
YunHong International	196292975	Liquidated	ZGYHU US	Consumer Discretionary
DD3 Acquisition Corp II	224635981	Liquidated	DDMXU US	Casinos & Gaming
Gores Holdings VIII Inc	225342882	Proposed	GIIXU US	Financial Services
Ross Acquisition Corp II	225413931	Proposed	ROSS/U US	None

GigInternational1 Inc	226193357	Proposed	GIWWU US	None
East Stone Acquisition Corp	209049648	Pending	ESSCU US	Technology
AEC Convergence Acquisition Co	217972586	Pending	ACEVU US	Software
Primavera Capital Acquisition	225161556	Pending	PV/U US	Financial Investment
Software Acquisition Group Inc	225585047	Pending	SWAGU US	None
Abri SPAC I Inc	227176638	Pending	ASPAU US	Speciality Technology Hardware
Oncology Institute Inc	210695366	Completed	DFPHU US	Health Care

Source: Bloomberg. Copyright 2022 by Bloomberg.

3.3 Methodology

3.3.1 Abnormal return

The methodology used to calculate the wealth change of insider trades for this project are calculated as abnormal returns. An abnormal return is a recognized from a standard event study method developed by Brown and Warner (1985) by estimating and analyzing the wealth changes in percentage form. Abnormal returns are defined as market residuals. The abnormal return of the Market Model as in Equation 3.1.

$$R_{it} = \alpha_i + (\beta_i * R_M) + \epsilon_{it} \dots \dots \dots \text{Equation 3.1}$$

3.3.2 Event window

The event window for this study will be set from the abnormal trading volume of 5 trading days earlier (T-5) to the days of the SPAC warrant price reaching the peak/bottom (T+X), which is relative to the announcement date. Therefore this paper

will examine the cumulative abnormal returns (CAR's), as developed in the next chapter in order to measure the insider trades' maximum profit. For the Market Model, **Rit** measures the holding period returns with insider trades and **Rm** it's also known as an equal weightage index return with the distributions.

As mentioned above, the event window is between T-5 to T+X relative to the announcement date and this paper will define the insider trades (abnormal trading volume) of abnormal return as the companies announcement during the event window.

Chapter 4: Test Results

4.1 Test Results

4.1.1 Cumulative abnormal trade volume on SPAC warrants

For this study eleven SPAC warrants with abnormal trading volume during pre-announcement are utilized. Insider trades had placed the order (long positions and short positions) earlier than the company announcement, which benefited them to minimize the abnormal return and minimize the losses. With an imperfect market, insiders trade with the advantage of non-public information permitting phenomenal abnormal trades volumes on SPAC warrants before the company makes the announcement. With the announcement made by the company, the news will reflect positively or negatively on its SPAC warrant price. For an example, SPAC Digital World Acquisition Corp. (DWAC) faced an investigation from the SEC and the Financial Industry Regulatory Authority in October 2021 regarding the insider trades between 45th U.S. President Donald Trump's company Truth Social (Goldstein, 2021). Vice-Chair of the Senate Democratic Caucus, Elizabeth Warren had requested the SEC to investigate the potential insider trades that she believed that in May 2021, Trump Social had already gone through a few discussions on a SPAC merger, without any public announcement.

As mentioned in the previous chapter, this study selected a sample of eleven SPAC warrants to test price fluctuations and volume movement, from different industry fields and groups classified by the Bloomberg Database. The time interval of 21 trading days to 1 trading day during pre-announcement as the event date was chosen to be the event window. In addition, this study examined the potential insider returns from the SPAC

warrant price movement of 1 trading day to 8 trading days during the post-announcement. Furthermore, the event study (SPAC warrant price movement) over these eleven samples was a maximum of 28 trading days to 3 trading days at a minimum.

The differences between actual stock returns (ret) and predicted normal returns, were considered as abnormal returns for insider trades. Therefore, the cumulative abnormal returns (CAR) were calculated with the following formula, Equation 4.2

$$\mathbf{CAR} = \sum (\mathbf{ret} - \mathbf{predicted\ return}) \dots\dots\dots\mathbf{Equation\ 4.2}$$

The following sections detail the results for the sample of 11 companies.

4.1.1.1 YunHong International

YunHong International Co Ltd (SPAC IPO ID: 196292975; Ticker: ZGYHU US) is a consumer discretionary company that was established in Wuhan, Hebei, China in 2013. It focused on health dietary supplements, healthy food and beverages, and beauty and personal care products. YunHong International successfully launched a SPAC IPO on 13th of February in 2020 with 6.9 million of shares offered at USD\$10.00.

Table 4.1
YunHong International SPAC warrant information

Name	YunHong International
SPAC IPO ID	196292975
Bloomberg US SPAC's Group	Liquidated
Ticker	ZGYHU US
Industry	Consumer Discretionary
SPAC IPO Date	February 13, 2020
SPAC IPO Security Type	Unit
Unit-Composition - Common Stock	1
Unit-Composition - Warrant	0.5
Shares Offered	6,900,000
IPO Price	USD\$10.00
Current Status	Delisted

Source: Bloomberg. Copyright 2022 by Bloomberg.

On 10th February 2021, there was an abnormal trading volume on YunHong International SPAC warrants with a 1064.33% of volume trade volume on that specific trading day compared to the Simple Moving Average (SMAVG) of 15 days trading volumes of 96,247. Within 3 trading days, the price of SPAC warrant had grown 15.56% which potentially benefited insider traders with USD\$168,432.25. On 16th February 2021, YunHong International made the announcement at 4 pm, the company had received funds of USD\$690,000 that were deposited into the company's trust, that

would enable it to extend the period to consummate its initial business combination by another 3 months (Orlando, 2021). This was positively reflected on its shares on the next trading day, 17th February 2021. See Figure 4.1.

Figure 4.1
YunHong International SPAC warrant abnormal trading volume



Source: Bloomberg. Copyright 2022 by Bloomberg.

YunHong International Co Ltd on 17th May 2021 received a merger invitation from Giga Energy to go public with a USD\$7.35 billion of share exchange deal (Bloomberg, 2021). However, the merger deal was not completed by the July 30 deadline. Due to the negative impact on the company management, the company made the announcement on September 2021 of its plans to liquidate the company and redeem all of its outstanding shares at USD\$10.31 per share (Reuters, 2021).

4.1.1.2 DD3 Acquisition Corp II

DD3 Acquisition Corp II (SPAC IPO ID: 224635981; Ticker: DDMXU US) is a casino and gaming company that was established in Ciudad De Mexico, Mexico City, Mexico (Bloomberg, 2022). As an online gaming and sports betting operator that launched in 2014, DD3 had expanded its business to seven countries across two regions. DD3 Acquisition Corp II had successfully launched a SPAC IPO on the 8th of December in 2020 with 12.5 million of shares offered at USD\$10.00. See Table 4.2

Table 4.2
DD3 Acquisition Corp II SPAC warrant information

Name	DD3 Acquisition Corp II
SPAC IPO ID	224635981
Bloomberg US SPAC's Group	Liquidated
Ticker	DDMXU US
Industry	Casinos & Gaming
SPAC IPO Date	December 8, 2020
SPAC IPO Security Type	Unit
Unit-Composition - Common Stock	1
Unit-Composition - Warrant	0.5
Shares Offered	12,500,000
IPO Price	USD\$10.00
Current Status	Acquired

Source: Bloomberg. Copyright 2022 by Bloomberg.

On the last 3 trading days of 27th January 2021 to 29th January 2021, there was an abnormal trading volume on its SPAC warrant with a 732.15% of volume trades growth compared to the previous 15 days of SMAVG of 345,302. After 6 trading days, the price of SPAC warrant had risen by 10.56% to USD\$11.62 from USD\$10.51. It had potentially benefited insider traders with a gain of USD\$383,285.22 over the days. On 3rd February 2021, DD3 Acquisition Corp II submitted Form 3 to SEC regarding the

initial statement of beneficial ownership of securities, which led DD3 Acquisition Corp II to break its highest SPAC warrant price record (Stevenson, 2021). It's a high possibility that the company management (insider trades) had bought the warrant before they submitted the Form 3 to SEC to make the announcement to the public.

Figure 4.2
DD3 Acquisition Corp II SPAC warrant information



Source: Bloomberg. Copyright 2022 by Bloomberg.

DD3 Acquisition Corp II is no longer listed on the U.S. SPAC market but reached a merger agreement with Codere Group on June 2021 (Codere, 2022). The Codere Group is in the same industry of online gaming from Luxembourg. Codere Group had successfully listed on U.S. Nasdaq on 1st December, 2021, with the ticker “CDRO”. On the last trading day for DD3 Acquisition Corp II its SPAC closed at USD\$10.10.

4.1.1.3 Ross Acquisition Corp II

Ross Acquisition Corp II (SPAC IPO ID: 225413931; Ticker: ROSS/U US) is an unclassified category of company that set up in Palm Beach, Florida, U.S. in 2021 (Bloomberg, 2022). It successfully issued a SPAC IPO on 11th of March in 2021 with 34.5 million of shares offered at USD\$10.00.

Table 4.3
Ross Acquisition Corp II SPAC warrant information

Name	Ross Acquisition Corp II
SPAC IPO ID	225413931
Bloomberg US SPAC's Group	Proposed
Ticker	ROSS/U US
Industry	None
SPAC IPO Date	March 11, 2021
SPAC IPO Security Type	Unit
Unit-Composition - Common Stock	1
Unit-Composition - Warrant	0.333
Shares Offered	34,500,000
IPO Price	USD\$10.00
Current Status	Active

Source: Bloomberg. Copyright 2022 by Bloomberg.

Ross Acquisition Corp II experienced 549.42% of abnormal trading volume compared to SMAVG of 15 days on 19th October 2021. Its SPAC warrant price had increased from US\$ 10.04 to USD\$10.33 within a week (5 trading days). The 2.89% rise on its SPAC warrant would potentially benefit those insider trades with a long position on those abnormal trading volumes with a USD\$12,119.10 of gain. The SPAC warrant price with an upward sloping movement in October and November 2021 was due to the CEO of Ross Acquisition Corp II declaring the Quarterly Report on Form 10-Q to SEC by mentioning that the company did not contain any untrue statement, which gained

investors' confidence. In addition, Ross Acquisition Corp II published its 2021 annual and quarterly report too on those months (October 2021 and November 2021), such as Bantleon Institutional Investing, Cowen Investment Management LLC, FPA Crescent Fund, Cvi, and Verition Fund Management (See the reference). This positive news had been reflected on the SPAC warrant price within those months, and insider trades and management would easily receive those reports earlier than the public announcement. See Figures 4.3.1 and 4.3.2

Figure 4.3.1
Ross Acquisition Corp II SPAC warrant information (Line Chart)



Source: Bloomberg in Line Chart mode. Copyright 2022 by Bloomberg.

Figure 4.3.2
Ross Acquisition Corp II SPAC warrant information (OHLC Chart)



Source: Bloomberg in OHLC Chart mode. Copyright 2022 by Bloomberg.

This SPAC company founded by Mr. Ross, former U.S. President Donald Trump's Commerce Secretary with potential abnormal trades after U.S. President Donald Trump stepped-down (in office from 20th January 2017 till 20th January 2021), doesn't get reported by SPAC on this incidents.

On May 2022, Ross Acquisition Corp II had announced they're in talks to acquire United Kingdom's Atom Bank for £700 million (USD\$877.9 million) (SkyNews, 2022). Based on SkyNews reporter's analysis, it would probably take around six months to complete the deal between Ross Acquisition Corp II and Atom Bank.

4.1.1.4 GigInternational1 Inc

GigInternational1 Inc (SPAC IPO ID: 226193357; Ticker: GIWWU US) is a telecommunications category company that was founded in 2017 in Palo Alto, California, U.S.(Bloomberg, 2022) – Table 4.4. GigInternational1 Inc had successfully launched a SPAC IPO on 18th of May in 2021 with 34.5 million of shares offered at USD\$10.00.

Table 4.4
GigInternational1 Inc SPAC warrant information

Name	GigInternational1 Inc
SPAC IPO ID	226193357
Bloomberg US SPAC's Group	Proposed
Ticker	GIWWU US
Industry	None
SPAC IPO Date	May 18, 2021
SPAC IPO Security Type	Unit
Unit-Composition - Common Stock	1
Unit-Composition - Warrant	0.5
Shares Offered	34,500,000
IPO Price	USD\$10.00
Current Status	Active

Source: Bloomberg. Copyright 2022 by Bloomberg.

Within 5 trading days, GigInternational1 Inc had received 2.2 million of trading volume (See Figure 4.4.1). A 1654.93% growth versus SMAVG of 15 days from 7th July 2021 to 14th July 2021. 9 trading days later, the SPAC warrant price had reached the peak with a 2.84% growth from 7th July 2021. With the sum of trading volumes on that 5 days, insider trades could have benefited with USD\$632,017.14 of gain. The abnormal movement on its share price was due to the public announcement from Nanosys who invested to go public via GigIntenational1 Inc on 28th July 2021 (Tan, 2021). The

management with potentially insider trades on an early long position could have benefited with more than half a million of dollar gain.

Figure 4.4.1
GigInternational1 Inc SPAC warrant information (Line chart)



Source: Bloomberg. Copyright 2022 by Bloomberg.

Currently there is no report on this incident with the potential abnormal trades. Based on the news function on the Bloomberg terminal, GigInternational1 Inc is still in the stage of negotiating a deal with Nanosys, which the value of combined companies would be about USD\$1 billion.

4.1.1.5 East Stone Acquisition Corp

East Stone Acquisition Corp (SPAC IPO ID: 209049648; Ticker: ESSCU US) is a green mobility technology company that was set up in Burlington, Massachusetts, U.S. (Bloomberg, 2022). It is focused on vehicle concepts emphasizing AI technologies, autonomous driving and personalized passenger experience (GlobeNewswire, 2022). It had successfully issued a SPAC IPO on 19th of February in 2020 with 13.8 million of shares offered at USD\$10.00.

Table 4.5
East Stone Acquisition Corp SPAC warrant information

Name	East Stone Acquisition Corp
SPAC IPO ID	209049648
Bloomberg US SPAC's Group	Pending
Ticker	ESSCU US
Industry	Technology
SPAC IPO Date	February 19, 2020
SPAC IPO Security Type	Unit
Unit-Composition - Common Stock	1
Unit-Composition - Warrant	1
Shares Offered	13,800,000
IPO Price	USD\$10.00
Current Status	Active

Source: Bloomberg. Copyright 2022 by Bloomberg.

It's SPAC warrant had booked 474,000 of trade volume on 12th March 2020, an abnormal growth with 587.5% compared to SMAVG of 15 days. For those insider traders who placed a short position, after 5 trading days, they would have recorded a USD\$222,780 profit. The abnormal trading volume happened one day before the public announcement from East Stone Acquisition Corp that they planned to separate trading of its ordinary shares, warrants and rights. The abnormal trading volume can only be from

insider trades who received the news earlier than the company announcement later (GlobeNewswire, 2020).

Figure 4.5
East Stone Acquisition Corp SPAC warrant information



Source: Bloomberg. Copyright 2022 by Bloomberg.

Once again there has not been any notice of this incident with potential abnormal trades within a month after it's SPAC IPO. On April 2022, ICONIQ Holding had announced to go public via merger with East Stone Acquisition Corporation with a USD\$2.5 billion deal (Chan, 2022).

4.1.1.6 ACE Convergence Acquisition Co

ACE Convergence Acquisition Co (SPAC IPO ID: 217972586; Ticker: ACEVU US) is a software company from Wilmington, Delaware, U.S. (Bloomberg, 2022). It had proposed a business combination with Tempo Automation Inc. in April 2022 (GlobeNewswire, 2022). Tempo Automation Inc. had focused on automotive technologies, aviation and defence software, medical technologies, energy technologies, semiconductors, consumer electronics software, industrial technologies, medical devices, and space exploration products (Tempo Automation Inc., 2022). ACE Convergence Acquisition Co had successfully SPAC IPO on 27th of July in 2020 with 23 million of shares offered at USD\$10.00.

Table 4.6
ACE Convergence Acquisition Co SPAC warrant information

Name	ACE Convergence Acquisition Co
SPAC IPO ID	217972586
Bloomberg US SPAC's Group	Pending
Ticker	ACEVU US
Industry	Software
SPAC IPO Date	July 27, 2020
SPAC IPO Security Type	Unit
Unit-Composition - Common Stock	1
Unit-Composition - Warrant	0.5
Shares Offered	23,000,000
IPO Price	USD\$10.00
Current Status	Active

Source: Bloomberg. Copyright 2022 by Bloomberg.

On 28th January 2021, ACE Convergence Acquisition Co experienced an abnormal trade volume on its SPAC warrant with a 298,000 trading volume (387.4%, versus SMAVG 15 days). 12 trading days later, on 12th February 2021 (Friday, the last trading day of the

week), ACE Convergence Acquisition announced its Class A of block shares had traded at USD\$12.35 with a market value of USD\$1.57 million (Bloomberg, 2021). With the positive cash flow, the SPAC warrant price continued its strength with a record break on its SPAC warrant price of USD\$14.53 in the next trading days. Insider trades with long positions placed 12 trading days earlier had received nearly USD\$1 million of profit, USD\$953,600.

Figure 4.6
AEC Convergence Acquisition Co SPAC warrant information



Source: Bloomberg. Copyright 2022 by Bloomberg.

ACE Convergence Acquisition Co, despite the potential abnormal trades is still actively trading in the SPAC market, even though Tempo Automation had declared the proposed of business combination to SEC (Singh, 2022). ACE Convergence Acquisition Co's SPAC price was closed at USD\$10.09 in 23rd May 2022.

4.1.1.7 Primavera Capital Acquisition

Primavera Capital Acquisition (SPAC IPO ID: 225161556; Ticker: PV/U US) is a financial investment company that set up in Central, Hong Kong (Bloomberg, 2022) and invested on public-listed companies around the world, such as Alibaba Group from China, ANT Group from China, ByteDance from China, Mead Johnson from U.S., SenseTime from Hong Kong and others (Primavera, 2022). It successfully issued a SPAC IPO on 21st of January in 2021 with 41.4 million of shares offered at USD\$10.00.

Table 4.7
Primavera Capital Acquisition SPAC warrant information

Name	Primavera Capital Acquisition
SPAC IPO ID	225161556
Bloomberg US SPAC's Group	Pending
Ticker	PV/U US
Industry	Financial Investment
SPAC IPO Date	January 21, 2021
SPAC IPO Security Type	Unit
Unit-Composition - Common Stock	1
Unit-Composition - Warrant	0.5
Shares Offered	41,400,000
IPO Price	USD\$10.00
Current Status	Active

Source: Bloomberg. Copyright 2022 by Bloomberg.

764,000 of SPAC warrants were traded on Primavera Capital Acquisition's SPAC warrant on 15th April 2021, which was an abnormal trading volume of 1027.34% compared to SMAVG of 15 days. Insider trades who placed the orders on 15th April 2021 benefited with a USD\$244,480 of gain 9 trading days later. It was due to an announcement made by the founding partner, Mr. Zhai's related insurance business, China Life Insurance Company Limited that had published its financial report with a

positive result. It gave a positive investment confidence to investors on Primavera Capital Acquisition management team (China Life Insurance Company Limited, 2020).

Figure 4.7
Primavera Capital Acquisition SPAC warrant information



Source: Bloomberg. Copyright 2022 by Bloomberg.

Primavera Capital Acquisition did not receive any investigation from SEC on this incident of potential abnormal trades. Moreover, it received an invitation from a France-based, but China-owned global luxury fashion group, Lanvin Group to go publicly traded on NYSE with the business combination with Primavera Capital Acquisition (Jiang, 2022).

4.1.1.8 Software Acquisition Group Inc

Software Acquisition Group Inc (SPAC IPO ID: 225585047; Ticker: SWAGU US) is a software category company established in 2017 at Las Vegas, Nevada, U.S. (Bloomberg, 2022) without any business currently (United States Securities and Exchange Commission, 2019). It successfully launched a SPAC IPO on 28th of July in 2021 with 22.08 million of shares offered at USD\$10.00.

Table 4.8
Software Acquisition Group Inc SPAC warrant information

Name	Software Acquisition Group Inc
SPAC IPO ID	225585047
Bloomberg US SPAC's Group	Pending
Ticker	SWAGU US
Industry	None
SPAC IPO Date	July 28, 2021
SPAC IPO Security Type	Unit
Unit-Composition - Common Stock	1
Unit-Composition - Warrant	0.333
Shares Offered	22,080,000
IPO Price	USD\$10.00
Current Status	Active

Source: Bloomberg. Copyright 2022 by Bloomberg.

Within 3 trading days, 369,000 of SPAC warrants trading volume were recorded on between 20th March 2022 to 22nd March 2022. With the 1239.03% of abnormal trading volume (compared to SMAVG 15 days) benefited insiders with USD\$66,420 of gain after 3 trading days. On 25th April 2022, Software Acquisition Group Inc had officially filed a regulatory notice to SEC of a merger with its partner Nogin with a cash consideration of USD\$15 million and others (DealFlow's SPAC News, 2022). Insider

trades with the insiders had placed their order before the public announcement and received 1.77% of SPAC warrant price movement gain.

Figure 4.8
Software Acquisition Group Inc SPAC warrant information



Source: Bloomberg. Copyright 2022 by Bloomberg.

Software Acquisition Group Inc is still actively traded in the SPAC market, without any further investigation from SEC on this incident with potential abnormal trades. Software Acquisition Group's SPAC price closed at USD\$10.12 in 23rd May 2022.

4.1.1.9 Abri SPAC I Inc

Abri SPAC I Inc (SPAC IPO ID: 227176638; Ticker: ASPAU US) is a specialty technology hardware company that was founded in Beverly Hills, California, U.S. (Bloomberg, 2022). In January 2022, Apify Group Inc. a blockchain technology company that focused on the global trading network announced to go public through a merges with Abri SPAC I Inc (Abri Advisor, 2022). The latter had successfully issued a SPAC IPO on 9th of August in 2021 with 5.73 million of shares offered at USD\$10.00.

Table 4.9
Abri SPAC I Ince SPAC warrant information

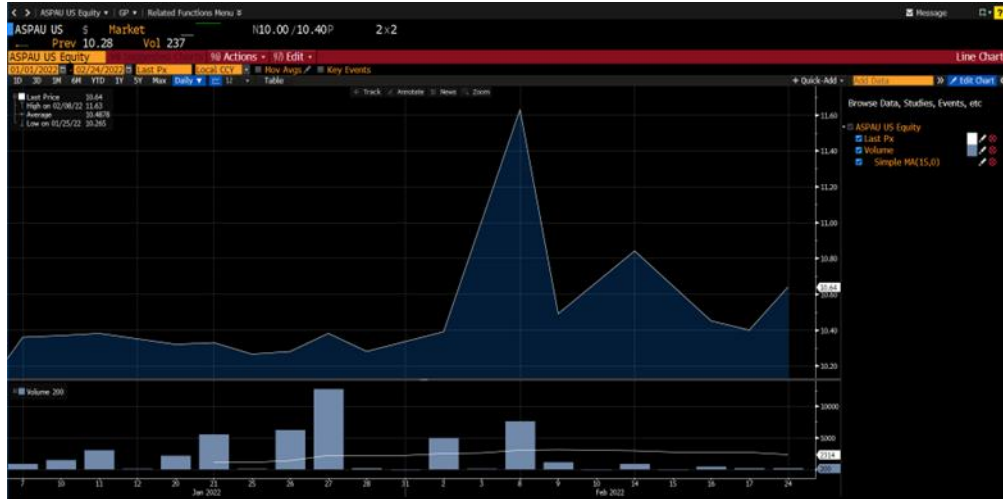
Name	Abri SPAC I Inc
SPAC IPO ID	227176638
Bloomberg US SPAC's Group	Pending
Ticker	ASPAU US
Industry	Speciality Technology Hardware
SPAC IPO Date	August 9, 2021
SPAC IPO Security Type	Unit
Unit-Composition - Common Stock	1
Unit-Composition - Warrant	1
Shares Offered	5,730,000
IPO Price	USD\$10.00
Current Status	Active

Source: Bloomberg. Copyright 2022 by Bloomberg.

Abri SPAC I Inc had experienced 1338.32% of abnormal trading volume (versus SMAVG of 15 days) on 26th January 2022 and 27th January 2022. Within 5 trading days, the SPAC warrant price had jumped from USD\$10.28 to USD\$11.63, a 13.13% of price movement. At the end of the 27th January 2022 trading day, It had announced a public merger with the Apify Group Inc (Bloomberg, 2022). This news had positively

reflected on its SPAC warrant by 2nd February 2022 thus benefiting those insider trades with USD\$25,601.40 profit gain if they held until 8th February 2022.

Figure 4.9.1
Abri SPAC I Ince SPAC warrant information (Line Chart)



Source: Bloomberg in Line Chart mode. Copyright 2022 by Bloomberg.

Figure 4.9.2
Abri SPAC I Ince SPAC warrant information (OHLC Chart)



Source: Bloomberg. Copyright 2022 by Bloomberg.

Abri SPAC I Inc has not received any any notice from the SEC regarding this incident with potential abnormal trades. Based on the interview with the founder of Apify Group Inc in the Bitcoin 2022 Conference in Miami, U.S., they're still in the stage of going public via the merger with Abri SPAC I Inc (Capelj, 2022).

4.1.1.10 Oncology Institute Inc

Oncology Institute Inc (SPAC IPO ID: 210695366; Ticker: DFPHU US) is a healthcare category company from Anaheim, California, U.S. (Bloomberg, 2022). Founded in 2007, it specializes in cancer care including counselling services and lab testing (The Oncology Institute of Hope & Innovation, 2022). It had successfully issued a SPAC IPO on 10th of March in 2020 with 23 million of shares offered at USD\$10.00.

Table 4.10
Oncology Institute Inc SPAC warrant information

Name	Oncology Institute Inc
SPAC IPO ID	210695366
Bloomberg US SPAC's Group	Completed
Ticker	DFPHU US
Industry	Health Care
SPAC IPO Date	March 10, 2020
SPAC IPO Security Type	Unit
Unit-Composition - Common Stock	1
Unit-Composition - Warrant	0.25
Shares Offered	23,000,000
IPO Price	USD\$10.00
Current Status	Delisted

Source: Bloomberg. Copyright 2022 by Bloomberg.

It recorded the largest potential abnormal trading profit and the longest trading days over the eleven samples, with 725.95% of abnormal trading volume (951,000 of SPAC warrants traded). 29 trading days later, on 17th June 2020, the SPAC warrant price had grown from USD\$10.00 to USD\$11.11. With a sharp increase, insider traders could book the largest potential abnormal gain with USD\$1,055,610.00 of profit. As a specialist in cancer care, when it releases any positive study results, it will likely show a positive relationship to investor confidence. Oncology Institute Inc published their study

at the American Oncology Association conference based on their research with 90% of the patients who received their new lung carcinomas medications saw no evidence of the disease after two years of receiving treatment (Yanko, 2020). This positive news was reflected in its share price after insider traders placed the order.

Figure 4.10
Oncology Institute Inc SPAC warrant information



Source: Bloomberg. Copyright 2022 by Bloomberg.

A year after the potential abnormal trades, Oncology Institute Inc had announced a merger with its own subsidiary, Oncology Institute CA A Profes. Based on Bloomberg terminal data provided, this internal merger action had recorded a USD\$ 455 million of transaction value and completed by 15th November 2021 (Bloomberg, 2022).

4.1.1.11 Gores Holdings VIII Inc

Gores Holdings VIII Inc (SPAC IPO ID: 225342882; Ticker: GIIXU US) is a financial services company from Boulder, Colorado, U.S. (Bloomberg, 2022). Founded in 1978, it has been involved in a variety of businesses, such as hospitality, recyclable beverage cans manufacturer, power generator, plastic manufacturer, food industries and others. (The Gores Group, 2022). It had successfully launched a SPAC IPO on 24th of February in 2021 with 34.5 million shares offered at USD\$10.00.

Table 4.11
Gores Holdings VIII Inc SPAC warrant information

Name	Gores Holdings VIII Inc
SPAC IPO ID	225342882
Bloomberg US SPAC's Group	Proposed
Ticker	GIIXU US
Industry	Financial Services
SPAC IPO Date	February 24, 2021
SPAC IPO Security Type	Unit
Unit-Composition - Common Stock	1
Unit-Composition - Warrant	0.125
Shares Offered	34,500,000
IPO Price	USD\$10.00
Current Status	Active

Source: Bloomberg. Copyright 2022 by Bloomberg.

Insider traders on Gores Holdings VIII Inc with an abnormal trade volume of 633.12% versus SMAVG of 15 days on 15th November 2021 with a long position would gain USD\$102,410.00 in 28 trading days later when the price bounced from USD\$10.02 to USD\$10.51. Insider traders who had placed orders a month before FOOTPRINT announced to be publicly listed on Nasdaq through the merger with Gores Holding VII

Inc (Footprint, 2021) would have gained on the merger news with FOOTPRINT as figure 4.11 illustrates.

Figure 4.11
Gores Holdings VIII Inc SPAC warrant information



Source: Bloomberg. Copyright 2022 by Bloomberg.

Gores Holdings VIII Inc has not received any notice from the SEC regarding this incident with potential abnormal trades. Gores Holdings VIII Inc is still in the process of a business combination with FOOTPRINT, who intend to go public through a USD\$1.6 billion SPAC merger.

4.1.2 Correlation between abnormal returns from SPAC warrants and announcement

According to the results from the eleven potential insider trades on SPAC warrants, they show the abnormal trading volumes were around 387.4% to 1654.93% compared to SMAVG of 15 days. Abnormal trading volume on SPAC warrants without any positive news or negative during that particular trading hours, shows a high chance of insider trades. Out of the eleven samples, insider trades could maximize their profit in range of USD\$12,119.10 to USD\$1,055,610.00.

The results show a positive correlation between abnormal returns from SPAC warrants (trading volume) and announcement. When there's an obviously abnormal trading volume on a SPAC warrant without any specific news (positive and negative) on the SPAC company, insider trades are suspended and they would gain an abnormal return on that SPAC warrant.

Table 4.12.1
SPAC warrants abnormal trades timeline

Period	ZGYHU US	DDMXU US	ROSS/U US	GIWWU US	ESSCU US	ACEVU US	PV/U US	SWAGU US	ASPAU US	DFPHU US	GIIXU US	
	Return	Return	Return	Return	Return	Return	Return	Return	Return	Return	Return	
-5	-1.98%	0.15%	0	-0.27%	-0.10%	2.59%	0.88%	0.30%	0.00%	0.00%	0	Abnormal Trading Volume
-4	0.00%	-0.15%	-0.34%	-0.20%	-0.10%	-1.18%	0.46%	1.29%	0.00%	0.00%	0	Public Announcement
-3	-0.92%	2.17%	0.14%	0.10%	-0.30%	-2.24%	0.02%	-1.27%	-0.58%	0.00%	0.10%	SPAC warrant price reach Peak/Bottom
-2	0.00%	0.00%	0.10%	0.00%	0.10%	-1.64%	-0.48%	0.00%	0.10%	0.10%	0	
-1	2.04%	-1.38%	-0.40%	0.50%	0.30%	-4.16%	0.19%	0.00%	-0.63%	-0.05%	0.40%	
0	0.63%	-1.78%	0.90%	-0.54%	-1.83%	-1.73%	-1.16%	0.50%	0.15%	9994.95%	-0.50%	
1	1.35%	0.86%	-0.40%	0.35%	-0.62%	0.35%	0.68%	-0.05%	0.97%	-99.01%	0	
2	-0.39%	-0.19%	0.10%	-0.44%	-1.46%	5.45%	0.19%	-0.05%	-0.97%	0.10%	0.10%	
3	16.01%	2.46%	2.90%	0.15%	-1.16%	4.17%	-2.03%	0.10%	0.00%	-0.10%	-0.10%	
4		-7.38%		0.10%	-1.39%	0.16%	1.38%	0.49%	1.06%	0.00%	0.00%	
5		14.79%		0.00%	1.37%	-1.20%	-0.97%	1.27%	0.00%	0.00%	0.00%	
6		0.82%		0.80%		-0.49%	0.20%		10.66%	0.10%	0.00%	
7				0.59%		-2.11%	0.59%			0.10%	0.10%	
8				0.49%		-1.25%	1.07%			0.00%	0.10%	
9				0.00%		1.43%	2.03%			0.00%	0.00%	
10				0.20%		16.67%				-0.10%	0.00%	
11				0.00%		-0.75%				0.00%	-0.10%	
12				-0.19%		4.05%				0.90%	0.90%	
13				0.78%						-0.10%	0.00%	
14										0.10%	-0.10%	
15										-0.69%	0.10%	
16										0.00%	-0.69%	
17										9979.76%	0.80%	
18										-99.00%	0.00%	
19										0.20%	0.20%	
20										1.38%	1.38%	
21										-1.17%	-1.17%	
22										-0.01%	-0.01%	
23										-0.68%	-0.68%	
24										-0.69%	-0.50%	
25										0.60%	0.40%	
26										0.30%	0.30%	
27										0.00%	0.00%	
28										10.00%	10.00%	

Source: Bloomberg. Copyright 2022 by Bloomberg.

Table 4.12.2
SPAC warrants abnormal trade volume and price movement pre-announcement and post-announcement.

SPAC IPO ID	196292975	224635981	225413931	226193357	209049648	217972586	225161556	225585047	227176638	210695366	225342882
Ticker	ZGYHU US	DDMXU US	ROSS/U US	GIWWU US	ESSCU US	ACEVU US	PV/U US	SWAGU US	ASPAU US	DFPHU US	GIIXU US
Abnormal trading volume	96,247	345,302	41,790	2,217,604	474,000	298,000	764,000	369,000	18,964	951,000	209,000
Number of trading days with abnormal trading volume	1	3	1	5	1	1	1	3	2	1	1
Starting Date	10-Feb-2021	27-Jan-2021	19-Oct-2021	7-Jul-2021	12-Mar-2020	28-Jan-2021	15-Apr-2021	20-Mar-2022	26-Jan-2022	6-May-2020	15-Nov-2021
End Date	10-Feb-2021	29-Jan-2021	19-Oct-2021	14-Jul-2021	12-Mar-2020	28-Jan-2021	15-Apr-2021	22-Mar-2022	27-Jan-2022	6-May-2020	15-Nov-2021
Simple Moving Average 15 days trading volume	9043	47163	7606	134000	80681	76923	74367	29543	1417	131000	33011
Days to pre-announcement	1	3	2	8	1	11	1	1	1	21	20
Post-announcement of days to peak/bottom	2	3	1	5	4	1	8	4	5	7	8
Trading days to Peak/Bottom (T0)	3	6	3	13	5	12	9	5	6	28	28
Abnormal trading volume (percentage)	1064.33%	732.15%	549.43%	1654.93%	587.50%	387.40%	1027.34%	1249.03%	1338.32%	725.95%	633.12%
Price of SPAC warrant at the day with abnormal trading volume	\$ 11.250	\$ 10.510	\$ 10.040	\$ 10.045	\$ 9.840	\$ 11.330	\$ 10.260	\$ 10.150	\$ 10.280	\$ 10.000	\$ 10.020
Price of SPAC warrant at the Peak/Bottom (T0)	\$ 13.000	\$ 11.620	\$ 10.330	\$ 10.330	\$ 9.370	\$ 14.530	\$ 10.580	\$ 10.330	\$ 11.630	\$ 11.110	\$ 10.510
Abnormal trading gain (percentage)	15.56%	10.56%	2.89%	2.84%	-4.78%	28.24%	3.12%	1.77%	13.13%	11.10%	4.89%
Maximum abnormal trading gain (Insider trade) (USDS)	\$168,432.25	\$383,285.22	\$12,119.10	\$632,017.14	\$222,780.00	\$953,600.00	\$244,480.00	\$ 66,420.00	\$25,601.40	\$1,055,610.00	\$102,410.00

Source: Bloomberg. Copyright 2022 by Bloomberg.

Table 4.12.3

SPAC warrants abnormal trades of Normal return, Abnormal return, and Cumulative Average Abnormal Return (CAAR)

	ZGYHU US	DDMXU US	ROSS/U US	GIWWU US	ESSCU US	ACEVU US	PV/U US	SWAGU US	ASPAU US	DFPHU US	GIIXU US
Normal Return	1.8607%	0.8640%	-0.3984%	0.1257%	-0.4714%	1.0074%	0.2039%	0.2342%	0.9728%	0.3244%	0.3244%
Abnormal Return	17.6044%	9.5845%	-0.3984%	2.2644%	-5.0839%	24.7539%	1.9806%	2.2622%	0.9728%	10.9785%	10.5288%
CAAR (T-5)	-0.8581%	0.7835%	-0.5000%	0.1247%	-0.1011%	-6.6214%	1.0783%	0.3143%	-1.1100%	0.0500%	0.4996%
CAAR(T3)	17.60%	-	3.50%	-	-	-	-	-	-	-	-
CAAR(T5)	-	-	-	-	-5.08%	-	-	2.26%	-	-	-
CAAR(T6)	-	9.58%	-	-	-	-	-	-	11.87%	-	-
CAAR(T9)	-	-	-	-	-	-	-	-	-	-	-
CAAR(T10)	-	-	-	-	-	-	1.98%	-	-	-	-
CAAR(T12)	-	-	-	-	-	24.75%	-	-	-	-	-
CAAR(T13)	-	-	-	2.26%	-	-	-	-	-	-	-
CAAR(T28)	-	-	-	-	-	-	-	-	-	10.98%	10.53%
Standard Deviation	0.01478	0.00253	0.00253	0.00304	0.00229	0.02466	0.00508	0.00914	0.00352	0.00055	0.00173
T-statistics of CAAR (T-5)	-0.25958	1.38713	-0.88527	0.18369	-0.19772	-1.20097	0.95003	0.15379	-1.40845	0.40876	1.29125
Significant/Non-significant	Non-Sign	Non-Sign	Non-Sign	Non-Sign	Non-Sign	Non-Sign	Non-Sign	Non-Sign	Non-Sign	Non-Sign	Non-Sign
T-statistics of CAAR (T-X)	6.87528	15.49110	8.00013	2.06857	-9.94219	2.89812	1.23392	1.10707	13.74926	37.88898	11.49936
Significant/Non-significant	Sign	Sign	Sign	Sign	Non-Sign	Sign	Non-Sign	Non-Sign	Sign	Sign	Sign

Source: Bloomberg. Copyright 2022 by Bloomberg.

Chapter 5: Conclusions

This Master Research Project (MRP) provides an overview of abnormal returns from insider trades on Special Purpose Acquisition Company's (SPAC) warrants. It has examined eleven (11) U.S. SPAC warrants out of 1,208 U.S. SPAC warrants were chosen from different industries based on the Bloomberg Database, on abnormal trading volume that lead to high potential insider trades between 2020 to 2022.

The Event Study methodology was utilized with data extracted from Bloomberg Databases from Saint Mary's University. The hypothesis was tested by using the Microsoft Excel to determine the Cumulative Abnormal Returns (CAR's) with the event (public announcement) during pre-announcement and post-announcement.

Based on the results, it could concluded that the abnormal trading volume when compared to the Simple Moving Average of 15 trading days with more than 387% and without any specific public positive and negative news related to the SPAC company will lead to insider trades. Insider traders who placed the order earlier than the public announcement from a SPAC company will gain an abnormal return. According to the eleven cases used in the sample, the shortest period for insider trades to place the order before the announcements was one (1) trading day, and the longest period was twenty-one (21) trading days.

In addition, through the insider trades, insiders would receive a lucrative return from the SPAC warrant. Based on the analysis, traders with inside information in the imperfect market would have an advantage for them to place the most accurate position earlier

than the public investor. The maximum abnormal trading gain over the eleven samples with potential inside trades would receive USD\$1,055,610 within 28 trading days.

Next, with the calculation on those samples (11), insider trades would receive a maximum of 2475 basis points (24.75%) if all the trade volume belonged to one trader. Moreover, inside trades with a higher t-statistics on Cumulative Average Abnormal Return (CAAR) would be a significant trades (more than 1.96).

Based in the study, insider trading is still involved in securities markets. Insider traders are still trading in a public company's stock and SPAC warrants based on the information provided illegally. This is despite the effects of the United States's Securities and Exchange Commission, Canada's System for Electronic Document Analysis and Retrieval, United Kingdom's Financial Conduct Authority and other agencies around the world who have worked together to protect investors by maintaining fair and providing an efficient market for investors.

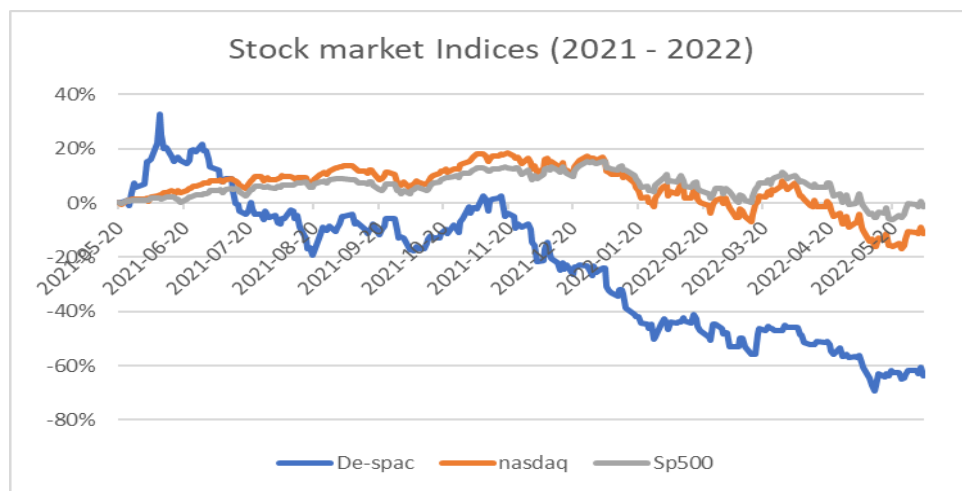
For an example, on 30th March of 2022, SEC had approved by a 3-to-1 vote on a 372 pages proposal with numerous rules regarding disclosures and procedural requirements for SPAC (SEC, 2022). According to the proposed new rules, if those regulations are implemented as proposed, it will have a significant impact on capital markets' practices (positively) for issuers and underwriters, by reducing the potential insider trades.

It causes another issue which could lead investment banks such as Morgan Stanley, Credit Suisse, Goldman Sachs, J.P. Morgan and others to reduce their involvements with SPAC's, as they are liable if a SPAC misleads investors or the market. Those banks play an important role in handing fundraising for those companies seeking to go public

through a SPAC. In return, those underwriters (investments banks) can awarded with lucrative bonuses.

Furthermore, De-SPAC ETF, launched in May 2021, is a managed portfolio of ETF that contained the top twenty-five of U.S. listed companies' stocks that have gone public via the SPAC method. For those private companies who are interested to be publicly listed on the stock exchange in the future, would considering De-SPAC index as one of the factor before they go public. However, the index movement for De-SPAC ETF shows a negative movement over the period as Figure 5.1 illustrates. It might reduce the interest for the company to go public via SPAC, and therefore use a traditional IPO.

Figure 5.1
Stock market Indices (2021 -2022)



Source: Yahoo Finance. Copyright 2022 by Yahoo Finance.

Eventually, on June 2022, a valuation of USD\$1.4 billion Electric-Vehicle (EV) truck-maker, Electric Last Mile Solutions had filed for bankruptcy (Berkerman, 2022). A group of Artificial intelligence (AI) and Electric-Vehicle (EV) start-up companies such

as Electric Last Mile Solutions, Lordstown Motors, and Canoo have gone public via the SPAC method by receiving a wide range of concerns and investment from public investors (Sanwal, 2022). Ultimately, just a few of firms have produced any technology products and vehicles for sale, even though their management team did have future projections.

For decades, the SPAC has had a negative reputation with involved in litigation and regulatory risk. Therefore, to rescue the image of SPAC, based on CB Insights studies, between September 2020 to March 2021, there are nearly 35 SPACs companies that have received notice of class action lawsuit by the public investors and the SEC in New York. The reasons include inadequate financial disclosures. As a result of regulatory scrutiny, SPAC mergers may become increasingly difficult and complex and therefore with a reduction in the potential for insider trades.

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