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INTRODUCTION TO FINANCIAL ENGINEERING (FE-530)

SPAC : AN OVERVIEW

LITERATURE SURVEY

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HYPOTHESIS TO BE TESTED

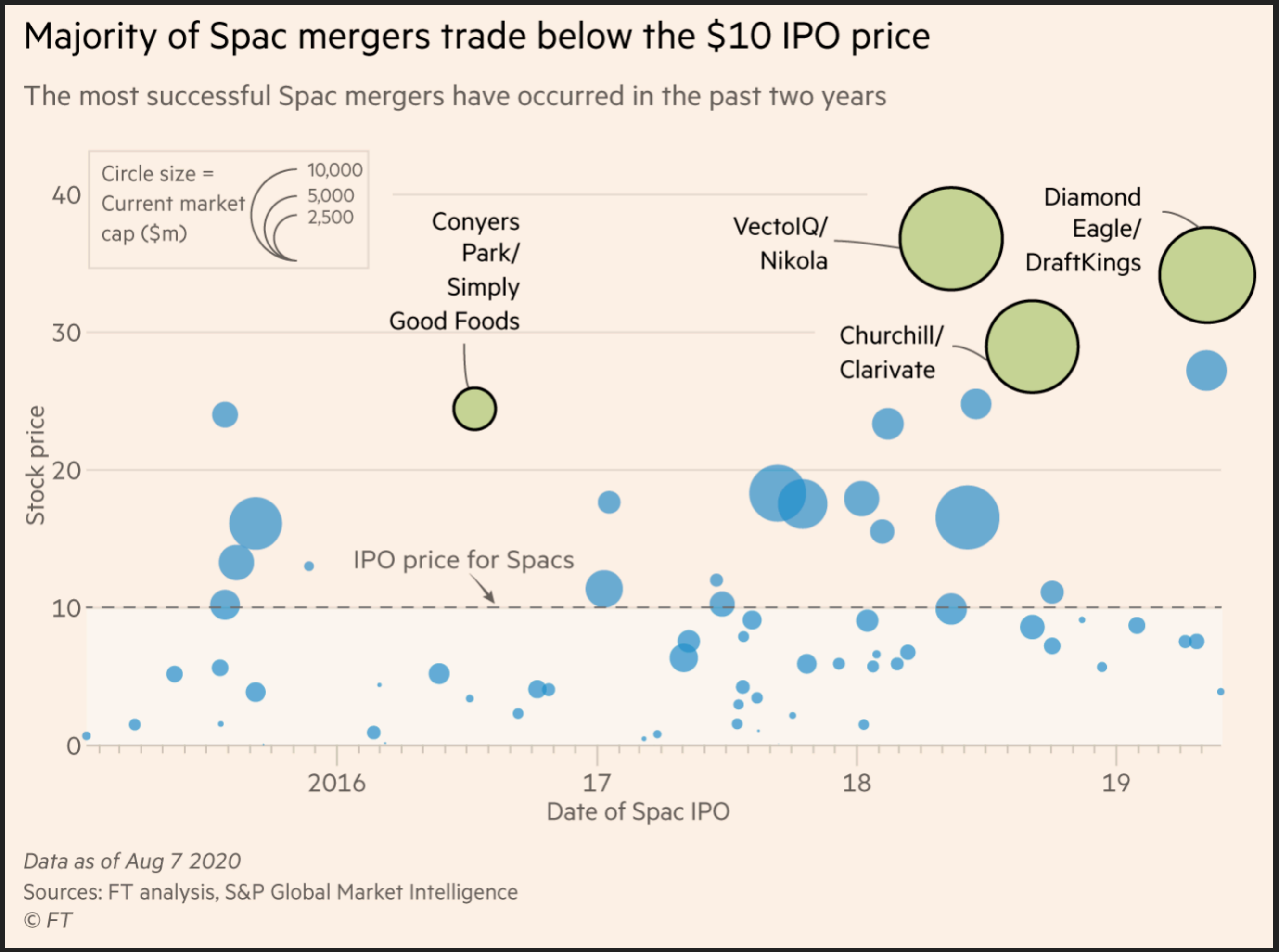
- The returns on investments by companies acquired by SPACs (*Special Purpose Acquisition Companies*) will not be satisfactory as compared to the *S&P 500*. In fact, my hypothesis suggests that the SPACs will loose its trend in the coming few months because of the poor performance and a bad reputation especially when the SEC has stepped in with more regulations.

INDICES TO BE TAKEN UNDER CONSIDERATION

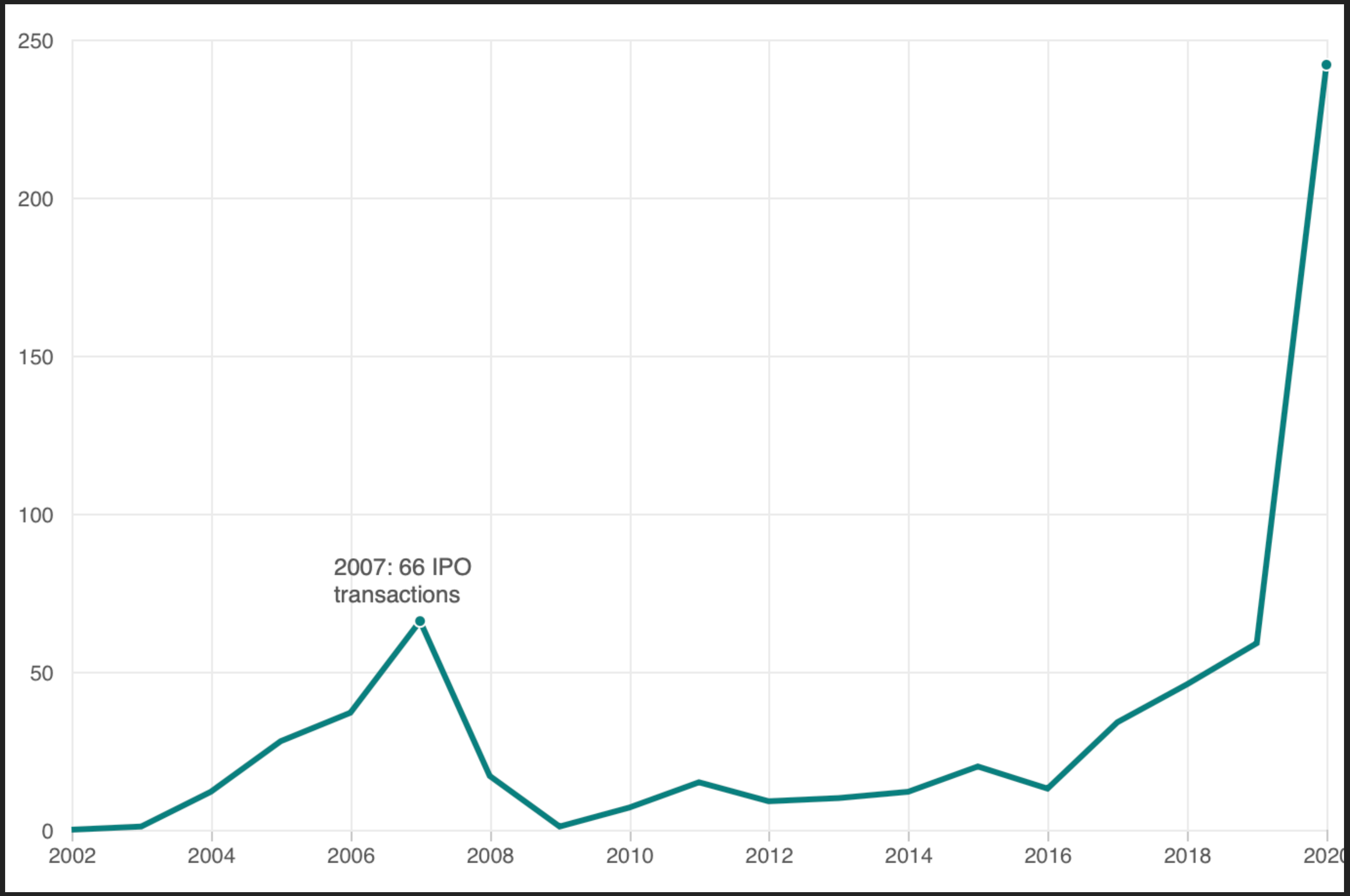
- For traditional IPOs : **S&P 500**
- For SPACs : **CNBC SPAC 50** index, **CNBC SPAC Post Deal** index **IPOX SPAC** index.

WHAT DRIVES RETAIL INVESTORS TOWARDS SPAC COMPANIES?

- Reputation of the SPAC managers and CEOs such as Bill Ackman and Chamath Palihapitiya.
- Ability to buy shares before the company is listed on the stock market which stands in sharp contrast to the traditional IPOs, typically at $10 and a warrant.



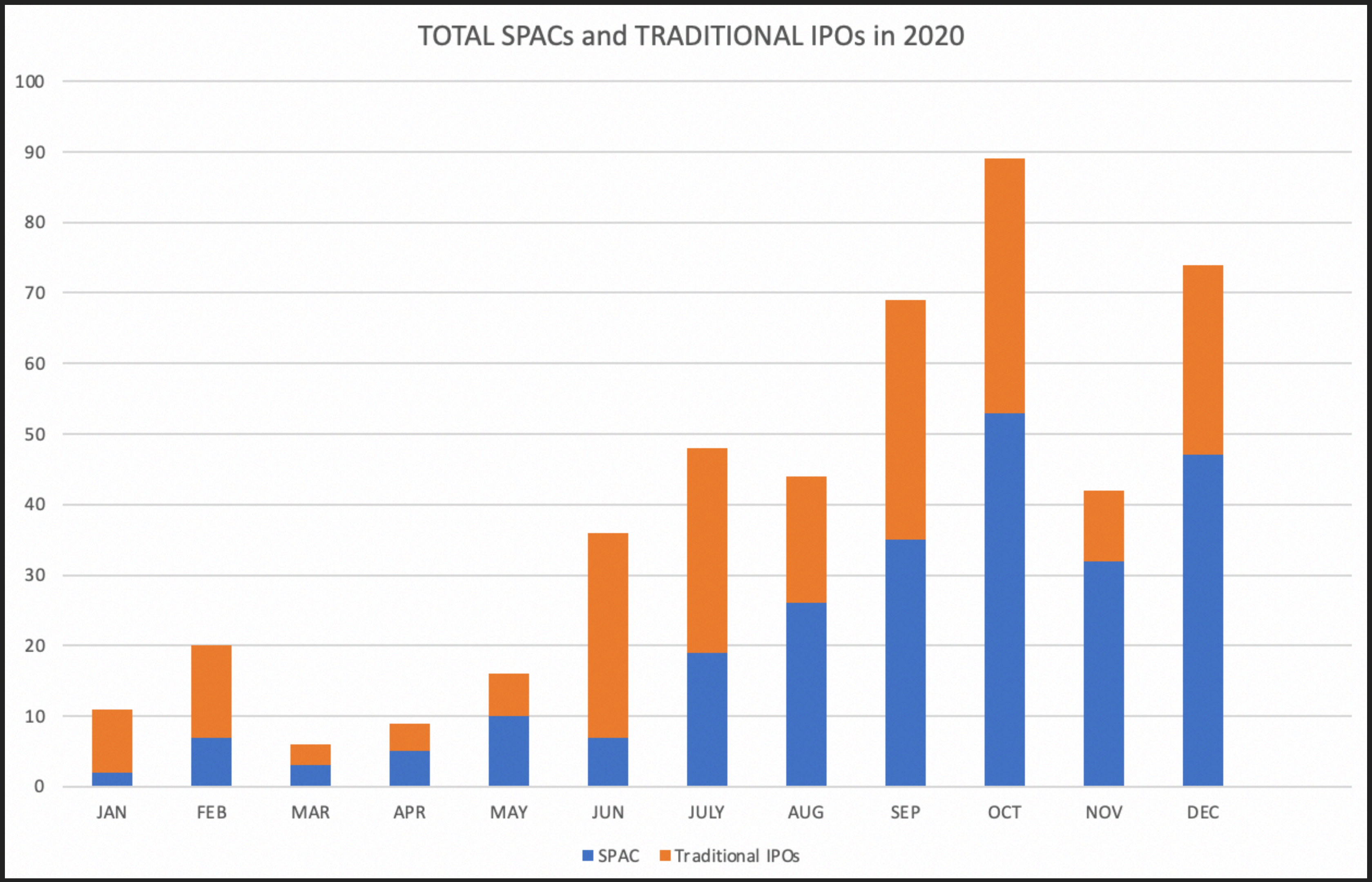
REASONS FOR THE SURGE IN THE NUMBER OF SPAC TRANSACTIONS IN 2007.

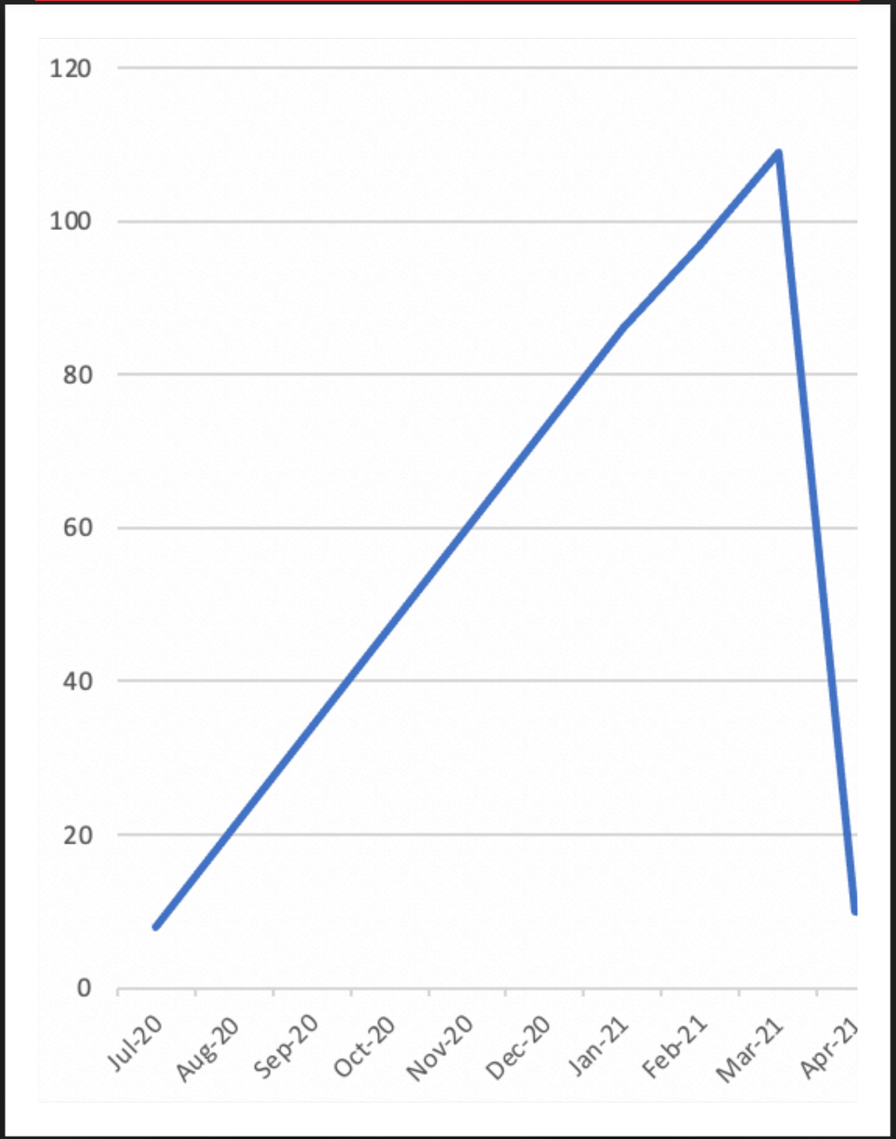


- During the 1980s, SPACs were compared to penny stocks which lowered their reputation. The regulations cleaned up the dirt in the sector and the surge can be seen until the financial crises in 2009.
- There were 17 SPAC IPOs in 2008 raising $3.8 Billion which is 69% less capital than was raised in 2007 when 66 SPAC IPOs managed to bring in $12.1 Billion.

REASON FOR SURGE IN SPAC DEALS IN 2020

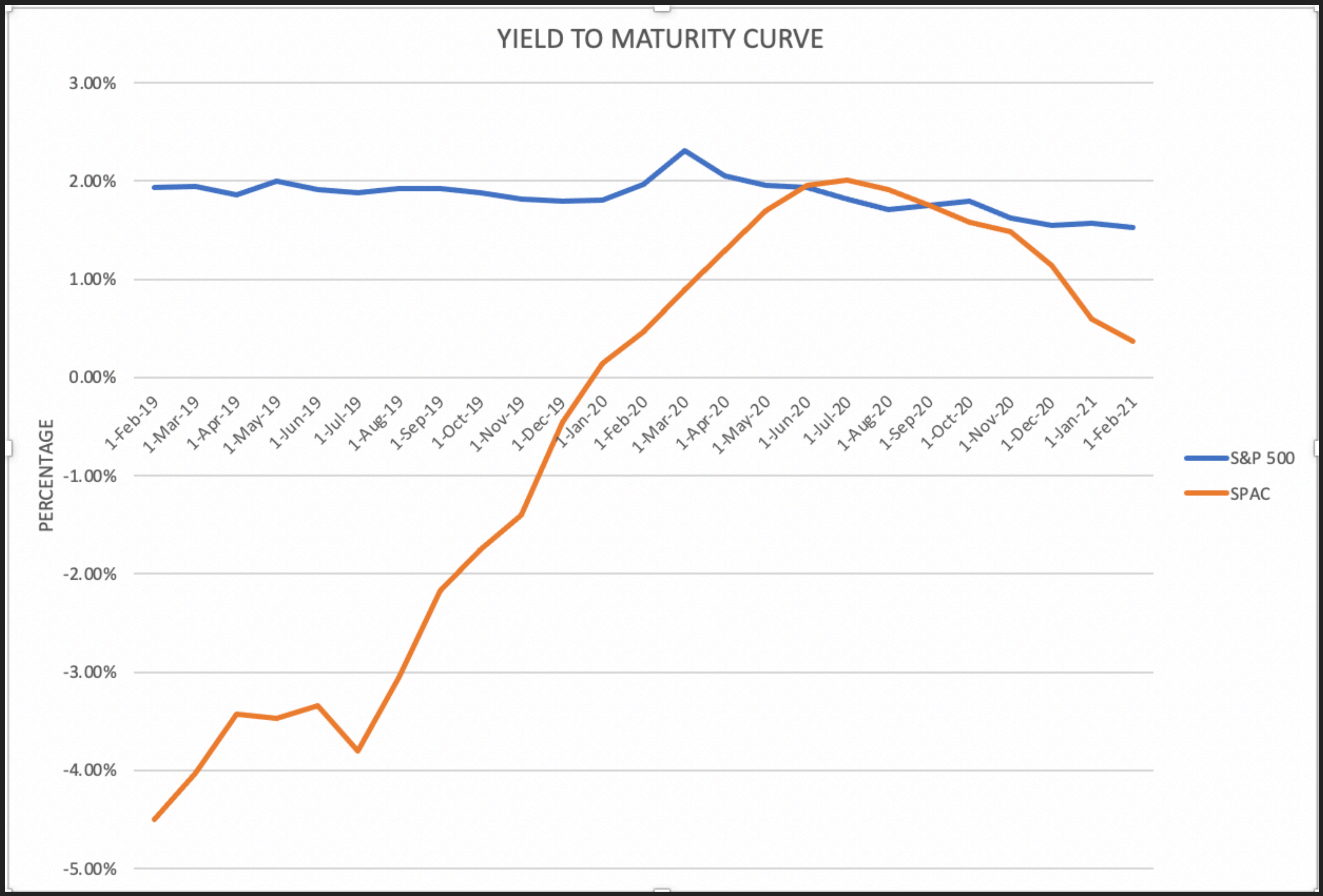
NUMBER OF SPAC IPO DEALS FROM JULY 2020 TO APRIL 2021





- According to various reports, it was found that the lesser paper work, speed and reduced uncertainty for founders was the main reason. Secondly, the SPACs are known to compensate its managers and founders with a big chunk of equity in the target companies which also means an amazing payday after striking a deal.
- However, many SPAC IPOs have raised concerns such as Nikola due to the fact that streamlined and speedy processes appeal the founders but at the same time it raises concerns for the investors with regards to fraudulent activities.

YIELD TO MATURITY

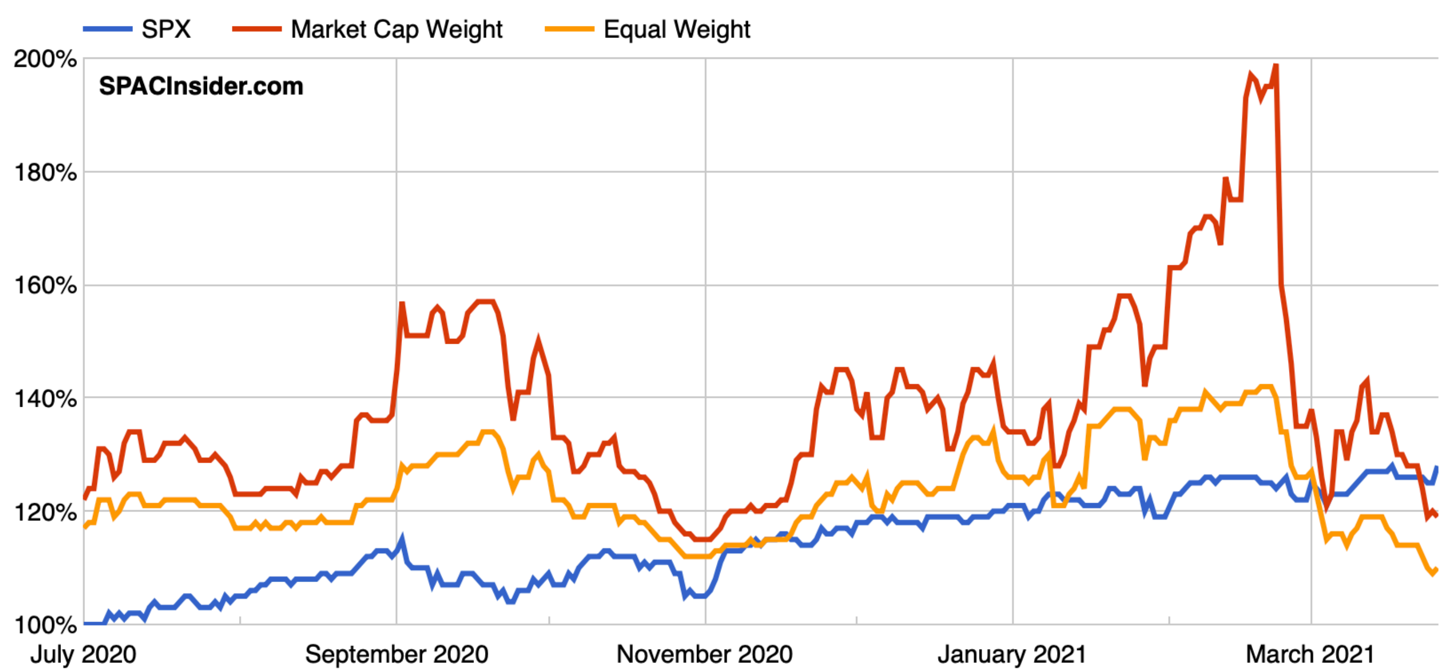


- The yield to maturity chart gives us an insight about the SPACs that are currently searching for target companies.
- Despite the pandemic, the YTM seems stable for the S&P 500 comparatively.

Recent SPAC IPO Performance

Symbol	Name	Price	Unit Return
IBER/U	Ibere	10.05	0.5%
LIII/U	LEO III	10.25	2.5%
AGAC/U	African Gold	10.00	0.0%
ARYD	ARYA IV	11.13	11.3%
AUS/U	Austerlitz	10.30	3.0%
ASZ/U	Austerlitz II	10.25	2.5%
FACT/U	Freedom	10.30	3.0%
FSNB/U	Fusion II	10.07	0.7%
MACQU	MCAP	10.00	0.0%
SBEAU	SilverBox	10.07	0.7%
TWLVU	Twelve Seas II	9.95	-0.5%
WARR/U	Warrior	10.01	0.1%
COLIU	Colicity	10.34	3.4%
EJFAU	EJF	10.07	0.7%
FLME/U	Flame	10.05	0.5%
GIIXU	Gores VIII	10.55	5.5%
HIIIU	Hudson Executive III	10.11	1.1%
ISLEU	Isleworth	10.05	0.5%
HUGS/U	USHG	10.27	2.7%
ANAC/U	Arctos Northstar	10.24	2.4%
BRPMU	B. Riley 150	10.30	3.0%
BOAS/U	BOA	10.06	0.6%
GLBLU	Cartesian	10.06	0.6%
SRNGU	Soaring Eagle	10.85	8.5%
KAIIU	Kismet II	10.06	0.6%
KIIIU	Kismet III	10.13	1.3%
SLAMU	Slam	10.40	4.0%
VELOU	Velocity	10.20	2.0%
ASPCU	Alpha Capital	10.40	4.0%
BTNB	Bridgetown 2	11.73	17.3%

AVERAGE UNIT RETURN : 2.75%



AVERAGE RETURNS SINCE 2015

SPAC Mergers In 2019-2020 Have Outperformed Those In 2016-2018					
Year	Completed Acquisitions	Average Deal Size ($mm)	Median Deal Size ($mm)	Average Return	Median Return
2016	4	$243	$225	-7.1%	7.5%
2017	13	$265	$300	-42.0%	-67.8%
2018	22	$226	$190	-28.8%	-42.3%
2019	29	$226	$180	-9.4%	-35.0%
2020	25	$238	$200	23.4%	-16.6%
Total	**93**	**$236**	**$200**	**-9.6%**	**-29.1%**

*SPAC IPOs since 2015

- A report by renaissance capital suggests that in the past few years, the average rate of return saw a drastic downturn after the mergers were announced which also suggests that target companies have been given a free hand along with fundings.
- **The chart above depicts and hence proves the fact that SPAC IPOs raise the capital successfully but are unable to keep up with the competition in their respective market sectors. This is the sole basis of proving the hypothesis mentioned earlier.**
- According to the Wall Street Journal, SPACs keep their raised funds in escrow accounts which yields lower interest rates especially when the market shows bullish trends.

AVERAGE RETURNS (10 YEARS).

	Communication services	health care	technology	consumer staples	real estate	industrials	financials	consumer discretionary	energy	materials
S&P 500	8.92%	11.00%	15.21%	10.40%	5.38%	8.95%	3.13%	13.50%	0.86%	8.49%
SPAC	114.20%	42.60%	10.70%	3.50%	-1.40%	-7.80%	-10.00%	-15.60%	-59.50%	-96.20%

- The graph above compares major sectors with regards to their performances and hence average returns of 10 years when it comes to SPACs and traditional IPOs.
- Majority of the sectors under SPACs have been underperforming as depicted above whereas traditional IPOs did not even cross the zero percentage line.

SOURCE:RENAISSANCE CAPITAL

PERFORMANCE OF SPACS ON THE BASIS OF FUNDING

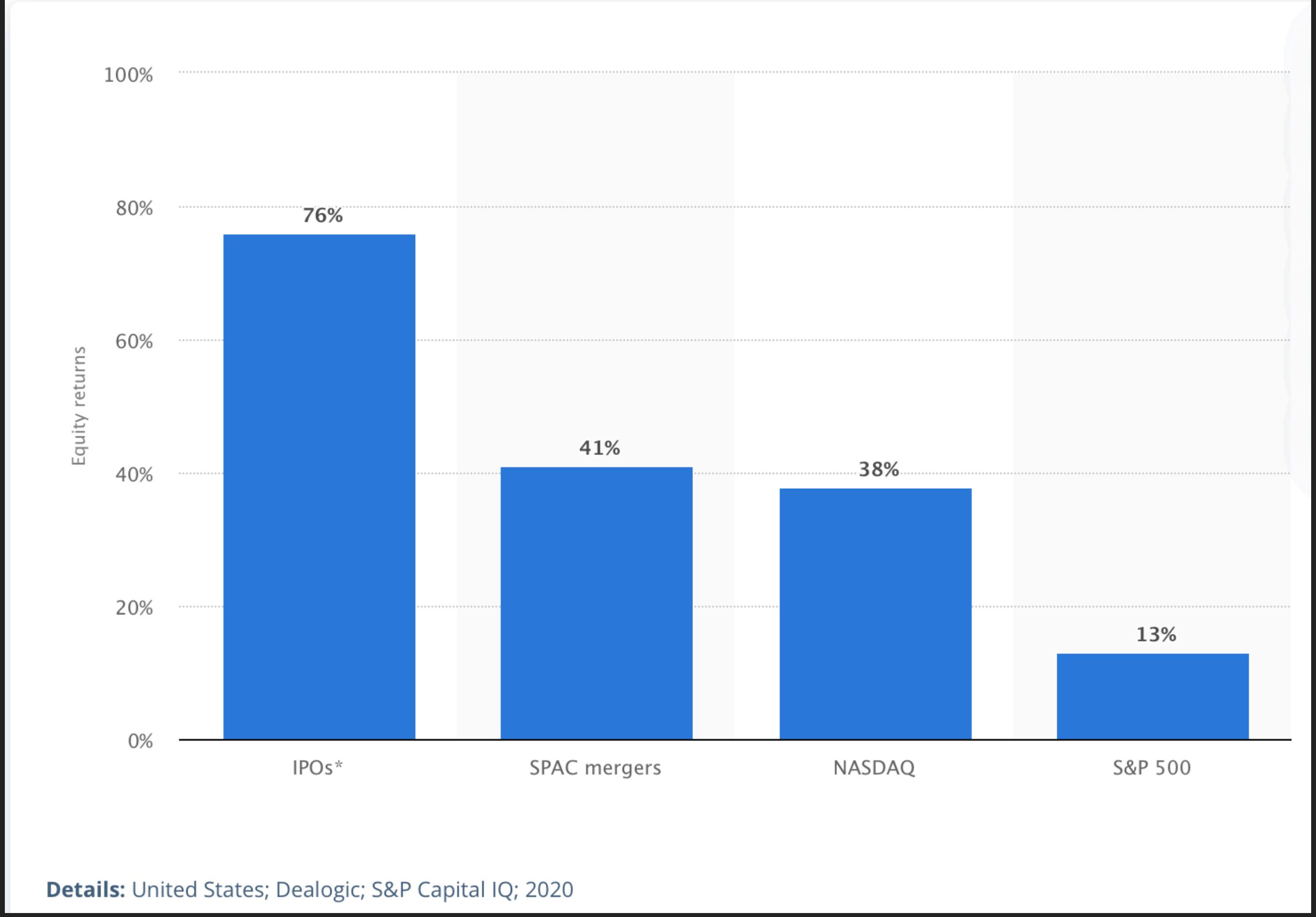
Larger SPACs Have Outperformed Smaller SPACs Post-Acquisition

Deal Size	Number of Deals	Average Return	Median Return
< $100 million	19	-51.1%	-63.6%
$100-$199 million	23	-12.8%	-28.5%
$200-$299 million	19	7.2%	-19.5%
≥ $300 million	32	7.3%	-9.9%
Total	**93**	**-9.6%**	**-29.1%**

*Deal size excludes greenshoe

- SPACs have been observed to receive fundings that are tremendous within a very short period of time as compared to Series A,B and C funding stages in the traditional IPOs based on performance and mile stones achieved.
- Secondly, the traditional IPOs have a process in which investors bring the entire startup under rigorous scrutiny.
- Average series A funding in the year 2020 was just $15.5 million.

OVERALL COMPARISON OF THE TWO.

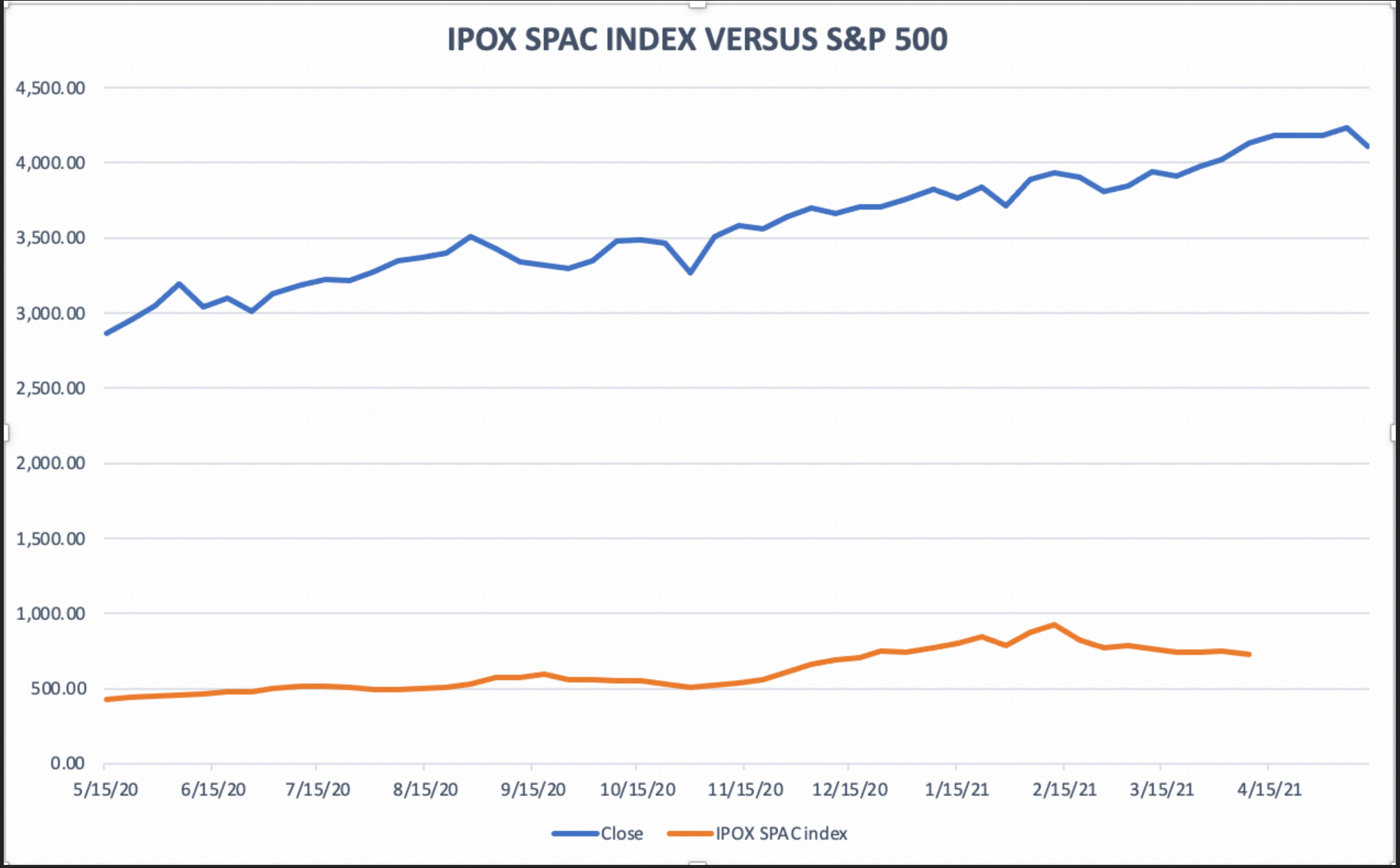


- SPACs may be considered as a short-cut to going public which is technically a huge bet on the part of retail investors. The reason being, companies don't go under rigorous scrutiny about their products.
- Given that the SPAC does not have an operating history to evaluate, it is important to review the business background of SPAC management and its sponsors according to the SEC.
- A company that goes public through traditional IPOs undergoes a 6-12 months of pitching itself to the investors after filling for its IPO. Even after the investments in its road shows and long meetings, there is no guarantee that the company would successfully go public and get listed on the stock exchange. An example being **WeWork**.

HOW IS THE HYPOTHESIS GOING TO BE TESTED?

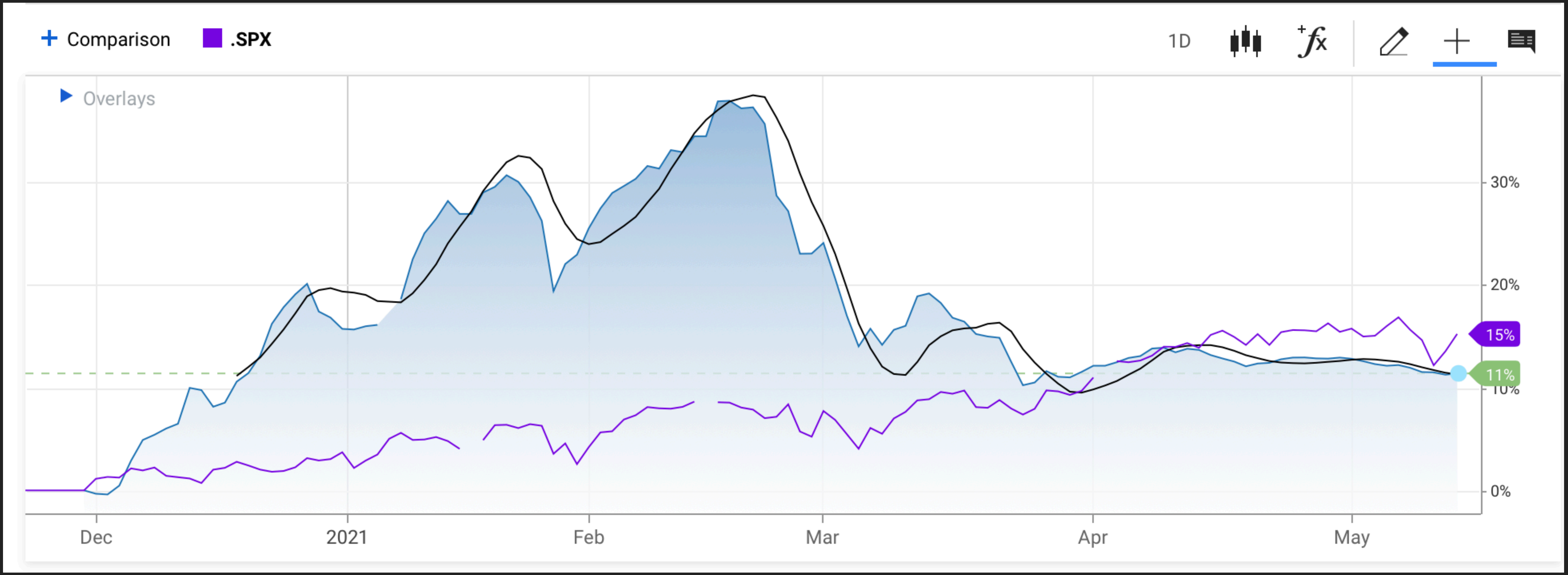
- First of all, a continuous track of the weighted average of the SPACs in different sectors is going to be compared with the corresponding figures and hence performance of the S&P 500.
- Finally, a conclusion will be drawn which is predicted to align with the hypothesis formed before.
- *SPACs are down by approximately 50%. Guidelines for the investors on the SEC official website along with SEC chairman interview on CNBC has created an environment of caution against SPACs.*

COMPARISON OF ACTUAL VALUES OF BOTH THE INDICES



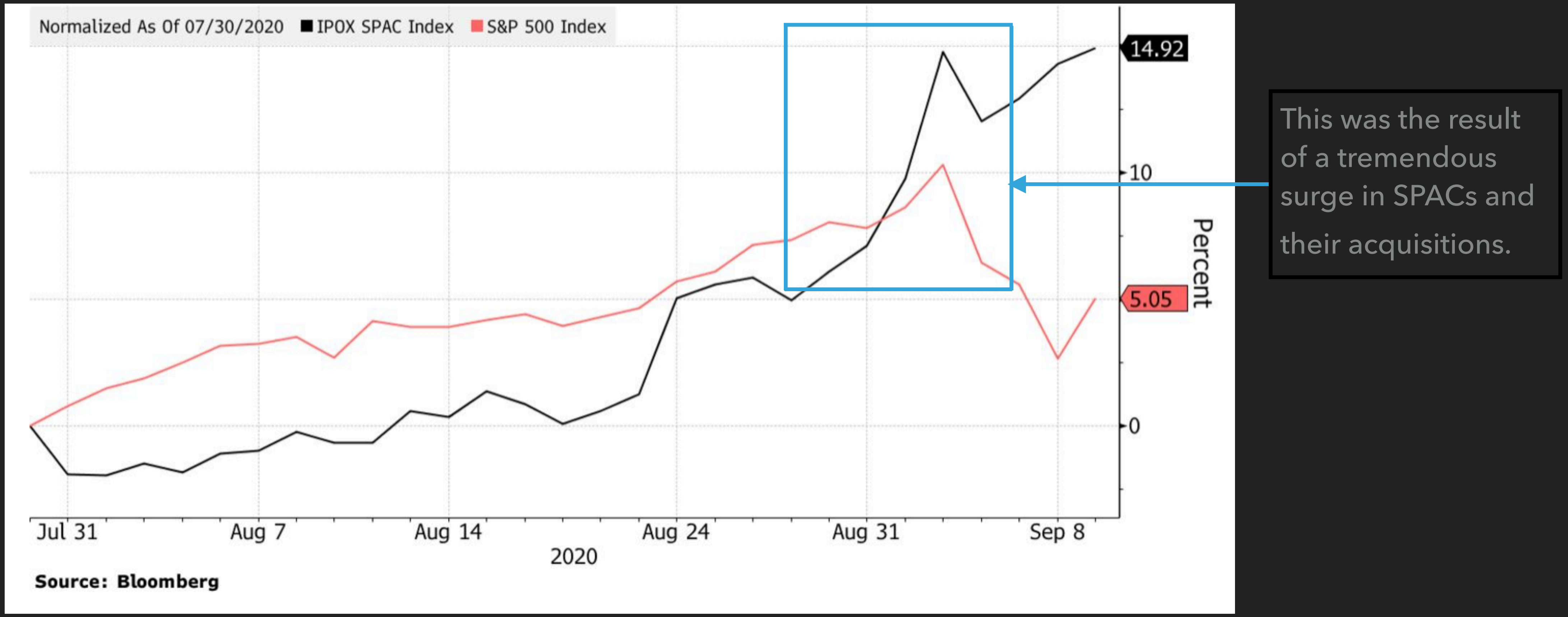
- It can be observed that the overall gradient in the closing of S&P 500 is constant without lesser uncertainty as compared to SPACs which almost always relies on some sort of boom or bubble as observed twice (2007 and 2020).
- There was a SPAC boom back in 2007 after which there was a flat curve until 2020. Again, as the SEC has stepped in , the IPOX SPAC index seems to be plummeting but not drastically.

CNBC SPAC 50 INDEX



- According to the former SEC Chairman Harvey Pitt, the idea of SPACs is fine but investors are blind as they don’t know what they are investing in or whether their investments will turn out to be good or bad.
- The above graph shows the comparison of CNBC SPAC 50 index and the S&P 500 index and it is evident that SPACs are nothing but a trend which do have success stories but as compared to the S&P 500 basket, the long term growth rate seems to be very low and uncertain.

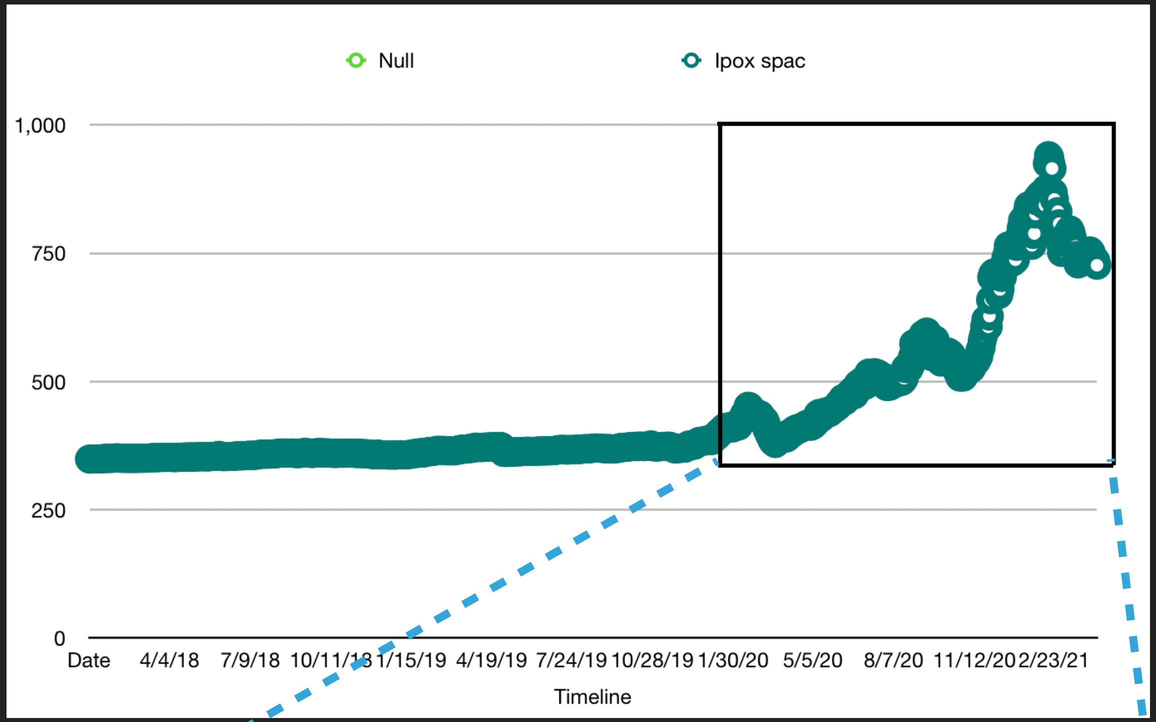
IPOX SPAC INDEX VERSUS S&P 500 PERCENTAGE CHANGE

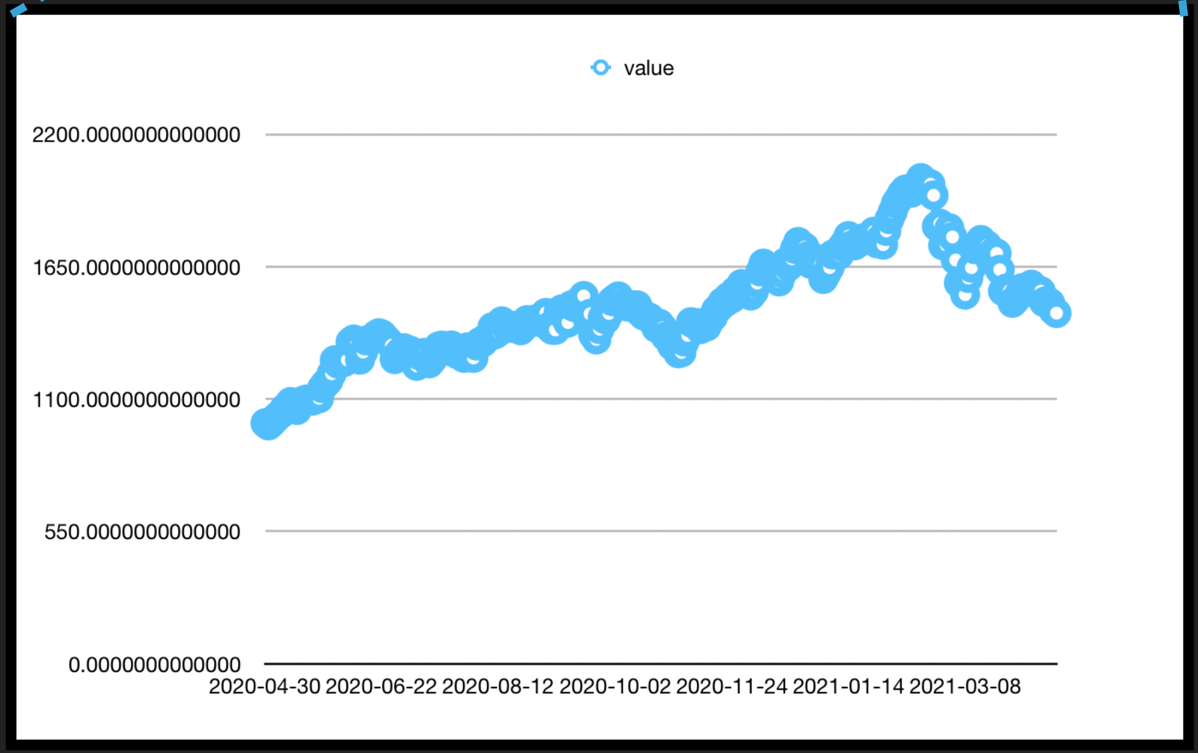


- In 3rd quarter of 2020, the IPOX SPAC index overtook the S&P 500. This period marked the beginning of the so called "SPAC bubble."
- This was the period when major SPACs were going through acquisitions and mergers with investors flooding in while the S&P 500 took a hit due to the on going pandemic resulting in investors selling their assets en masse. The above graph therefore depicts the **percentage changes** in the respective indices.
- However, this trend did not last long as the S&P 500 index recovered fully in the coming quarters while the SPAC bubble is on the verge of **ending** its trend.

ZOOM IN ON THE IPOX SPAC INDEX

- The values on the Y-axes of both the graphs are different due to the fact that the index values being depicted in the first graph consists of a basket of companies which are different from the ones taken under consideration by an independent index known as ISPAC.
- The values however are being compared during the same period when SPACs saw a surge and a relative trend that is common in both can be observed.
- This trend seems to be diminishing as the data points start to decline in the Q1 of 2021. The diminishing trend can be attributed to the poor return on investments post mergers.

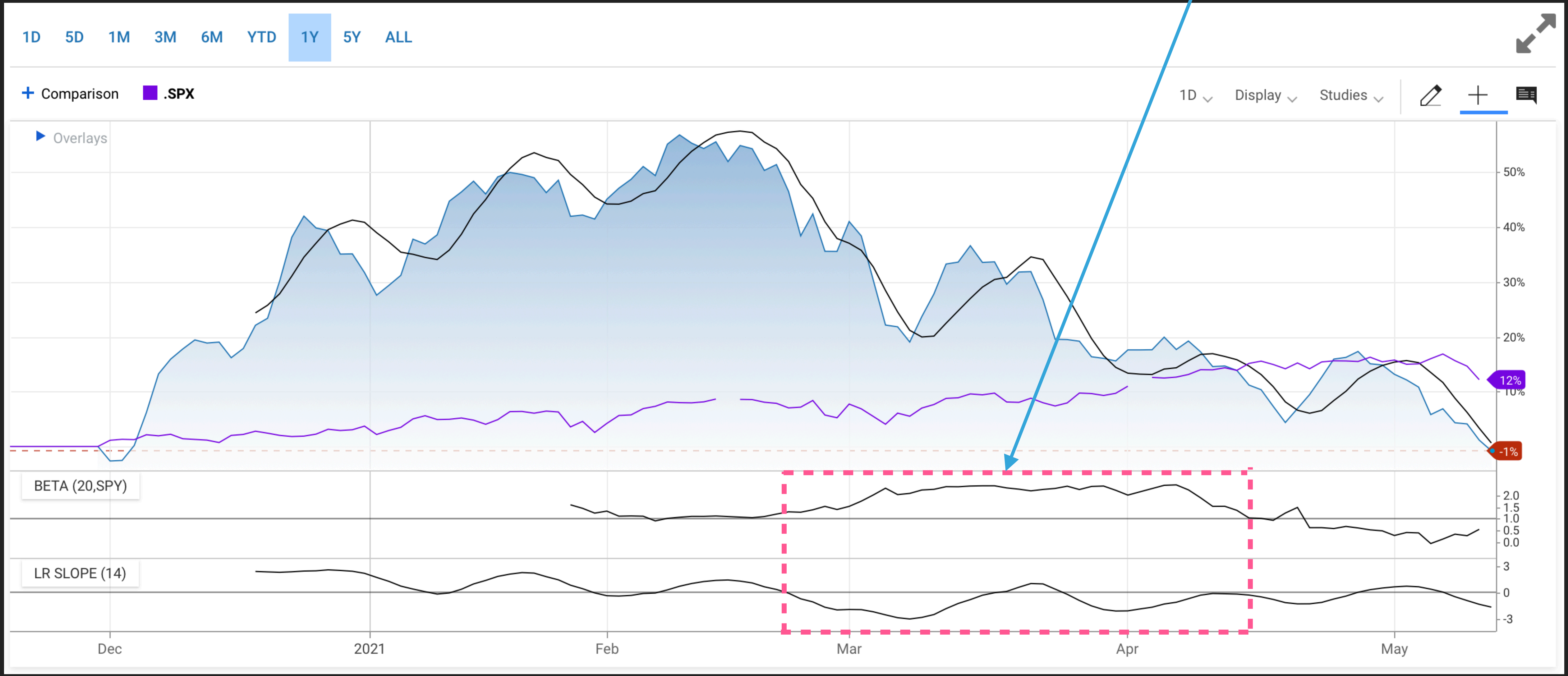




SOURCE ; CNBC OFFICIAL CHART ANALYSIS

CNBC SAPC POST DEAL INDEX

The high volatility can be observed exactly when the SEC stepped in with more guidelines and stringent rules.



- This chart above compares the S&P 500 index with the CNBC SPAC Post Deal index. Apart from the comparison, the slope of linear regression and the corresponding beta values have also been plotted against time from December 2020 till date.
- As we can observe, the slope of linear regression **(LR SLOPE)** is juggling in-between the positive and negative sections of the graph. Based on the slope of linear regression, the value of Beta is mostly above the standard value of 1 indicating higher volatility.

WHAT ARE THE GUIDELINES ROLLED OUT BY SEC THAT RESULTED IN A MAJOR HALT?

- The SEC has only once concern regarding SPACs and that happens to be a full and complete disclosure of all the relevant information including conflicts of interests if any but SPACs operate on a totally contrary basis wherein the capital is first raised and then a target is chosen.
- SEC has also rolled out guidelines that the SPACs are subject to “shell” company regulations and when a SPAC IPO is listed on the national stock exchange, it must satisfy the initial listing standards.
- The warrants issued by SPACs shall be considered as liabilities and not equity instruments.

SPACS WON'T GO ON FOREVER BUT IT HAS THE MONEY NOW AND WALL STREET GOES WHERE THE MONEY IS.

Warren Buffett

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