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Winter 2020 Chief Editors: Abdullah Saif and Kelly Wan

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The Pandemic's Impact on Airline Industry

By Chiranjeev Beniwal and Hadi Rasoul, Market Research Analysts

The outlook of Airlines Sector

The airline sector has previously been seen as an innovative industry when airlines started offering commercial flights. However, after a closer examination of the current business models for many airlines and assessing relevant macroeconomic factors, it is clear the airline industry is no longer what it once was, even though share prices are up to pre-Covid levels based on the stock market mania.

The outlook for the airline sector is quite gloomy. According to S&P Global, airlines have seen their demand drop by record low levels of 60%-70% as a result of the pandemic [7]. This figure coupled with the possibility of a third wave of COVID-19, airlines will have to brace for many more months of poor performance ahead. In addition to a looming threat of a third wave, a recent study by Statista shows that 65% of Americans said they felt "very uncomfortable" in November 2020 with traveling [1].

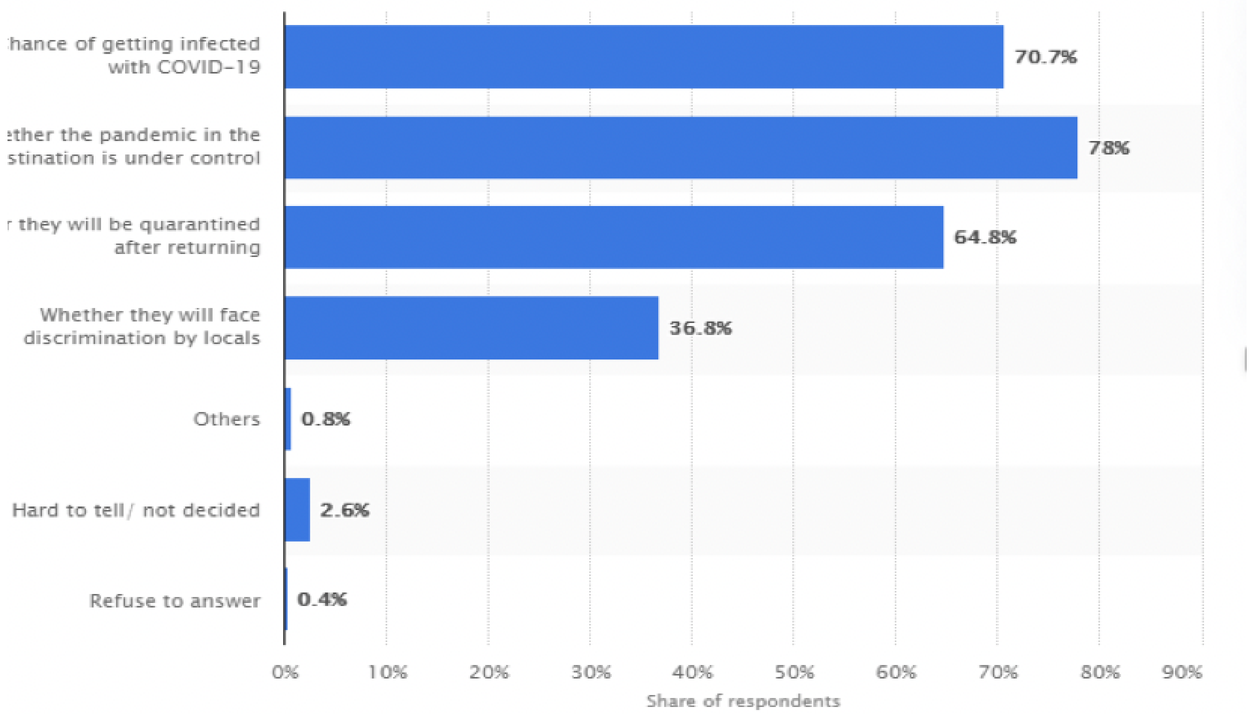

Figure 1: COVID-19 Concerns Regarding Travelling, figure provided by statista

WAnother study by Statista shows that 78% of citizens that were surveyed stated their most important criteria for traveling during the pandemic is gauging how well the virus is controlled in their destination [2]. To paint a clearer picture, a recent study by American Airlines shows that approximately 1 in 10 seats are being occupied on domestic US flights, while only 1 in 5 seats are being occupied on international US flights [3]. Considering most tourist destinations are developing countries, this means it is difficult for them to obtain vaccines and control the virus. Thus, for the foreseeable future, airlines are likely to see suppressed demand.

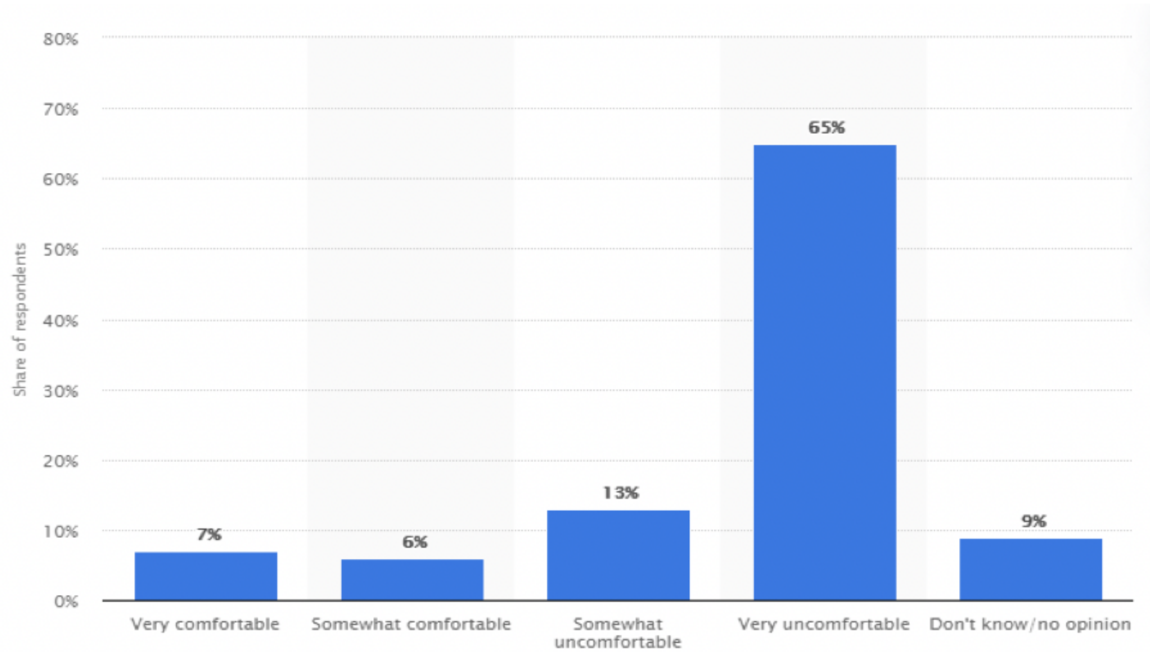

Figure 2: Consumer Comfortability with Traveling During the Pandemic, figure provided by statista

It was reported by Forbes that US travel agency ticket sales have fallen by 5% year-over-year in 2020 alone [6]. This figure puts further emphasis on how badly the airline industry has been impacted. However, the struggle of the airline sector is by no means limited to the past year. For a long time, airlines have been declining on several metrics, showing not only financial vulnerability but also inherent operational issues.

Cost Structure of Airlines Industry

The cost structure of the airline industry has been untenable for a while now. From 2020 to 2021, practically all airlines saw a drop in revenue, due to the lockdowns all over the world and international travel suspension. Due to the drop in revenue, it would be expected that the cost of goods sold would also decrease since there are fewer flights. However, an analysis into the cost structure of airlines reveals that many fixed costs generally will not decrease even with fewer flights being flown. A proprietary analysis of the breakdown of the cost of goods sold of several airline companies showed that fuel expenses are highly variable, and regional expenses are moderately variable. According to figures provided by Capital IQ, American Airlines was able to reduce fuel expenses by 66% from 2019 to 2020, and they reduced regional expenses by 35%.

However, other expenses such as salaries and rental expenses remained the same regardless of whether planes are flying or not, which contributed to gross margin not moving as much as revenue, resulting in negative gross incomes across the industry. Fortunately for airlines, government assistance was provided to the aviation industry to be able to pay their employees instead of having mass layoffs in the form of loans.

	Delta Airlines		Air Canada		Lufthansa		American Airlines	
	2019	2020	2019	2020	2019	2020	2019	2020
Revenue	43,030.00	$13,491	$19,131	$5,833	$36,501	$19,972	$45,768	$17
Cost of Goods Sold	34,091.00	$22,260	$12,989	$6,696	$28,263	$18,703	$33,208	$22
Gross Margin	**$8,939**	**-$8,769**	**$6,142**	**-$863**	**$8,238**	**$1,269**	**$12,560**	**-$5**
Gross Margin (%)	*20.77%*	*-65.00%*	*32.10%*	*-14.80%*	*22.57%*	*6.35%*	*27.44%*	*-31*
Other OpEx	6,345.00	4,035.00	4531	3056	6662	5220	$8,671	
EBIT	**$2,594**	**-$12,804**	**$1,611**	**-$3,919**	**$1,576**	**-$3,951**	**$3,889**	**-$1**
EBIT Margin	*6.03%*	*-94.91%*	*8.42%*	*-67.19%*	*4.32%*	*-19.78%*	*8.50%*	*-63*
Net Interest Expense	$301	$929	$316	$499	$315	$290	$968	$
EBT	**$2,293**	**-$13,733**	**$1,295**	**-$4,418**	**$1,261**	**-$4,241**	**$2,921**	**-$1**

Table 1: All Comparable Analysis Between Airlines, figures provided by Capital IQ

At the same time, other operating expenses such as selling, administrative, and depreciation expenses have remained practically the same, meaning airlines have been suffering from highly negative Earnings before Interest and Taxes (EBIT) margins. For example, according to figures produced by Capital IQ, Delta Airlines had a whopping -95% EBIT margin compared to revenue, while Air Canada had -67% EBIT margins in 2020. Due to the highly leveraged nature of many airline companies, they've tended to have interest expenses that also remained the same, or even increased in many cases, such as for American Airlines. Overall, this also means that airlines are having a harder time being able to cover their interest payment every year, putting them in a precarious situation which might cause them to be viewed as overleveraged - this does not even consider potential maturity walls that many of these companies will face when their staggering debts need to be paid off or refinanced [4]. This is corroborated through Capital IQ data showing that the revenue/interest expense ratio has fallen from 48.7x in 2015 to 14.6x in 2020. This is particularly bad news for airlines because many of them will likely face a slow recovery from the ravages of the pandemic. For example, a detailed breakdown of American Airlines' cost structure via S&P Capital IQ and projections corroborated by past performance suggests that operating income likely won't be positive until the start of 2022, which seems a likely outcome based on the sluggish pace of vaccinations.

Additionally, from a cash perspective, airlines are doing particularly poorly. While it is expected that comatose ticket sales would have paralyzed cash inflows into airline companies, the situation has been poor for a long time. The unlevered free cash flow provided is the cash generated per period that the company has on hand, and it is used to pay off debts or pay investors or put to productive use to grow the company. The unlevered free cash flow margins of major airline companies have been struggling since at least 2015. For instance, according to Capital IQ, Delta Airlines has seen consistent declines in unlevered free cash flow margin from around 10% in 2015 to around 5% in 2019 - well before the pandemic. American Airlines has also been hovering around 2% over the past five years, with little signs of showing a recovery even before the pandemic devastated the company. Putting aside cash flow, airline companies have generally done poorly when it comes to return on capital. Not only did the major airline companies have negative returns on capital for 2020, but most of the airline giants had decreasing returns for several years before the pandemic ever happened - symptomatic of broader operational issues faced by the entire industry.

	2015	2016	2017	2018	2019	2020
Delta Airlines	21.10%	19.70%	17.90%	12.50%	12.70%	-16.10%
American Airlines	19.80%	13.50%	12.20%	8.10%	7.20%	-20.20%
Lufthansa	9.20%	14.20%	13.00%	10.40%	5.40%	-14.10%
Air Canada	16.80%	11.90%	9.60%	7.90%	7.50%	-17.30%

Table 2:Comparison Between Return on Capital between Airlines, figures provided by Capital IQ

One major indicator of operational effectiveness is the yield per air seat mile (ASM). Essentially, operating revenue yield per air seat mile shows how much revenue an airline earns from flying one seat a mile, and operating expenses per ASM show the expenses incurred to fly that seat for a mile. When the expenses are subtracted from the revenues, the general yield can be found. Overall, it costs airlines more this year to fly a passenger than they earned from that same passenger, which is expected due to the high proportion of fixed costs in airline cost structures. However, yields per seat have been consistently decreasing for the major airlines since at least 2015 due to a combination of stagnant ticket revenues coupled with increasing costs. Some companies like Delta Airlines have seen their yield per ASM cut in almost half over the past five years, while others like Air Canada had very poor ASM yields to start with.

	Net Operating Yield per Air Seat Mile (ASM)					
	2015	2016	2017	2018	2019	2020
Delta Airlines	$3.17	$2.77	$2.35	$2.00	$2.40	-$9.28
American Airlines	$2.71	$1.85	*$1.59*	*$1.33*	$1.07	-$7.28
Lufthansa	-€1.29	-€0.96	€1.66	€1.54	€1.24	€0.71
Air Canada	$1.80	$1.42	$1.30	$1.31	$1.50	-$10.00

Table 3: All Comparison Between Net Operating Yield per Air Seat Miles Between Airlines, figures provided by Capital IQ

In a situation like this, with decreasing margins due to a fall in ASM yields, the only way for companies to maintain and grow earnings is to focus on volume. Without a consistent increase in flights every year, airlines will see decreases in earnings, which puts them in a very unsustainable and dangerous position that disruptions have the potential to absolutely cripple their earnings. As seen through the course of the pandemic, the sensitivity of airline earnings to global travel is alarming, and even a general global slowdown in international travel would eat away at earnings in the industry.

Unsustainable Recovery Rates

Despite serious financial and structural problems faced by airlines, their stocks are at untenable levels. For example, the JETS airline ETF has recovered to the same price level it was at in January 2020. Delta Airlines is trading at $48.25, which is the same level it was at in February 2020. Similarly, American Airlines and Lufthansa are at their February levels as well and are all on a positive price trajectory despite the fundamentals all lagging. While there has been an improvement in EPS from -$4.82 in Q2 2020 to -$3.81 in Q4 2020, the company has a long way to go before having positive earnings, and the operational factors discussed show that it will be difficult for the aviation industry to improve earnings due to decreasing Air Seat Mile yields.

Conclusion

Overall, moving forth, it is important to be mindful of the structural problems that plague the airline industry. From a fundamental perspective, airlines have been dealing with poor metrics for a while relating to cash flow and returns; however, the global pandemic has brought these companies to their knees. With increasing consciousness among the global youth regarding the polluting nature of airline travel, there will be increasing pressure to upgrade and acquire more environmentally friendly plane models [5]. With poor cash flow, this would be a severe strain for the entire industry. In addition, the aviation industry is too dependent on a consistent increase in passenger volume, making airlines far too vulnerable to any disruptions. The only way to initiate a turnaround against this phenomenon is to improve margins by focusing on more premium ticket sales. With improved profitability, the industry would be more resilient against a slowdown in the number of people flying internationally and domestically. However, this much-needed approach would be unlikely to have political support, as this deprives lower-income people of the ability to travel. In addition, a large segment of premium flyers is business travelers, who might not have the same need to consistently fly for work due to the enhanced ability of working remotely. In conclusion, the entire airline industry's decay over the past few years has been highlighted throughout this pandemic, and with much needed operational enhancements being unrealistic from a political perspective, airlines are likely to remain "zombie companies" kept alive through constant government aid and restructuring engagements, with overvalued equity prices.

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WILL THE SPACE INDUSTRY REALLY START TO TAKEOFF AND BEGIN TO SOAR?

By: Julia Boyd, Market Research Analyst

Time has allowed for a continuous flow of innovation that consistently breaks the barriers of what was once thought impossible. Space exploration is an example of an exciting and new area full of opportunities. Other strong growth areas are in aerospace, IT hardware, defense, and telecommunications. In the past few months, many companies such as SpaceX, Virgin Galactic, and Lockheed Martin have been making headway into space exploration [1]. Despite the overbearing impacts the COVID-19 pandemic has had on our economy, there seems to be little change in the excitement around the space industry and the opportunities that were already noted back in 2020 and prior. According to an article by Morgan Stanley, they estimate the global space industry to generate over $1 trillion of revenue in 2040 [2]. The majority is expected to come from satellite broadband. Satellite broadband refers to access to the internet in remote and very isolated areas. This solution eliminates the need for a copper or fiber network, instead, the satellite broadband sends and receives signals to and from a satellite around 22,000 miles in space.

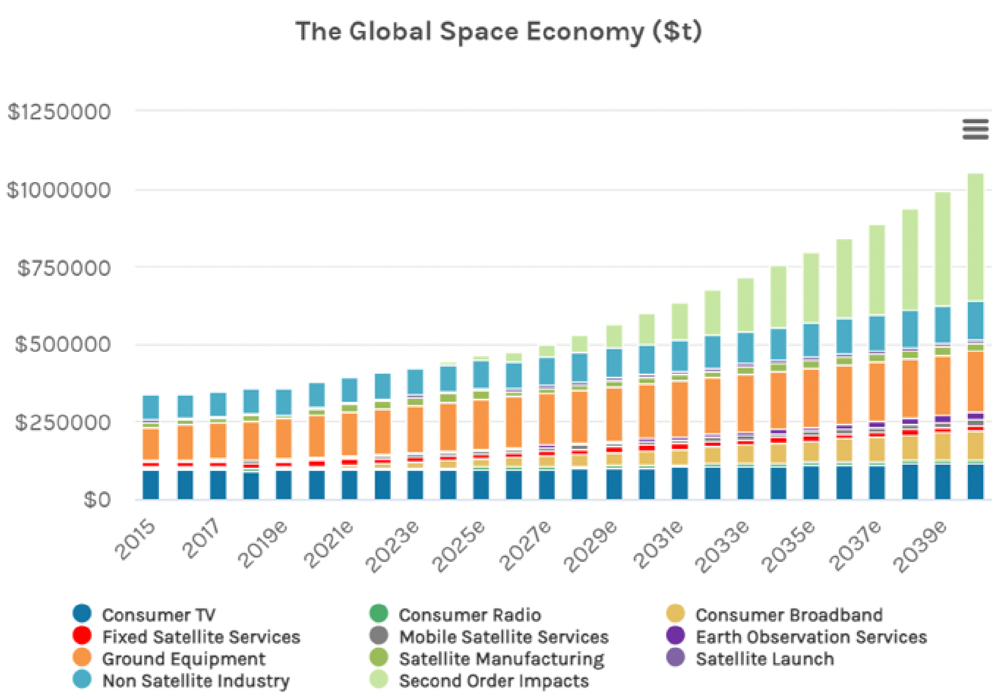

Figure 1: The Global Space Economy ($t) 2015 – 2040 [2]

HISTORY AND IMPACT OF SPACE TECHNOLOGY

Humans have been curious about unknowns beyond our earth for a long time. In 1957, the first artificial satellite, famously named Sputnik, was launched into space by the Union of Soviet Socialist Republics (U.S.S.R.). This new launch came about during the Cold War between the United States and the Soviet Union. Sputnik was placed on an R7 rocket and was able to send out beeps to a radio [3]. This influential event in history marks the beginning of space exploration.

Afterward, the United States was not far behind as they immediately began perfecting their satellite to launch into the Earth's orbit. The United States eventually launched their rocket called Explorer on January 31, 1958. The space industry suddenly became very real as the National Aeronautics and Space Administration (NASA) was created in the fall of 1958 for the sole purpose of furthering research and innovation in aeronautics and space-related endeavours. Moreover, after the United State's memorable first moon landing in 1969, space exploration and travel have been growing as engineers and designers are finding more and more efficient solutions that are due to something in space. Important technologies to note are rockets, spacecraft, rovers, and satellites.

BIG PLAYERS IN THE SPACE INDUSTRY

In the past few years, there have been many who have ventured into the space market in hopes of capitalizing on this attractive area. A few notable companies mentioned previously are SpaceX, Virgin Galactic, and Lockheed Martin. Provided below is a brief overview of the business, performance, and outlook for the companies mentioned.SpaceXSpaceX is currently a privately-owned space exploration company founded by the notorious Elon Musk who is the CEO of SpaceX and the CEO of Tesla. The company is almost 20 years old being founded in 2002. The company has grown to be a successful aerospace manufacturer and space transportation company. Multiple spacecraft have been launched for purposes such as for transport for people and payloads into the Earth's orbit. One of SpaceX's more notable rockets is the Falcon 9 which is a reusable two-stage rocket that is used for human space transport and to carry cargo such as satellites.

There are constantly new projects in motion as this space conglomerate continues to innovate and take risks that others may be too wary to take. According to an article from CNBC, SpaceX now has a $74 billion valuation due to raising more capital during the week of February 15, 2021. The company's valuation rose 60% from its most recent capital raise 6 months ago. The valuation is predicted to rise even higher as their next two projects are generating lots of excitement with potential investors. These two projects are called Starship and Starlink. Starship is a new rocket that is said to be "more powerful than even the Saturn V rockets that carried astronauts to the Moon". Starlink is a global satellite internet network which is their way of capitalizing on the need for high-speed internet amongst consumers [4].

Figure 2: Starship prototype [5]

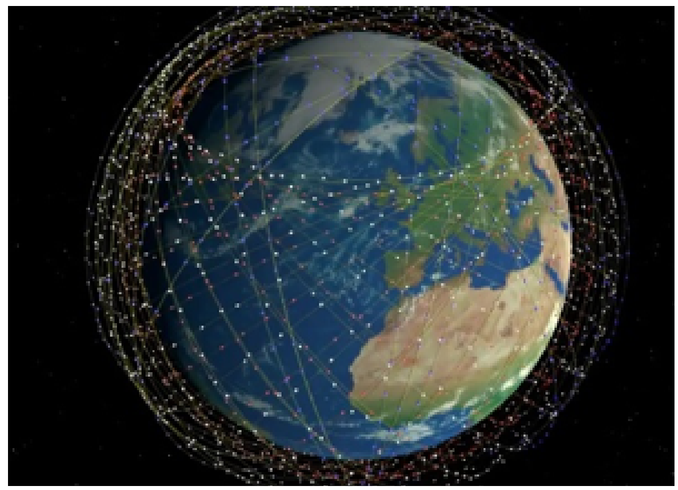

Figure 3: Starlink constellation satellite design [6]

Many analysts are optimistic about these large initiatives that Musk is taking on. Sam Korus, ARK Invest analyst, states "I honestly don't know of any company in the industry moving at SpaceX's rate of innovation". He also estimates that Starlink has a $10 billion a year addressable market in the U.S. and $40 billion a year globally. There is still a long way to go before SpaceX, Starlink specifically, becomes financially stable and predictable which is important to remember. No one can be 100% sure that Starlink or Starship will eventually become successful, but the market for satellite communication and commercial space travel is gaining traction. Again, according to the article from CNBC, it is believed that Starlink will cost $10 billion but has the potential to bring in $30 billion a year. Furthermore, SpaceX aims to make Starship fully reusable which will significantly lower costs estimated to be from $28 million per launch to $2 million.

Overall, SpaceX is not afraid to take risks and it will be interesting to see if people and investors are willing to put their faith in this shiny company going forward.Virgin Galactic (NYSE: SPCE)Virgin Galactic prides itself on becoming the world's first and publicly traded commercial human spaceflight company in October of 2019 [7]. Along with their sister company, The Spaceship Company, Virgin Galactic is a commercial spaceline and vertically integrated aerospace company. It continues to provide spaceflight for a few individuals as well as participate in the development, manufacturing, testing, etc. of spaceflight vehicles. A little over a year ago there was a large buzz around the IPO of Virgin Galactic. Sir Richard Branson's space exploration company rose to $12.93 before closing at $11.75, which was respectable for the first day trading on a public market. However, Virgin Galactic was only able to go public at $2.3 billion due to the recent merger with Palihapitiya's SPAC (special purpose acquisition companies). As seen below, the stock was rallying in February of 2020 [8]. Chairman Chamath Palihapitiya believed the spike was due to space tourism growing in demand amongst potential customers and the overall excitement over unique and potentially high margin ideas. These high risk and high reward industries usually see indescribable growth which can unjustified. Therefore, investors must be careful when thinking of investing in these fancy stocks.

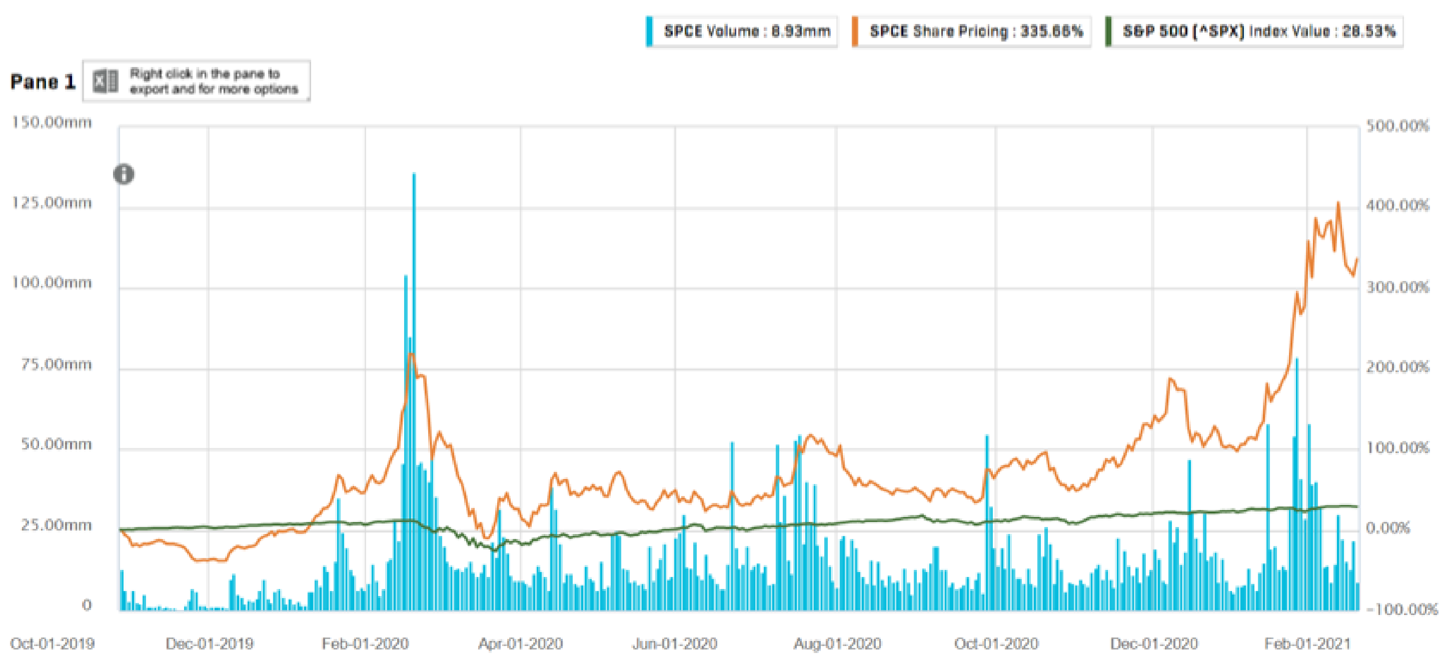

Figure 4: Virgin Galactic (NYSE: SPCE) Historical Performance vs. S&P 500 (since Oct 2019) [9]

Market Capitalization ($)	11.43B
Revenue ($)	800,000
Last Close ($)	51.19
52 Week Range ($)	9.06 – 62.80
P/E Ratio	NM
EPS (Earnings per share)	(1.80)

Figure 5: Stock Information for Virgin Galactic (NYSE: SPCE) as of Feb. 19, 2021 [9]

Jack Ma, the founder of Ant Group, criticized policymakers behind international financial Recently, there has been a lot of movement due to different launches. Virgin Galactic is also set to release its Q4 F2020 earnings on February 25, 2021. An article by Forbes discusses why this company has seen around a 130% year-to-date rally and the outlook going forward. One main reason for the price rise is investors' anticipation of upcoming test flights. After a technical problem caused the anticipated launch to cancel last December, the company has announced the test flight of the SpaceShipTwo suborbital spaceplane for mid-February. However, they were not able to follow through due to more technical problems which led to a 12% price drop on February 13, 2021. Looking past these challenges, the price may also be increasing due to retail investors buying in in hopes of a short squeeze as well as an investment by ARK Invest, an investment fund focusing on disruptive innovation. Virgin Galactic's strategy to make money is heavily involved with space tourism where they have signed up 600 future passengers with deposits of $80 million. This is a very speculative sector, but space tourism demand is growing and they could also branch out into other markets such as high-speed point-to-point international travel in space [10]. Overall, Virgin Galactic is a company to keep on your radar.Lockheed Martin (NYSE: LMT)

JCompared to the two companies mentioned above, Lockheed Martin has been around more a little longer. Another obvious difference is that Lockheed Martin did not see the stock rally as the global pandemic took hold. However, there are positive reasons why it might be exactly the right time to buy. Lockheed Martin is an aerospace and global security company that participates in the design, development, research, manufacture, and integration of technology systems. They currently have a market capitalization of $93.95B trading at $335.42 as of February 19, 2021.

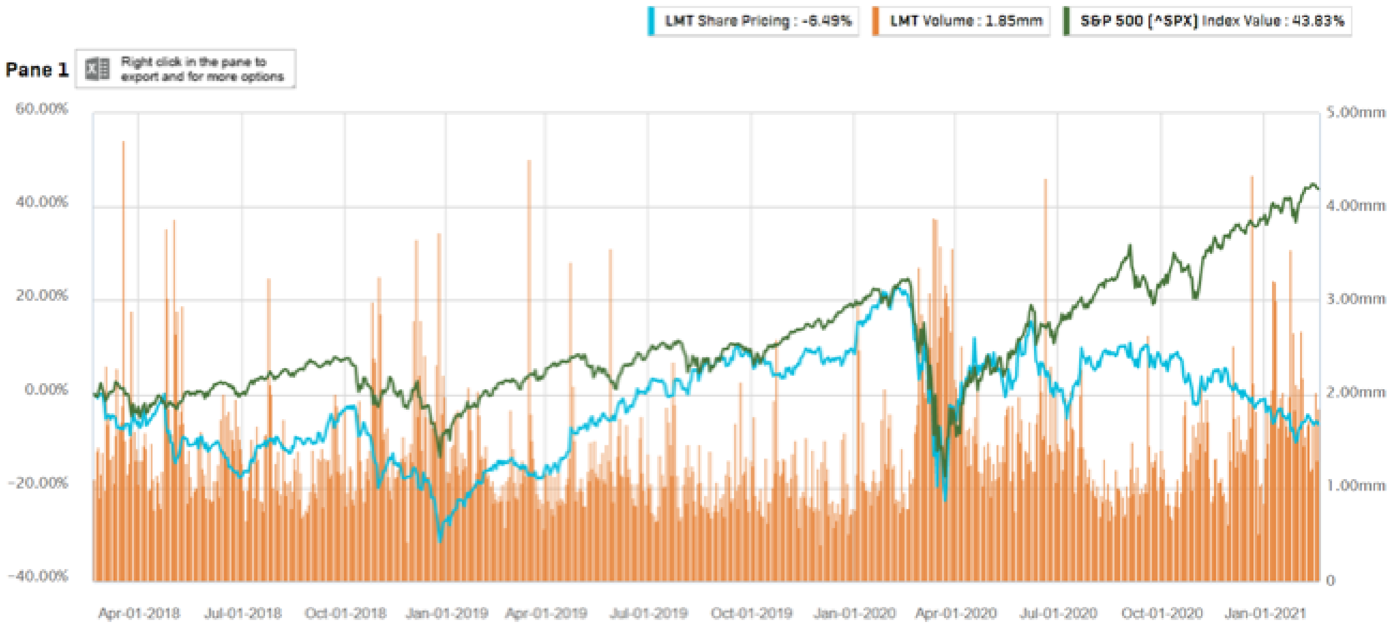

Figure 6: Lockheed Martin (NYSE: LMT) Historical Performance vs. S&P 500 (3Y) [12]

Market Capitalization ($)	93.95B
Revenue ($)	65.40B
Last Close ($)	335.42
52 Week Range ($)	266.11 – 428.72
P/E Ratio	13.69x
EPS (Earnings per share)	24.50

Figure 7: Stock Information for Lockheed Martin (NYSE: LMT) as of Feb. 19, 2021 [12]

According to their most recent Q4 F2020 earnings on January 26, 2021, Lockheed Martin reported revenue of $17 billion which was up from $15,9 billion in Q4 2019. Their space segment increased by 9% YoY from $10.9 billion to $11.9 billion in sales, their aeronautics segment increased by 11% from $23.7 billion to $26.3 billion, and their missiles and fire control segment increased by 11% from $10.1 billion to $11.3 billion. Overall, Lockheed Martin experienced some impacts from COVID-19 and continued to focus on cash generation. They saw an increase in revenue and earnings which makes them well-positioned for growth in 2021. [11]

Revenues ($ Millions)	2020	2019	2018	2017	2016
Business Segment					
Aeronautics	26,266	23,693	21,242	19,410	17,293
Missiles and Fire Control	11,257	10,131	8,462	7,282	6,789
Rotary and Mission Systems	15,995	15,128	14,250	13,663	13,595
Space	11,880	10,860	9,808	9,605	9,613
Total Revenues	65,398	59,812	53,762	49,960	47,248
Annual Growth	9.3%	11.3%	7.6%	5.7%	16.5%

Figure 8: Lockheed Martin Corporation Revenues by Business Segment [13]

As the world's largest defense contractor and with double-digit annual growth from total returns and dividends for the past 10 years, the F2021 outlook looks positive for shareholders. Lockheed currently offers a dividend yield of around 3.2% which makes any investor smile. Lockheed has produced an annual total return of around 21.5% with dividend growth of around 14.0%. Lockheed did see a 26% drop in their stock price due to the pandemic and potential concern from government budget cuts. However, since they had outstanding revenue results across their different segments despite the pandemic Lockheed looks to be performing well. Looking forward, Lockheed Martin is an important contractor for NASA's Orion spacecraft which is aimed to carry people to the Moon and Mars. According to the article by James Marino from Seeking Alpha, using an estimated EPS of $26.15 and using a 15 – 16 EPS multiple, he determined a target price of $392 - $418 which presents an upside of 22% - 30%. Although we have confidence in this stock, it is important to evaluate risks such as management strength and economic factors before making any substantial investment decision [13].

UPCOMING NEWS

Cathie Wood, the founder of ARK Invest, is planning on introducing an all-new ETF named Ark Space Exploration ETF (ARKX). Firstly, ARK Invest is a relatively new asset management company founded in 2014. Unlike other investment management companies, ARK's entire philosophy and strategy are around disruptive innovation [14]. They are not afraid to stray away from the safe confines of indexes and benchmarks and thrive when truly keeping up with the fast-moving innovation that is seen in our economy. The new ARKX ETF is being highly anticipated by many. ETF members have not been announced, but there was an 8% jump in Virgin Galactic and Maxar Technologies after trading. The ARK Innovation fund returned 170% last year, so investors are excited about this new ETF to come.[15]

There has also been recent chatter around if SpaceX will eventually go public. On February 9, 2021, CEO Elon Musk expressed his prediction that Starlink (the satellite service mentioned above) will go public when it begins to generate predictable cash flows. Starlink has become to generate beta users up to almost 10,000 around the world, but according to Dave Mosher from Business Insider, “SpaceX could need about 3 years and $3 million subscribers to get the project to begin paying for itself” [16]. As of now, SpaceX has launched more than 1,000 working satellites for Starlink using its partly reusable Falcon 9 rocket. Their goal is to have 42,000 satellites by 2027. It will not be an easy or cheap road to an IPO, but it is possible.

CONCLUSION

As discussed, there are major growth opportunities within the space industry, and right now would be a good time to begin taking a closer look at the emerging technologies and key players in this field. It is important to consider the fact that companies are still far from a perfect commercial spaceflight or a perfect constellation of satellites (Starlink) and they will spend massive amounts of money in the process. However, space exploration and innovative technologies look to be the new normal and new future. Failure and losses are sometimes the only way success will be achieved and society can grow. SpaceX, Virgin Galactic, Lockheed Martin Corporation, and the upcoming ARKX ETF are all operating with the risk-reward mentality and it will be interesting to see where it takes them in the future.

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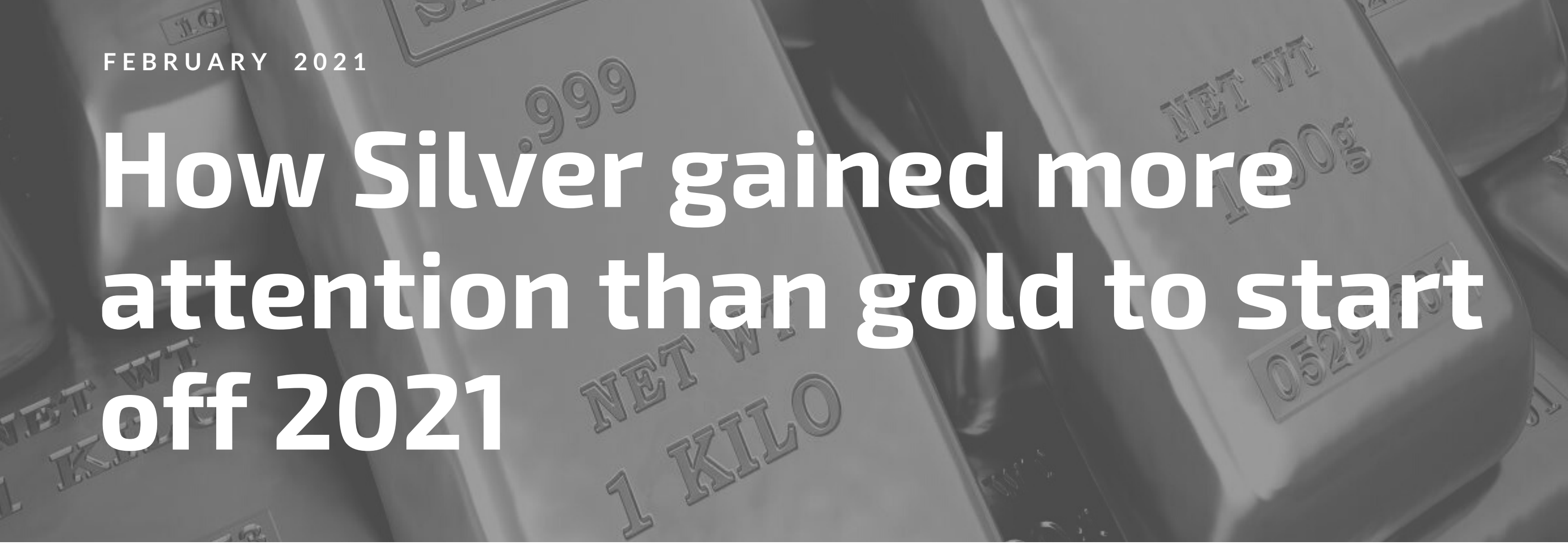

How Silver gained more attention than gold to start off 2021

By Mustafa Haider, Palvit Garg and Michael Zhang, Market Research Analysts

Many investor's in past years have highly touted the significance of gold as a hedge to inflation and a must-buy commodity during uncertain times. As a result, for much of the time during the pandemic, gold has seen a large surge upwards as money started flowing into the commodity as governments across the world continued to print money. However, to start off 2021, the spotlight seems to have shifted onto silver, as the prices of the commodity hit 8-year highs in February 2021. Although every investor has their own reason for buying, there are three main areas of concern in regards to increased volume for the commodity, which include: Hedging inflation, asset correlation, and retail investing.

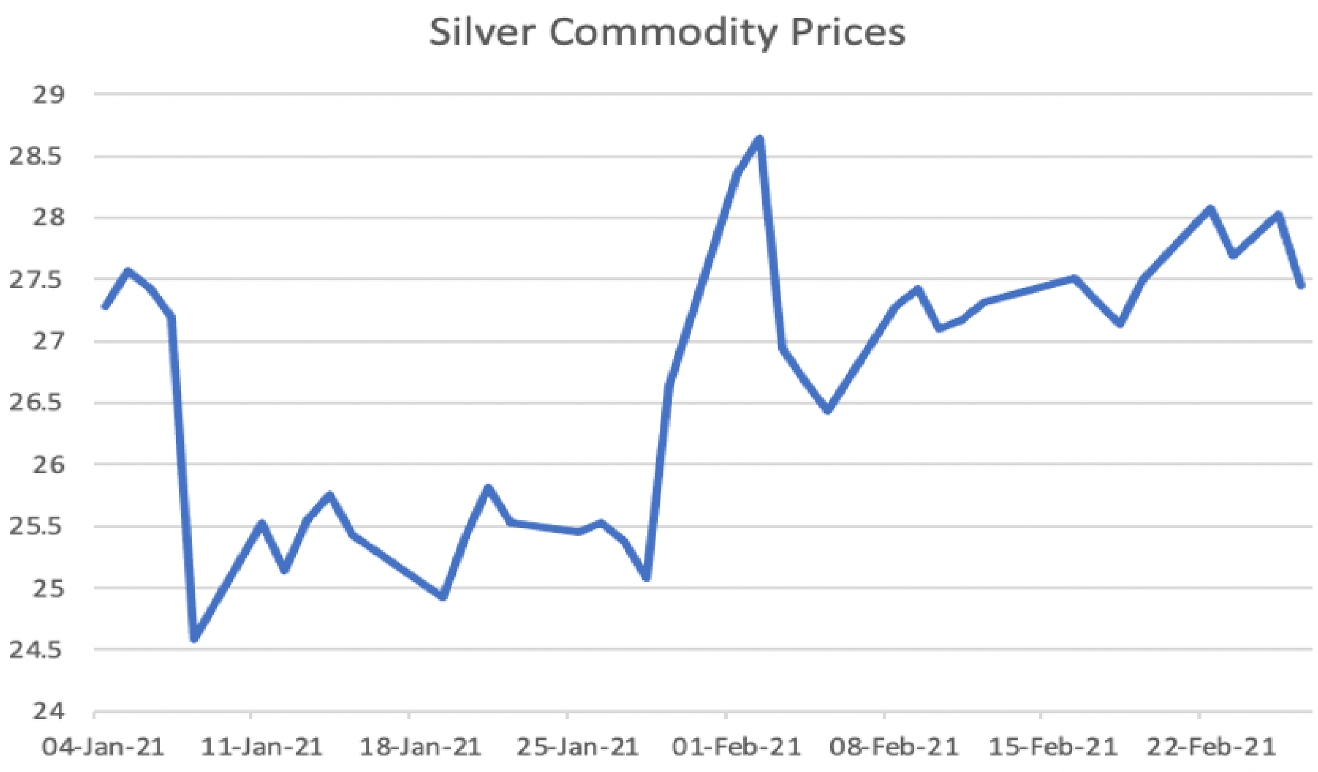

Figure 1: Recent volatility in Silver prices, Source: Yahoo Finance

Hedging inflation

With money printing being at all-time high due to the Coronavirus pandemic, investors have been looking for a way to hedge the inflation that looks to be on the horizon once the economy comes back again. This is the reason why gold prices hit peak in the middle of Covid-19 induced lockdowns, and which is why silver might be the next commodity to see increased demand due to inflationary fears. Back in July, the price of silver had rallied to a four-year high at $24.50. Experts believe this is mainly due to the rebalancing of the ratio between gold and silver values. The Gold-Silver ratio also referred to as mint ratio is the relative value of an ounce of gold to an ounce of silver. This ratio is used to diversify the amount of precious metal held in portfolios for the investors to make profit based on their anticipation of where this ratio is headed [4].

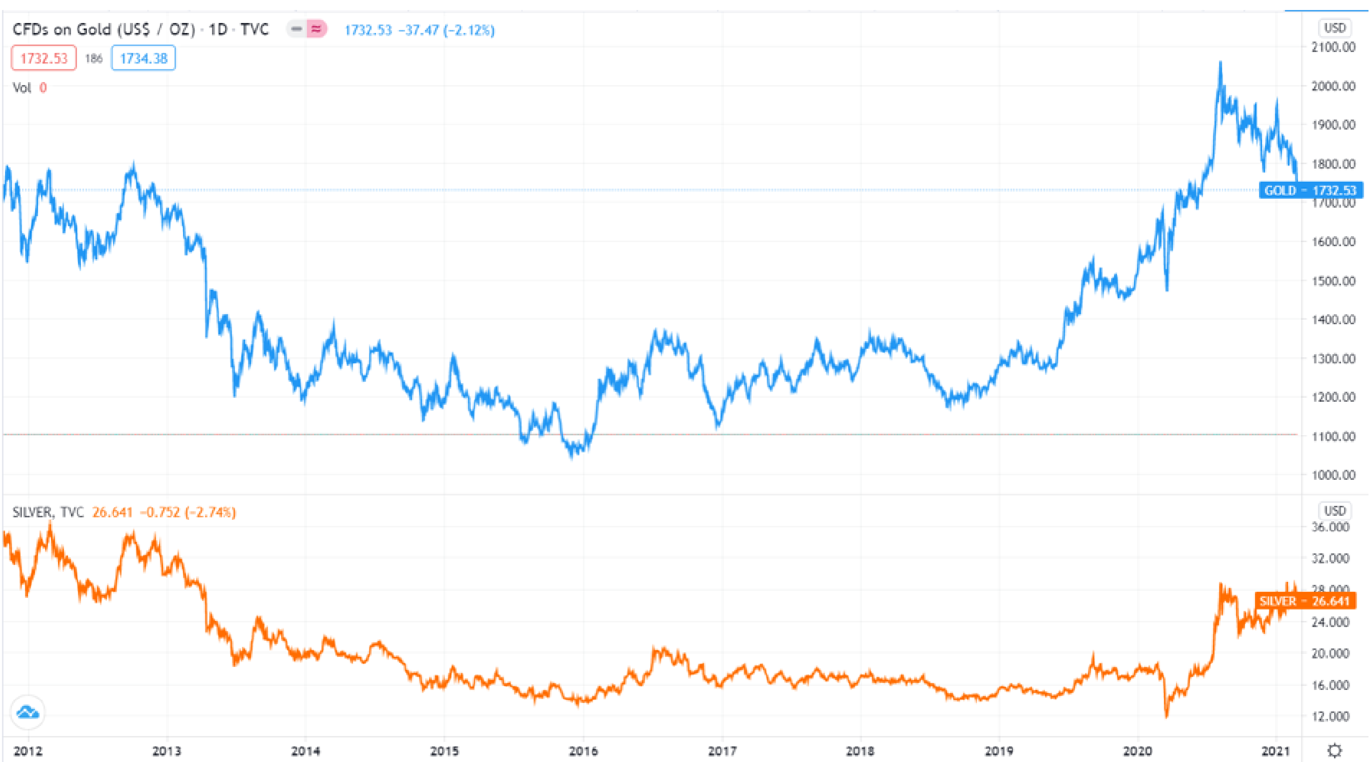

Figure 2: Movement of Gold and Silver prices since 2012, Source: Trading View

During the pandemic, as gold prices soared due to investors buying in to hedge inflation, silver was left behind in the rally. Months later, silver is seeing a rise in accordance with other asset classes that also perform the same function of hedging inflation. The reason for the lag is largely due to the fact that during times of panic, investor's first turn to gold as their choice of commodity for safety, and once the broader precious metals market goes on a bull run, silver catches up in terms of performance. One of the reasons that Silver would be a good hedge against inflation is its inherent value in its industrial usability which means that a large portion of silver demand comes from industrial productions. Therefore, as the global economy recovers and manufacturing increases, so will the value of silver. Moreover, Biden becoming president has also played somewhat a part in the future outlooks of silver, as his green infrastructure plan will include many things such as commuter trains, light rails, buses, and other vehicles which all require silver as a key component. There's also an increased need for silver in medical applications and of course in the highly anticipated 5G networks which both play in increasing industrial needs for the commodity. According to the Silver Institute, forecasts on the commodity see its industrial demand rising 9% from 2020 to a four-year high of approximately 510 million ounces.

Retail Investors "Short Squeeze"

In January, users on the WallStreetBets reddit page attempted to short squeeze Gamestop as many took notice on the fact that many institutions overleveraged and shorted more stock than was outstanding on the company. Now, some users of the same forum have advised others to start piling into silver as another vehicle to squeeze institutions with. #silversqueeze at one point was a trending hashtag on twitter, further proving the idea that these traders were moving markets and silver was their next asset class they were targeting. Cameron Winklevoss, notable bitcoin investor, tweeted "If the silver market is proven to be fraudulent, you better believe the gold market will be next". However, some members of the forum advised against it as Citadel is one of the largest shareholders of the iShares silver trust and pumping the commodity would certainly be a conflict of interest to those who see institutions as playing the other side. Moreover, some users on the reddit forum even deny the "silver short squeeze" as even being a real thing, as they believed it was a ploy setup by institutions and the media to convince WallStreetBets traders to liquidate their positions and go into silver.

Implications of this volatility

After looking at the background regarding this volatility in silver, let's now focus on what this volatility entails for the overall market and the economy in general. The reason for this is that Silver is a commodity that is quite heavily utilized in quite a few industries and therefore any impact on its price will have a ripple effect that will be felt across the markets and the economy.Analysts have also noted that the volatility in silver prices is not as unusual as it is led to be believed. As Michael Widmer, precious metals analyst at Bank of America, said in a report, "Many of the usual market metrics have remained within recent ranges, suggesting that dislocations have been manageable. In particular, retail investor trends do not appear to have been significantly disruptive."[1] This is further supported by the fact that, historically, silver prices have moved quite frequently between the peaks and the troughs, and hence this latest volatility in prices can also be marked as the latest trend in the usual price movements of silver as seen in figure 3 below.

Figure 3: Prices of Silver in the past five years showing the volatility, Source: Macrotrends

Furthermore, it is reasonable to conclude that once this investor frenzy comes to a halt, prices of silver will reflect the fundamentals. As Widmer continued in the report, “The speed at which prices have rallied is a concern, with some of the traditional markets like China trading at a deep discount now,” he said. “While we remain bullish on fundamentals, this is worth following because a lack of commercial buying ultimately means that the rally may come to an abrupt end once the recent strong investor buying fades.” In addition to this, the markets have a tendency to reflect the fundamentals in the long run. Echoing the analysis of the Widmer, pump and dump is not a viable strategy in any secondary market, whether it be the stock market or the commodities market. Therefore, this silver rally, is more likely to end and the prices will soon align more closely with the intrinsic value of the commodity.It should be noted, however, that this silver rally has the potential to result in cost-push inflation, especially in the short run. The reason being that silver is a crucial input for the manufacturing sector. Hence, this rally can lead to higher costs of production in the manufacturing sector which then leads to higher prices for the intermediary and final goods. This can be quite detrimental for the economy – even though this rally might benefit the speculators – as high prices without the accompanying growth can lead to unemployment and stagnation. Furthermore, these new market dynamics, including social media’s ability to increase retail investors’ impact on price discovery (particularly for small capitalization or thinly-traded equities), could have longer-term implications for financial institutions in terms of regulation, market structure, risk management, political and reputational risks and overall financial stability.8 This means that the recent social media coordination by retail investors has caught everyone, including the regulators, off-guard.

Conclusion

Consequently, it cannot be overstated how important regulators are for stability in the secondary market. As it has been observed repeatedly that volatility in the stock and commodity markets result in ripple effects that are quite undesirable for the whole economy. Especially considering the fact that this silver rally can result in stagflation in a world economy, which has still not recovered from COVID-19. Stagflation is a unique situation in which rising prices in the economy are coupled with no or negative economic growth. As mentioned above, this silver rally can cause cost-push inflation which almost all the times leads to stagflation.

With a world economy that is still experiencing high unemployment rates, this silver rally is bound to compound the misery of almost all the nations. Additionally, it is imperative that regulators like the SEC as well as legislative bodies of the major economies of the world pass laws the prevent and/or mitigate the risks associated with pumping and dumping, because quite a few have suffered due to unregulated markets – where gambling without any ramifications has been the norm for quite a while now.

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Institutional Acceptance Hints Promising Future for Cryptocurrency

By: Iris and Harry, Market Research Analyst

The beginning of 2021 has seen a wave of institutional adoption of cryptocurrencies that has skyrocketed the largest cryptocurrency, Bitcoin's, value. The trend of mainstream institutions endorsing and entering the crypto space is a sign that, as many investors hope, cryptocurrency might one day be a commonplace means of transaction. Cryptocurrencies, like Bitcoin, have long been considered speculative assets, but many investors also recognize their value as a hedge against inflation. However, several large financial institutions successively announced plans to include crypto assets in their networks and portfolios, leading some to believe that Bitcoin is gaining viability as an alternative payment method. The current decision of Elon Musk, who has become somewhat of a financial influencer during the pandemic, as well as the Office of the Comptroller of the Currency's (OCC)'s support of cryptocurrencies, have bolstered the reputation of crypto in the public's eyes and accelerated the process of adopting cryptocurrency in aspects of financial transactions.This article will discuss the latest interpretation of OCC on Independent Node Verification Networks (INVN) and stablecoins, the movement of financial institutions into the crypto field, and the effects of Bitcoin on Tesla and Apple.

OCC Backs Crypto

Cryptocurrencies carried their positive momentum from 2020 into 2021, as the OCC recently updated its interpretation of INVNs and how much influence crypto can impose on traditional financial services. The OCC is a US federal agency that charters, regulates, and supervises national banks, federal branches, and agencies of foreign banks in the US [1]. The OCC clarified that national banks may act as custodians of crypto assets and also may hold the reserve balances of certain stable value cryptocurrency providers.

Since stablecoins can act as a mechanism of storing, transferring, transmitting, and exchanging an underlying fiat currency value, they can be used as a reserve currency to facilitate payment activities [2]. The OCC also concluded that banks may validate, store, and record payment transactions by serving as a node on an INVN. The approval of these actions reduces regulatory uncertainty and stands as recognition that crypto assets are a significant and growing part of the global financial system. The EU and the UK also appear open to pursuing similar initiatives. With the adoption of INVNs and cryptocurrencies, real-time transactions can be settled at dizzying speeds. The significantly lower overhead costs for intermediaries, enabling them to offer a higher interest rate on coins than cash deposits, potentially creating an attractive saving vessel for consumers and investors alike.

North America's First Bitcoin ETF

A Bitcoin-holding Exchange Traded Fund (ETF) allows investors to directly invest in physically settled Bitcoin without the need for a digital wallet. On February 11, 2021, Purpose Investments Inc. was cleared by the Ontario Securities Commission to launch the Purpose Bitcoin ETF on the Toronto Stock Exchange. This ETF will begin trading on February 18 under the ticker BTCC [4]. There are at least four filings for Bitcoin ETFs awaiting approval in Canada, including offerings from Evolve Funds, Horizons ETFs, Accelerate Financial, and Arxnovum Investments. [3]. In the US, more than 10 fund companies have filed their Bitcoin ETF offerings with the SEC The newly appointed SEC chairman, former Commodity Futures Trading Commission and professor of global economics and management at MIT, Gary Gensler, hopes that a Bitcoin ETF can be approved in 2021.

Mainstream Institutions Embrace Bitcoin

Mastercard partnered with some large cryptocurrency firms, including Wirex and BitPay, to begin allowing cardholders to transact certain cryptocurrencies on its network. Around the same time, Bank of New York Mellon also announced that it will hold, transfer, and issue Bitcoin and other cryptocurrencies for institutional customers. Visa has already partnered with 35 Bitcoin and cryptocurrency platforms, and also recently announced its intention to help banks deploy cryptocurrency transaction and trading services with a Visa crypto software program. Visa intends to support 160 currencies on its network.

On January 8, 2021, a Morgan Stanley SEC filing revealed that the bank had acquired a 10.9% stake in Michael Saylor's MicroStrategy, a business intelligence firm that made a massive entrance into crypto. In August 2020, Bitcoin was already MicroStrategy's primary reserve asset. CEO Michael Saylor announced, "This is neither a speculation, nor a hedge. It is a deliberate corporate strategy to adopt the Bitcoin Standard." [5] With Morgan Stanley's investment into MicroStrategy, it is no surprise that Morgan Stanley is further considering adding Bitcoin to its $150 billion portfolio. Furthermore, Morgan Stanley's investment management subsidiary Counterpoint Global is also exploring whether cryptocurrency is a good option for its investors.

Tesla's Bitcoin Bet Threatens to Wipe Out 2020 Profit

Bitcoin's price jumped to a record high of $48,663 shortly after Tesla announced its purchase of $1.5 billion worth of Bitcoins. Tesla made this investment with the goal to diversify and maximize return on its cash. Tesla starts accepting bitcoin in exchange for its product. Ark Invest, an investment service whose largest portfolio holding is in Tesla, thinks Musk's actions seem to be legitimizing Bitcoin as corporate cash and have marked a cultural and sentimental turning point for Bitcoin [6].Beyond the aforementioned benefits, investing in Bitcoin also adds the accounting benefit of distorting Tesla's balance sheet. On Tesla's recent 10-4 filling, page 106 states "we will account for digital assets as indefinite-lived intangible assets in accordance with ACS 350, Intangibles – Goodwill and Other." [7] According to the Generally Accepted Accounting Practices (GAAP), indefinite-life assets are evaluated for impairment yearly, which is the carrying value that exceeds the recoverable amount, and will be recognized under expenses as a loss if impairment occurs [8]. For example, if Tesla's Bitcoin portfolio market value plummets to $1.3 billion, below its purchase price of $1.5 billion, then the $200 million will be deducted from Tesla's revenue, resulting in an unpleasant annual report, reducing net income. Although such an event may make Tesla's earnings look poor, it helps Tesla reduce its tax burden.However, investors who overlook the indirect influence of Bitcoin's value on Tesla as a company may lose confidence in the company's financial performance, leading to a potential sell-off of Tesla's shares

Conversely, a reversal of impairment loss occurs when the intangible asset value is regained. An increase in value up to the amount of impairment loss recorded in prior periods is recorded as a gain on the income statement, and any excess increase is credited to equity [8]. In this case, if the value of Tesla's Bitcoin holdings increased to $1.8 billion, then $200 million will be added to its net income and $100 million will be credited to its equity. As seen, Bitcoin's volatility can fluctuate Tesla's net income, which further detaches Tesla's GAAP profit from reality and puts the company at risk of having its annual profit wiped out on its financial statements.

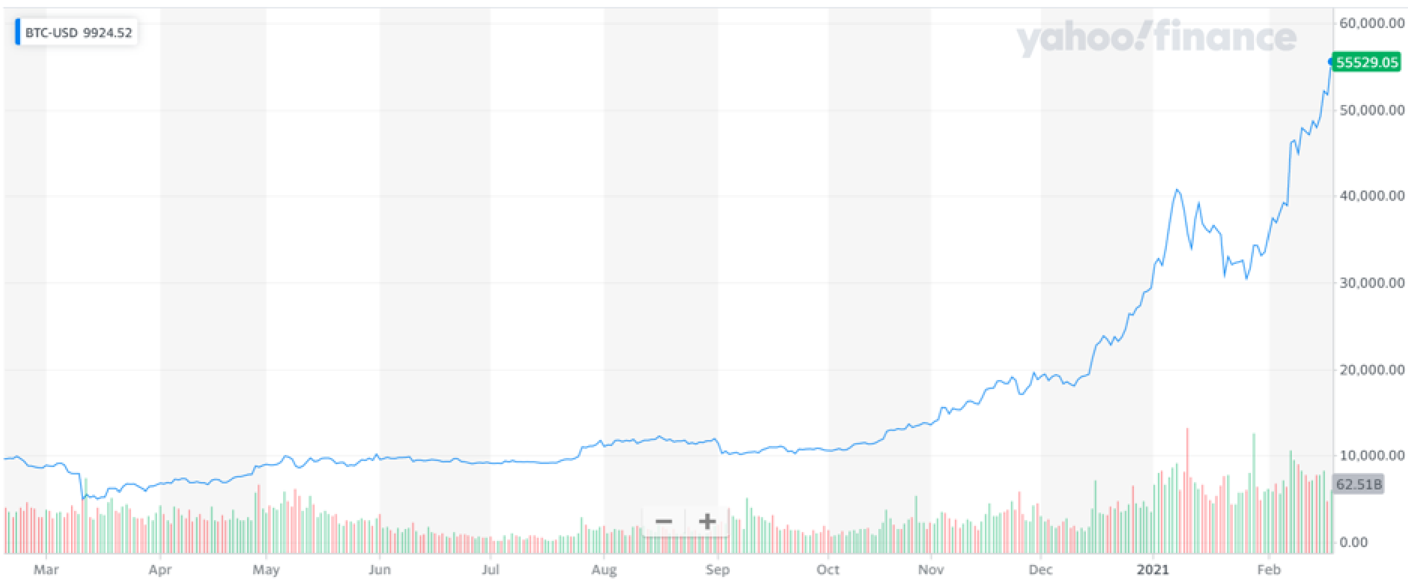

Fig. 1: Bitcoin's meteoric rise in value in 2020.

Dogecoin: the Living Meme

Following Elon Musk's simple tweet "Dogecoin", the cryptocurrency Dogecoin's price rose 866% within two weeks, reaching a total market value of roughly $10 billion. Dogecoin is a joke cryptocurrency named after the doge internet meme in 2013 and was intended to serve no real purpose except to generate a few laughs. The absurdity of dogecoin's high market value is incomprehensible to many and even dogecoin's co-founder Billy Markus said: "the idea of dogecoin being worth 8 cents is the same as GameStop being worth $325. The coin design is absurd." [9] Despite being born with no intended use, Dogecoin might become a real currency to spend due to its inflationary nature.

Bitcoin has a limited supply of 21 million coins and a deflationary nature, as half of the previous amount can be mined in the process of halving. Unlike Bitcoin, Dogecoin is the exact opposite, allowing five billion Dogecoin to be generated per year with infinite supply, gradually diluting its value. Although Dogecoin is having the run of its life on an insane amount of retail investor hype, only time will tell whether this cryptocurrency will keep its traction and join the other (read: more serious) coins in the hearts and wallets of mainstream investors.

The First US Bank-Backed Cryptocurrency: JPM Coin

JP Morgan is the first major US bank to test out its cryptocurrency, JPM Coin, in real-world payments. The JPM Coin is a digital token designed to instantly settle transactions. It acts like a stablecoin, with each JPM Coin pegged to a single US dollar, so its value does not fluctuate like Bitcoin and many other unpegged cryptocurrencies. JP Morgan's goal is to shift to blockchain for cross-border payments and corporate debt issuance. In order to realize this goal, JP Morgan must be able to transfer money at lightning speed rather than relying on its international wire transfers, which may take up to 5 days to settle. With the creation of JPM Coin, JP Morgan is initiating trials on three real-life applications. The first application is for large corporate clients to make international transfers and payments. Instead of waiting for over a day for transactions to settle, JP Morgan seeks to achieve real-time settlements at any time of day via JPM Coin. The second application uses blockchain and JPM Coin for debt issuance to achieve the instant settlements instead of current delay between settling the transaction and receiving payment via wire transfer. The third application is for large corporations that use JP Morgan's treasury services to replace the dollars they hold in various global subsidiaries. JPM Coin seeks to ensure a subsidiary represents cash on the balance sheet without cash physically wired to the unit [10].

Conclusion

With the OCC's support, banks are looking to leverage the INVN and cryptocurrencies to speed up payments and transactions. At the same time, traditional financial institutions have begun including cryptocurrencies in their portfolio holdings. This movement towards crypto-normalcy is likely to encourage other institutions and more investors to follow in their footsteps, likely driving up the value of Bitcoin and other cryptocurrencies. Research analysts have predicted various target prices for Bitcoin ranging from $50k to $300k at the end of 2021. However, predicting Bitcoin's price is difficult as it cannot be valued like a company. Its value is based on market sentiment and the potentially revolutionary effect of the underlying blockchain technology. As long as the market remains optimistic and blockchain systems remain healthy, there is a chance for cryptocurrencies to revolutionize some essential underpinnings of the global economy.

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