Risk-Return Analysis of Select Crypto Currencies: During 2018-2022

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Abstract

At present, everyone is crazy about 'Crypto-Asset' or 'Crypto-currency' (also popularly known as Bit-coin). An investor who acquires intangible digital assets through "cryptocurrencies" should consider that they may or may not make a get returns. Sometimes there is a possibility of a loss of the entire real asset of the investor. Every investor faced the unexpected market conditions during the period i.e. 2020-21. Hence, this paper made an attempt to focus risk and return on investments in select crypto currencies during the period i.e. 2018-19 and 2021-22.

This paper focus on whether Cryptocurrency is an intangible digital asset or a way of vanishing fiat currency?

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Objectives:

1. To make focus on the regulatory mechanism of crypto-asset through online trading platforms.
2. To know the risk and return on select crypto currencies during the study period.

Keywords: Crypto-asset, Crypto-exchange, Digital transactions, Crypto Regulations, Intangible digital asset.

JEL Classification: E49- Money and Interest rates-Other; F-39- International Finance-Other, K-24-Cyber Laws.

1. Introduction

Every investor faced the unexpected market conditions during the covid-19 period, particularly during 2020-21. Hence, this paper made an attempt to focus risk and return on investments in select crypto currencies during the period i.e. 2018-19 and 2021-22.

At present, everyone is crazy about 'Crypto-Asset' or 'Crypto-currency' (also popularly known as Bit-coin). Most researchers are trying to define it as an 'intangible digital asset' but could not identify how much value it creates. An investor who acquires intangible digital assets through "cryptocurrencies" should consider that they may or may not create a fiat currency. Sometimes there is a possibility of a loss of the entire fiat currency of the investor. Nara Kim and Jang Mook Kang (2018) analyzed block chaining technology and digital authentication technology. A digital authentication system is proposed to solve the high cost of existing digital authenticated technology. They suggested a user authentication service based on blockchain. In this context, this paper is intended to focus on online-trading platforms for cryptocurrencies and regulatory mechanisms.

As of now, there are nearly 11000 crypto-currencies available through ‘Initial Coin Offering’ (ICO). However, the most considerable problem regulator have is that investors buy Cryptocurrency on any digital platform and send it to unknown addresses that even digital platforms cannot track. The Securities Exchange Board of India (SEBI) announced during December 2021 that instead of using the word 'crypto-currency,' it can be called 'Crypto-asset.'

One should know that the 'Intangible Digital Assets' can be created through a 'Non-Fungible Token' (NFT). It is a non-interchangeable unit stored on a digital ledger or blockchain. NFTs can be associated with easily-reproducible items such as photos, videos, audio, and other types of digital files as unique items. Copies of the original file are not restricted to the owner of the NFT. The lack of interchangeability, i.e., fungibility, distinguishes NFTs from blockchain-based cryptocurrencies, such as Bitcoin.

2. Review of literature

It is found that the best part of academic papers provides evidence for the ineffectiveness of Bitcoin and other digital currencies. Cryptocurrency, an encrypted, peer-to-peer network for facilitating digital exchange, is a technology developed 12 years ago. Bitcoin, the first and most popular Cryptocurrency, is paving the way as a disruptive technology to long-drawn-out standing and whole financial payment systems that have been in place for many decades. While cryptocurrencies are not likely to replace traditional fiat currency, they could change the way Internet-connected global markets interact with each other, clearing away barriers surrounding normative national currencies and exchange rates (Peter D. DeVries, 2016). Volatility dynamics of Bitcoin’s logarithmic returns are measured by Ardia et al. (2019) by using the Markov Switching GARCH (MSGARCH) model to test the existence of institutional changes.

The financial sector has gradually been digitized, introducing the online payment gateway PayPal or the digital currency (Gonzalez, 2004). Crypto exchanges in India are gearing up to launch bitcoin futures. However, first, they want to

integrate other cryptocurrencies such as Ethereum, Ripple, and Bitcoin Cash (BCH) on their platform. Other than bitcoins, there are about 1,000 alternative coins (altcoins) in the global market, with Ethereum being the most popular. Altcoins are cryptocurrencies that were launched after the success of bitcoin (Rajesh Kurup, 2017). Will Bitcoin have the ability to benefit from a higher degree of confidence than the present one starting from the backdrop of the growing discontent generated by numerous imbalances occurring in the economies of different states?" (Angela and Liana, 2014).

The pricing behavior of cryptocurrencies is studied by Kyriazis (2019), which reveals that the Efficient Market Hypothesis is rejected. Nevertheless, significant steps towards efficiency in cryptocurrencies have been traced during the last years. The profitability of technical trading rules in the Bitcoin market using trend-following and mean-reverting strategies are examined by Resta Marina et al. (2018). Since the inception of Bitcoin showed a success path, which now numbers as many as 5025 cryptocurrencies as of 13th Jan 2020. Caporale et al. (2018).

It was observed that the crypto-currency market is persistent. Chaim et al. (2018) estimated a multivariate stochastic volatility model with discontinuous jumps in cryptocurrency markets. The results showed that permanent volatility appears to be driven by significant market developments and popular interest levels.

Maurice et al. (2019) show that 'volatility persistence' was powerfully revealed across all trading scales and in conditional market volatilities than in the full-sample and unconditional volatilities. By extension, the markets persist more in volatility across scales. It is found that the evidence of demand efficiency and the intensity of volatility persistence is somehow sensitive to time scales, the measure of market returns and volatilities, and data regimes. Hence, any empirical investigation of the price dynamics of these markets should be mindful of the identified data properties.

Shaen Corbet et al. (2020) considered the role of negative sentiment in the outbreak and development of the COVID-19 pandemic. The results suggest significantly and pronounced time-varying price-volatility effects as investors identified the severity and nature of the pandemic’s growth trajectory and potential economic repercussions.

Beatriz and André's (2020) analysis indicates that the strength of dependence among the crypto-currencies has increased over the recent years in the cointegrated crypto-market. The findings will help investors manage risk while identifying opportunities for alternative diversified and profitable investments. The researchers have briefly discussed the effects of the COVID-19 pandemic on the crypto market using data relating to 2020.

One may acquire 'Intangible Digital Assets' created through a 'Non-Fungible Token' (NFT). The lack of interchangeability, i.e., fungibility, distinguishes NFTs from blockchain-based cryptocurrencies, such as Bitcoin. It is a non-interchangeable unit stored on a digital ledger or blockchain. NFTs can be associated with easily-reproducible items such as photos, videos, audio, and other types of digital files as unique items. Copies of the original file are not restricted to the owner of the NFT.

The concept of an open-source currency without a central point of trust, such as a significant distribution agency or state lead control, is new (King & Nadal, 2012). Every investor needs to have an answer to the questions, viz., is it Bitcoin, that particular private currency that will have the most extended life? Moreover, how long will it run in parallel with the traditional currency? Will Bitcoin have the ability to benefit from a higher degree of confidence than the present one

starting from the backdrop of the growing discontent generated by numerous imbalances occurring in the economies of different states?" (Angela Rogojanu and Liana Badea, 2014).

The results reveal that Bitcoin has shown a successful path since its inception, despite volatile market conditions (Caporale et al., 2018). It is observed that the technology can potentially improve central banks' operations and can serve as a platform to launch their cryptocurrencies (Raskin & Yermack, 2016). The nature and the ability of the five largest cryptocurrencies, viz., Bitcoin, Ethereum, Ripples, NEM, and Dash, are examined by Phillip et al. (2018).

It should be noted that the cryptocurrencies cannot replace the fiat currency, and they could change how inter-connected global markets interact, clearing away barriers surrounding normative currencies and foreign exchange rates (Peter D. DeVries, 2016).

Although consumers may have digital banking credentials to access the digital financial system, consumers in many emerging markets are not active users of digital channels due to a lack of consumer trust and confidence in the new channels (Maladay, 2016).

Yates (2017) highlighted that government agencies explore the potential for cryptocurrencies to compete with government-backed money; the total value of all cryptocurrencies in circulation is over $100 billion, arguably posing a credible threat of supplanting central-bank-issued money.

Hacker and Thomale (2017) suggest two policy proposals to mitigate legal uncertainty concerning token sales. They are, first, tailoring disclosure requirements to the code-driven nature of token sales. An ICO-specific safe harbor would offer a clear and less burdensome path to EU law compliance for token sellers who suspect their tokens may qualify as securities. Second, overlapping and partially contradicting securities regulation regimes can undermine each other. It is noted that only a joint international regulatory authority can efficiently balance investor protection and investor access in the face of the novel generation of decentralized blockchain applications.

Blemus (2018) extensively compares the current regulatory trends in selected countries on the various applications enabled or issues raised by Blockchain technology.

Michael & Wei (2020) suggested a model for cryptocurrency as membership in a decentralized digital platform to facilitate transactions between users of certain goods or services. The problem induced by the cryptocurrency price has to clear membership demand with speculators' supply of the token.

3. Data Analysis

Data for period i.e. Jan, 2018 to March, 2020, is taken from 'data.world.com' to analyze the trends in values of select crypto-coins on the first of every month. At the same time, data for the period March, 2021 to March,2022 is taken from ‘coinmarketcap.com’. This data analysis reveals a caution that the buyer must be beware of market trends.

Table 1 to Table 3 data shows a positive trend in Feb, April, and August during 2018 and a negative trend of value for all

the remaining months in 2018, for holding the bit-coin is compared to the previous month's closing value. Table 3 shows that unexpected surge with 425.13 per cent in price of Bitcoin during the period 1st March, 2020 t0 1st March, 2021. However, 4.35 percentage of price drop is observed. by 1st March, 2022.

Table 1. BITCOIN: 2018-2019

Date	Open	High	Low	Close	Volume	Market Cap	Per cent change in one month Price-Opening value
Jan 01, 2018	14112.2	14112.2	13154.7	13657.2	10,29,12,00,000	2,29,11,91,55,396	
Feb 01, 2018	10237.3	10288.8	8812.28	9170.54	9,95,94,00,448	1,54,42,85,64,694	-32.85
Mar 01, 2018	10385	11052.3	10352.7	10951	7,31,72,79,744	1,85,00,97,53,075	19.41
Apr 01, 2018	7003.06	7060.95	6526.87	6844.23	4,53,21,00,096	1,16,02,68,09,075	-37.50
May 01, 2018	9251.47	9255.88	8891.05	9119.01	7,71,30,19,904	1,55,11,41,32,125	33.24
Jun 01, 2018	7500.7	7604.73	7407.34	7541.45	4,92,14,60,224	1,28,72,58,54,692	-17.30
Jul 01, 2018	6411.68	6432.85	6289.29	6385.82	4,78,82,59,840	1,09,36,60,24,632	-15.32
Aug 01, 2018	7769.04	7769.04	7504.95	7624.91	4,79,76,20,000	1,31,03,01,66,771	19.40
Sep 01, 2018	7044.81	7242.29	7038.05	7193.25	4,11,60,50,000	1,24,04,46,25,438	-5.66
Oct 01, 2018	6619.85	6653.3	6549.08	6589.62	4,00,09,70,000	1,13,99,98,46,113	-8.39
Nov 01, 2018	6318.14	6547.14	6311.83	6377.78	3,78,94,00,000	1,10,68,38,20,788	-3.21
Dec 01, 2018	4024.46	4309.38	3969.71	4214.67	5,37,53,14,093	73,34,61,94,969	-33.92
Jan 01, 2019	3746.71	3850.91	3707.23	3843.52	4,32,42,00,990	67,09,86,34,181	-8.81
Feb 02, 2019	3484.63	3523.29	3467.57	3521.06	5,07,16,23,601	61,67,51,19,055	-8.39
Mar 01, 2019	3853.76	3907.8	3851.69	3859.58	7,66,12,47,975	67,79,69,65,743	9.61
Mar 01, 2020	**8,599.76**	**8,726.80**	**8,471.21**	**8,562.45**	**35,349,164,300**	**156,238,987,740**	**4,746**

Source: data.world.com

Table 2. BITCOIN: Oct, 2021- Mar, 2022

Date	Open	High	Low	Close	Volume	Market Cap	Per cent change in one month Price-Opening value
Oct 01, 2021	43,816.74	48,436.01	43,320.02	48,116.94	42,85,06,41,582	9,06,12,76,99,408	-
Nov 01, 2021	61,320.45	62,419.00	59,695.18	61,004.41	36,15,05,72,843	11,50,60,67,62,880	39.94754
Dec 01, 2021	56,907.97	59,041.69	56,553.08	57,229.83	36,85,81,95,307	10,80,97,77,44,339	-7.19577
Jan 01, 2022	46,311.74	47,827.31	46,288.49	47,686.81	24,58,26,67,004	9,02,10,41,93,385	-18.6199
Feb 01, 2022	38,481.77	39,115.13	38,113.66	38,743.27	20,28,85,00,328	7,34,03,92,24,255	-16.9071
Mar 01, 2022	43,194.50	44,793.60	42,952.58	44,354.64	32,47,90,47,645	8,41,49,11,70,716	12.24666

Source: https://coinmarketcap.com/currencies/litecoin/historical-data/

Table 3. BITCOIN: Comparative Table

Date	PRICE-OPEN	Percentage Change For one year holding period
Mar 01, 2020	8,599.76	-
Mar 01, 2021	**45,159.50**	**425.13**
Mar 01, 2022	43,194.50	-4.35

Table4 to Table 6 data reveals that the fluctuation in the value of Bitcoin- Cash. It is highly volatile and mainly causes unexpected gain/loss during the study period of 15 months duration. For instance, Bitcoin-cash had a high positive rate of 110 percent in May 2018 and a high negative rate of 50.41 percent in Dec 2018. Table 6 reveals that the price of Bitcoin-cash is increased by 49.21 percent during 2020-21 period and drastically decresed by 26.7 percent in 2021-22.

Table 4. BITCOIN-Cash: 2018-2019

Date	Open	High	Low	Close	Volume	Market Cap	Per cent change in one month Price-Opening value
Jan 01, 2018	2534.82	2534.86	2389.52	2432.54	92,28,12,992	41,08,16,78,129	
Feb 01, 2018	1491.12	1503.3	1214.88	1274.35	67,80,19,968	21,59,31,59,858	-47.61
Mar 01, 2018	1204.84	1303.45	1195.03	1291.92	48,22,40,000	21,95,57,92,824	1.38
Apr 01, 2018	688.01	699.05	629.93	643.03	31,84,40,000	10,96,38,59,523	-50.23
May 01, 2018	1348.64	1351.28	1261.6	1351.28	77,46,33,024	23,11,32,72,798	110.14
Jun 01, 2018	995.66	1010.34	979.83	1002.92	53,85,28,000	17,21,04,08,076	-25.78
Jul 01, 2018	749.18	752.91	719.76	739.42	55,87,93,984	12,72,87,48,477	-26.27
Aug 01, 2018	779.95	779.95	740.32	769.35	49,91,93,000	13,28,65,22,594	4.05
Sep 01, 2018	543.96	628.08	542.26	615.31	49,06,19,000	10,66,06,41,896	-20.02
Oct 01, 2018	531.64	539.95	522.32	530.91	45,09,06,000	9,22,69,07,044	-13.72
Nov 01, 2018	423.07	432.58	421.83	424.09	22,86,40,000	7,39,39,34,934	-20.12
Dec 01, 2018	172.52	177.83	167.84	172.12	6,86,60,039	3,01,00,70,869	-59.41
Jan 01, 2019	150.9	168.77	150.24	164.85	26,78,38,686	2,89,20,87,608	-4.22
Feb 02, 2019	116.55	122	116.22	121.79	25,11,81,380	2,14,35,95,618	-26.12
Mar 01, 2019	132.08	134.83	131.93	132.96	24,07,82,300	2,34,66,55,915	9.17
Mar 01, 2020	**308.26**	**321.92**	**305.88**	**313.30**	**4,048,910,843**	**5,735,791,486**	**176.18**

Source: data.world.com

Table 5. BITCOIN-Cash: Oct, 2021- Mar, 2022

Date	Open	High	Low	Close	Volume	Market Cap	Per cent change in one month Price-Opening value
Oct 01, 2021	502.85	544.81	501.22	543.3	1,20,46,56,913	10,24,71,48,409	
Nov 01, 2021	596.66	599.21	580.09	587.67	1,20,82,47,148	11,10,03,53,664	18.65566
Dec 01, 2021	569.95	587.04	565.72	571.06	87,62,19,332	10,80,20,15,894	-4.47659
Jan 01, 2022	430.7	445.12	430.49	444.46	5,20,07,20,289	8,41,97,25,269	-24.432
Feb 01, 2022	285.51	290.81	283.49	288.15	4,24,35,64,723	5,46,65,79,349	-33.7102
Mar 01, 2022	337.15	342.3	322.31	328.23	4,40,65,26,635	6,23,53,25,709	18.08693

Source: https://coinmarketcap.com/currencies/litecoin/historical-data/

Table 6. BITCOIN: Cash Comparative Table

Date	PRICE-OPEN	Percentage Change For one year holding period
Mar 01, 2020	**308.26**	-
Mar 01, 2021	459.96	**49.21**
Mar 01, 2022	337.15	-26.7

Table 7 to Table 9 data indicates the fluctuation in the value of 'Cadrano' –crypto-currency. It is highly volatile and mainly causes unexpected gain/loss during the study period of 15 months duration. For instance, 'Cardano' had a high positive rate of 137 percent in May 2018 and a high negative rate of 50.47 percent in March 2018. Table 9 focuses that an unimaginable hike in price of ‘cardono-crypto currency’, with 2657 per cent during 2020-21 and a marginal decline of 26.72 per cent in 2021-22 period.

Table 7. CARDANO: 2018-2019

Date	Open	High	Low	Close	Volume	Market Cap	Per cent change in one month Price-Opening value
Jan 01, 2018	0.718847	0.730051	0.671941	0.728657	15,01,86,000	18,89,19,41,437	
Feb 01, 2018	0.515912	0.535322	0.412045	0.421672	59,56,24,000	10,93,27,19,688	-42.13
Mar 01, 2018	0.311973	0.311973	0.288392	0.304397	18,46,91,008	7,89,21,22,491	-27.81
Apr 01, 2018	0.156597	0.160825	0.141343	0.150768	10,08,33,000	3,90,89,72,571	-50.47
May 01, 2018	0.342953	0.363261	0.323701	0.358693	36,55,21,984	9,29,98,58,712	137.91
Jun 01, 2018	0.224533	0.229184	0.216955	0.222507	13,05,38,000	5,76,89,54,684	-37.97
Jul 01, 2018	0.138264	0.145731	0.133866	0.142208	10,87,33,000	3,68,70,36,847	-36.09
Aug 01, 2018	0.143086	0.145038	0.13718	0.140901	7,99,87,900	3,65,31,50,166	-0.92
Sep 01, 2018	0.101877	0.108901	0.101877	0.106827	7,02,08,900	2,76,97,11,164	-24.18
Oct 01, 2018	0.085292	0.085806	0.082636	0.084469	4,20,76,400	2,19,00,41,499	-20.93
Nov 01, 2018	0.069698	0.071463	0.069119	0.070867	1,12,56,600	1,83,73,84,079	-16.10
Dec 01, 2018	0.038991	0.042521	0.038157	0.041468	1,93,14,340	1,07,51,55,852	-41.48
Jan 01, 2019	0.040984	0.042547	0.040308	0.042547	1,49,62,902	1,10,31,13,660	2.60
Feb 02, 2019	0.038598	0.039317	0.038222	0.039317	1,23,12,317	1,01,93,86,721	-7.59
Mar 01, 2019	0.043112	0.044113	0.043078	0.043279	1,29,97,144	1,12,21,08,426	10.08
Mar 01, 2020	**0.04751**	**0.04817**	**0.04526**	**0.04593**	**96,716,581**	**1,190,893,586**	10.20

Source: data.world.com

Table 8. CARDANO: OCT, 2021- Mar, 2022

Date	Open	High	Low	Close	Volume	Market Cap	Per cent change in one month Price-Opening value
Oct 01, 2021	2.12	2.27	2.1	2.26	3,23,58,13,427	72,31,83,06,217	
Nov 01, 2021	1.96	2.02	1.92	1.95	2,64,93,38,831	64,87,72,57,646	-7.54717
Dec 01, 2021	1.55	1.62	1.53	1.55	1,66,62,36,481	51,55,93,34,596	-20.9184
Jan 01, 2022	1.31	1.38	1.31	1.38	85,12,79,685	46,10,87,24,313	-15.4839
Feb 01, 2022	1.05	1.09	1.04	1.09	1,13,05,52,843	36,54,09,85,140	-19.8473
Mar 01, 2022	0.9599	1.01	0.9449	0.9623	1,77,87,95,527	32,39,38,41,348	-8.58095

Source: https://coinmarketcap.com/currencies/litecoin/historical-data/

Table 9. CARDANO**:** Comparative Table

Date	PRICE-OPEN	Percentage Change For one year holding period
Mar 01, 2020	**0.04751**	-
Mar 01, 2021	**1.31**	**2657**
Mar 01, 2022	0.9599	-26.72

Table 10 to Table 12 data focuses on the fluctuation in the value of 'EOS' –crypto-currency. It is highly volatile and mainly causes unexpected gain/loss during the study period of 15 months duration. For instance, 'EOS' had a high positive rate of 234.8 percent in May 2018 and a high negative rate of 35 percent in June 2018. Table 12 reveals that the price of ‘EOS-currency’ is marginally declined in 2020-21 period and deeply decreased by 34.29 per cent in 2021-22 period.

Table 10. EOS: **Period 2018-2019**

Date	Open	High	Low	Close	Volume	Market Cap	Per cent change in one month Price-Opening value
Jan 01, 2018	8.77	9.11	8.51	8.84	33,10,72,992	5,10,40,26,730	
Feb 01, 2018	12.24	12.4	9.9	10.21	91,98,59,008	6,55,09,06,545	15.50
Mar 01, 2018	8.39	8.63	8.3	8.63	21,41,26,000	6,05,08,53,238	-15.48
Apr 01, 2018	6	6.04	5.25	5.66	40,13,03,008	4,33,51,35,885	-34.41
May 01, 2018	17.67	19.08	16.31	18.95	3,33,01,29,920	15,71,15,18,382	234.81
Jun 01, 2018	12.29	12.4	11.99	12.31	1,05,81,50,016	11,00,32,91,893	-35.04
Jul 01, 2018	8.15	8.22	7.81	8.13	62,16,43,008	7,28,65,73,598	-33.96
Aug 01, 2018	7.36	7.39	6.98	7.26	69,90,77,000	6,57,51,07,389	-10.70
Sep 01, 2018	6.44	6.73	6.44	6.64	74,65,30,000	6,02,10,65,374	-8.54
Oct 01, 2018	5.74	5.8	5.57	5.74	69,56,08,000	5,19,87,65,742	-13.55
Nov 01, 2018	5.2	5.53	5.19	5.28	56,04,23,000	4,78,22,46,423	-8.01
Dec 01, 2018	2.89	3.03	2.84	2.96	81,47,84,417	2,67,99,91,965	-43.94
Jan 01, 2019	2.57	2.67	2.53	2.66	67,50,99,229	2,41,38,13,876	-10.14
Feb 02, 2019	2.34	2.44	2.33	2.43	61,39,98,325	2,20,32,59,244	-8.65
Mar 01, 2019	3.54	3.69	3.49	3.52	1,31,81,89,790	3,18,62,78,436	44.86
Mar 01, 2020	**3.54**	**3.65**	**3.46**	**3.53**	**3,451,754,058**	**3,253,825,124**	**0**

Source: data.world.com

Table 11. E0S**:** OCT, 2021 - Mar, 2022

Date	Open	High	Low	Close	Volume	Market Cap	Per cent change in one month Price-Opening value
Oct 01, 2021	3.94	4.29	3.91	4.27	1,41,58,05,180	4,10,16,44,885	-
Nov 01, 2021	4.64	4.71	4.47	4.63	1,08,61,77,993	4,45,76,29,686	17.7665
Dec 01, 2021	4	4.12	3.94	3.99	65,10,83,718	3,88,25,35,545	-13.7931
Jan 01, 2022	3.04	3.14	$3.04	3.14	30,30,20,152	3,06,25,60,576	-24
Feb 01, 2022	2.34	2.37	$2.32	2.36	24,28,91,013	2,30,83,98,800	-23.0263
Mar 01, 2022	2.28	2.31	$2.22	2.26	39,36,64,905	2,22,31,82,497	-2.5641

Source: https://coinmarketcap.com/currencies/litecoin/historical-data/

Table 12. EOS**:** Comparative Table

Date	PRICE-OPEN	Percentage Change For one year holding period
Mar 01, 2020	**3.54**	-
Mar 01, 2021	**3.47**	**-1.98**
Mar 01, 2022	2.28	-34.29

Table 13 to Table 15 reveals the data relating to Ethereum-coin trading from 01st Jan 2018 to 01st Mar 2019. Actual growth or loss for holding the Ethereum -coin is compared to the previous month's closing value. It shows a positive trend in Feb, May 2018, and March 2019 and a negative trend for all the remaining months of the study period. Table 15 shows an unexpected positive growth in price of 'Ethereum Coin' during 2020-21 with 544.89 per cent and it also showed an additional positive growth of 106.18 per cent in 2021-22 period.

Table 13. ETHEREUM: 2018-2019

Date	Open	High	Low	Close	Volume	Market Cap	Per cent change in one month Price-Opening value
Jan 01, 2018	755.76	782.53	742	772.64	2,59,57,60,128	74,72,42,33,458	
Feb 01, 2018	1119.37	1161.35	984.82	1036.79	5,26,16,80,128	1,00,93,53,54,837	34.19
Mar 01, 2018	856.01	880.3	851.92	872.2	1,86,85,19,936	85,41,08,27,047	-15.87
Apr 01, 2018	397.25	400.53	363.8	379.61	1,25,69,30,048	37,41,34,07,420	-56.48
May 01, 2018	670.46	674.4	637.54	673.61	2,67,89,60,128	66,80,32,33,984	77.45
Jun 01, 2018	578.67	589.09	567.66	580.04	1,94,58,90,048	57,89,43,50,583	-13.89
Jul 01, 2018	455.24	457.14	446.39	453.92	1,51,17,30,048	45,58,58,61,718	-21.74
Aug 01, 2018	433.87	435.46	410.46	420.75	1,88,80,60,000	42,52,19,37,218	-7.31
Sep 01, 2018	283.5	301.14	283.5	295.34	1,54,66,30,000	30,03,53,27,410	-29.81
Oct 01, 2018	233.22	234.15	226.94	230.77	1,59,75,00,000	23,60,97,28,018	-21.86
Nov 01, 2018	197.54	203.75	197.33	198.87	1,33,67,00,000	20,47,21,05,764	-13.82
Dec 01, 2018	113.4	120.84	111.62	118.64	2,13,14,75,768	12,28,41,17,522	-40.34
Jan 01, 2019	133.42	141.4	132.65	140.82	2,25,87,09,868	14,66,53,18,370	18.70
Feb 02, 2019	107.47	110.65	106.76	110.43	2,38,51,57,838	11,56,07,65,573	-21.58
Mar 01, 2019	136.84	139	136.43	136.44	3,75,61,24,824	14,33,59,57,425	23.55
Mar 01, 2020	**219.75**	**226.68**	**214.13**	**218.97**	**18,179,807,469**	**24,069,393,932**	**60.58**

Source: data.world.com

Table 14. ETHEREUM: OCT, 2021 - Mar, 2022

Date	Open	High	Low	Close	Volume	Market Cap	Per cent change in one month Price-Opening value
Oct 01, 2021	3,001.13	3,329.85	2,978.65	3,307.52	22,307,625,573	389,475,327,627	-
Nov 01, 2021	4,288.22	4,377.32	4,160.97	4,324.63	17,985,288,261	511,040,780,623	42.88685
Dec 01, 2021	4,623.68	4,780.73	4,530.27	4,586.99	27,634,826,695	543,871,223,795	7.822826
Jan 01, 2022	3,683.05	3,769.92	3,682.29	3,769.70	9,776,191,466	448,537,615,143	-20.3438
Feb 01, 2022	2,687.90	2,802.32	2,682.62	2,792.12	13,194,846,235	333,395,296,200	-27.0197
Mar 01, 2022	2,919.78	3,029.65	2,868.94	2,972.49	18,757,425,786	356,060,928,142	8.626809

Source: https://coinmarketcap.com/currencies/litecoin/historical-data/

Table 15. ETHEREUM: Comparative Table

Date	PRICE-OPEN	Percentage Change For one year holding period
Mar 01, 2020	**219.75**	-
Mar 01, 2021	1,417.15	**544.89**
Mar 01, 2022	2,919.78	106.18

Table 16 to Table 18 is allotted for 'Litecoin' and its values during the 15 month study period. This coin mainly showed a negative trend in 2018 except during May 2018. However, the data shows a positive direction during Feb and March 2019. Table 18 focuses that the volatility in price of ‘Litecoin’. It is observed that a positive trend with 181.87 per cent in 2020-21 and a negative trend with 32.22 per ent in 2021-22.

Table 16. LITECOIN: 2018-2019

Date	Open	High	Low	Close	Volume	Market Cap	Per cent change in one month Price-Opening value
Jan 01, 2018	231.67	236.63	222.2	229.03	63,31,42,016	12,49,92,14,454	-
Feb 01, 2018	163.68	165.81	131.55	142.3	53,98,80,000	7,83,01,31,933	-37.87
Mar 01, 2018	203.12	214.7	201.54	209.75	67,85,42,016	11,62,81,16,966	47.40
Apr 01, 2018	116.9	117.83	110.52	115.22	27,41,82,016	6,44,02,92,739	-45.07
May 01, 2018	148.34	148.54	143.94	148.49	34,21,52,000	8,36,59,45,726	28.88
Jun 01, 2018	118.03	120.2	117.12	119.92	29,08,86,016	6,81,03,65,343	-19.24
Jul 01, 2018	81.5	81.61	78.36	80.24	34,34,01,984	4,59,17,23,093	-33.09
Aug 01, 2018	80.39	80.73	76.4	77.86	30,15,30,000	4,48,94,24,993	-2.97
Sep 01, 2018	61.74	67.25	61.74	65.95	30,65,86,000	3,83,22,31,495	-15.30
Oct 01, 2018	61.1	61.73	59.74	60.21	45,65,83,000	3,52,46,04,880	-8.70
Nov 01, 2018	49.56	51.03	49.42	50.27	32,14,92,000	2,96,50,93,308	-16.51
Dec 01, 2018	32.13	35.15	31.51	34.34	42,82,86,157	2,03,94,73,601	-31.69
Jan 01, 2019	30.46	32.1	30.26	31.98	37,94,29,124	1,91,33,87,274	-6.87
Feb 02, 2019	32.82	34.56	32.73	34.39	82,90,64,166	2,07,38,72,814	7.54
Mar 01, 2019	46.24	48.99	46.15	47.49	1,17,54,25,172	2,88,20,42,603	38.09
Mar 01, 2020	**58.53**	**60.12**	**56.65**	**57.96**	**4,317,287,191**	**3,720,790,355**	**26.58**

Source: data.world.com

Table 17. LITECOIN: Oct, 2021 - Mar, 2022

Date	Open	High	Low	Close	Volume	Market Cap	Per cent change in one month Price-Opening value
Oct 01, 2021	153.29	168.01	151.59	166.13	3075986940.00	11089758626.00	-
Nov 01, 2021	192.05	200.49	188.39	197.55	2301982951.00	13607653391.00	25.28541
Dec 01, 2021	207.64	217.51	205.81	208.97	1739548260.00	14438687100.00	8.117678
Jan 01, 2022	146.54	150.75	146.46	150.70	691648227.00	10446644958.00	-29.4259
Feb 01, 2022	109.59	116.37	108.66	115.40	824048434.00	8025814828.00	-25.215
Mar 01, 2022	113.48	115.58	110.73	112.54	951568702.00	7849740880.00	3.549594

Source: https://coinmarketcap.com/currencies/litecoin/historical-data/

Table 18. LITECOIN: Comparative Table

Date	PRICE-OPEN	Percentage Change For one year holding period
Mar 01, 2020	**58.53**	-
Mar 01, 2021	164.98	**181.87**
Mar 01, 2022	113.48	-32.22

5. Summary

Every investor need to have an answer to the questions viz., Is it Bitcoin, that particular private currency that will have the most extended life? Moreover, if so, how long will it run in parallel with the traditional money? Crypto-currency and online trading are becoming the most fashionable trend and attract youth. However, one should keep in mind that the crypto-currency is not recognized and illegal as notified by various governments across the globe. Recently, the government of India also announced that dealing in crypto-currency attracts the law of Anti-Money Laundering. In addition to this, the enormous amount of volatility in online trading is leading to severe losses. Data of opening, high, low, closing, volume, and market capitalization of select crypto-currencies during Jan 2018 to March 2019 is analyzed to understand the trends in crypto-trading. Data analysis reveals the following points

- The unexpected surge with 425.13 per cent in price of Bitcoin during the period 1st March, 2020 to 1st March, 2021. However, 4.35 percentage of price drop is observed. by 1st March, 2022.
- The price of Bitcoin-cash is increased by 49.21 percent during 2020-21 period and drastically decresed by 26.7 percent in 2021-22.
- An unimaginable hike in price of ‘cardono-crypto currency’, with 2657 per cent during 2020-21 and a marginal decline of 26.72 per cent in 2021-22 period.
- The price of ‘EOS-currency’ is marginally declined in 2020-21 period and deeply decreased by 34.29 per cent in 2021-22 period.
- An unexpected positive growth in price of ‘Ethereum Coin’ during 2020-21 with 544.89 per cent and it also showed an additional positive growth of 106.18 per cent in 2021-22 period.
- The volatility in price of ‘Litecoin’ is observed that a positive trend with 181.87 per cent in 2020-21 and a negative trend with 32.22 per ent in 2021-22.

The above results indicate that the investor should know that unexpected gains and losses are certain in crypto-asset trading. It also leads to the loss of tangible assets at the cost of digital assets.

Declarations

- The authors have no competing interests to declare that are relevant to the content of this article.
- All authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.
- The authors have no financial or proprietary interests in any material discussed in this article.
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