International Journal of Recent Technology and Engineering (IJRTE)
ISSN: 2277-3878 (Online), Volume-8, Issue-1, May 2019

Bitcoin likely to be in Mainstream Finance

Trinley Paldon, Nalini G.S.

Abstract: ***The present study have examined if Bitcoin is likely to be included in the mainstream finance. The data is collected from Coindesk for the sample period from 2010 to 2018 on which after transforming the data into quarterly data; returns were computed and dynamic forecasting method is applied with the help of Eviews. The data is shown not having statistical errors from the tests in particular Augmented Dickey Fuller test, Jarque-Bera Test, LM Test, and Root mean square root test. From the secondary data analysis, it is concluded that though the digital currency has lacked supports from various governments yet it's been traded actively. The active trades are supported by the rising trends in its price. Bitcoin are seen accepted by technology backed firms in particular like PayPal, Apple, Facebook and Microsoft etc. it will further attract more financial technology firms to the region[1]. According to Aaron Higbee (2018) who has stated that since the Bitcoin in nature is built for security and liquidity purpose that is why trading Bitcoin will not be risky [1].***

Keywords: Bitcoin; Dickey Fuller test; Jarque-Bera test, LM test; Coindesk

I. INTRODUCTION

In the early times to till date, trade has seen many forms of payment from barter to coins, paper currency, and mobile payments to digital currency. Bitcoin being the smartest and first of its kind; virtual currency ever coined has received both sides of the positive and negative response [3], It is first of its kind in its security and solves many problems that existing currencies face. He concluded quoting Finance as we know it today will be disrupted in the near future. Indeed, we can see the beginnings of this disruption today-in Bitcoin. So far Bitcoin has successfully secured 81.9 percent of total crypto-currency market capitalization. The individual (or committee) that founded the Bitcoin called themselves Satoshi Nakamoto. Money's three classic functions are as following:
1. It represents the economic value to measure any goods or services
2. It has real value of goods or services which is acceptable from both the buyer and seller,
3. It should also have the capability to maintain its value even when kept in store without using it. Bitcoin fulfilling all these three functions at present and can also be used both as a vehicle for transactions or an investment vehicle [14]. Bitcoin is the first e-currency that is well built and sheltered and able to offer the security of traditional money with the convenience of financial institutions worldwide.

Revised Manuscript Received on 30 May 2019.

Trinley Paldon, Assistant Professor, Department of Management Studies,K L University, Andhra Pradesh,India.

Nalini G.S., Assistant Professor, Thiagarajar School of Management, Madurai, India.

© The Authors. Published by Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP). This is an open access article under the CC-BY-NC-ND license http://creativecommons.org/licenses/by-nc-nd/4.0/

It might be the main reason that so far governments have been skeptical and maintained such a monopoly over currency.

That is, until the creation of Bitcoin [5]. According to the Labomir Tasseve (2018), he has covered that the French office of the United Nations Children's Fund (UNICEF) is also accepting donations including Bitcoin cash (BCH) and Bitcoin core (BTC)[9].

Apple recently introduced its Siri extension called the 'Shortcuts' application with two new Bitcoin glyphs available. The recently added Bitcoin glyphs within Apple's Shortcuts app confirm to many proponents that crypto currency-related symbols and the underlying concepts are here to stay [2].Bitcoin are not being traded into fiat to crypto exchanges across continents [8]. The word 'Bitcoin' was also added to Oxford dictionaries in 2013, followed by the word 'crypto currency' in 2014[11]. Organization for Economic Co-operation and Development (2002) have stated that,"money's destiny is to become digital"[10]. Bitcoin was first coined in 2009 when it was created. Later on numerous other crypto-currencies are seen in the market. The value for crypto-currencies is volatile as it has its peak in 2017, when the value of one Bitcoin was over $11,200, now the value has come down from its earlier peak. Because of the nature of the Bitcoin value it has gained a lot of interest from researchers and economists alike.

Structure of the paper

Under this paper, the following structures are laid and they are 1. Introduction or background on the Bitcoin, 2. Material and Methods 3. Findings, 4. Discussions, and 5. Conclusion.

OBJECTIVES OF THE STUDY

- To study the trends of the Bitcoin price.
- To forecast the Bitcoin price.
- To give policy recommendations or suggestions with regard to the Bitcoin if applicable.

STATEMENT OF THE PROBLEM

Kaplanov, M. Nikolei (2012), have pointed out that in history there has been complaints all over the world against government control of currency [5].

There are so many options for the general public to evade from tax. Yet if a particular government keeps on ignoring the financial security of the public then eventually they will start investing or looking for other ways in order to multiply and grow their finances or retain their money like that of Bitcoin; accepting a currency on their own.

II. Material and Method:

Study area: To study the trend of the Bitcoin, the data was collected from Coindesk for the sample period from 2010 to 2018 on which after transforming the data into quarterly data; returns were computed and dynamic forecasting method is applied with the help of Eviews. The data is shown not having statistical errors from the test result in particular Augmented Dickey Fuller test, Jarque-Bera Test, LM Test, and Root mean square root test.

Table 1: Unit root test

Nll Hypothesis: D(LBT,2) has a unit root
Exogenous: Constant, Linear Trend
Lag Length: 1 (Automatic - based on SIC, maxlag=6)

			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-5.45033	0.001
Test critical values:	1% level		-4.39431	
	5% level		-3.6122	
	10% level		-3.24308	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LBT,3)
Method: Least Squares
Date: 11/18/18 Time: 12:57
Sample (adjusted): 2012Q1 2017Q4
Included observations: 24 after adjustments

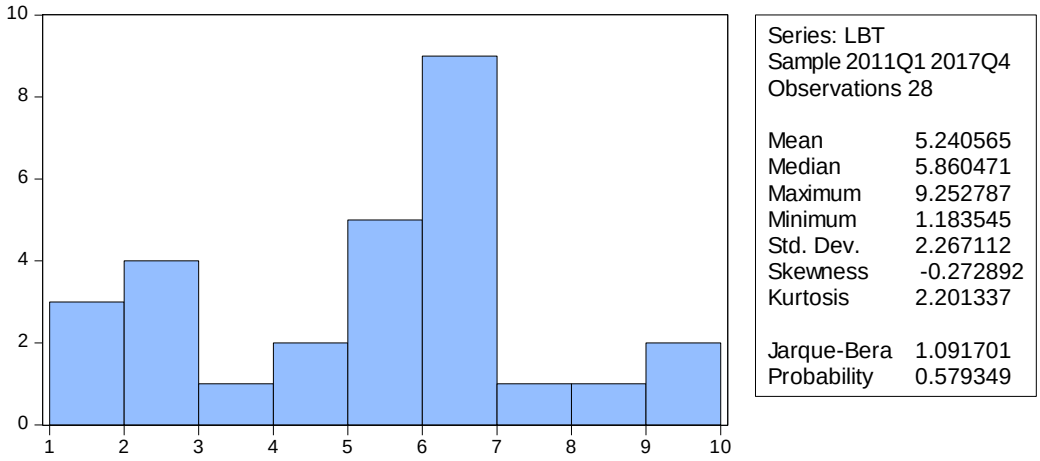
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LBT(-1),2)	-2.02308	0.371185	-5.45033	0
D(LBT(-1),3)	0.280238	0.197027	1.422335	0.1703
C	0.133006	0.274658	0.484261	0.6335
@TREND(2011Q1)	-0.00511	0.016063	-0.31796	0.7538
R-squared	0.827317	Mean dependent var		-0.10396
Adjusted R-squared	0.801415	S.D. dependent var		1.218612
S.E. of regression	0.543049	Akaike info criterion		1.767776
Sum squared resid	5.898038	Schwarz criterion		1.964119
Log likelihood	-17.2133	Hannan-Quinn criter.		1.819866
F-statistic	31.93978	Durbin-Watson stat		1.888755
Prob(F-statistic)	0			

Source: Computed from secondary data

The computed Augmented Dickey-Fuller test statistics in table 1 is -5.45033 that is smaller than the critical values at 10%, 5% and 1% (-3.24308, -3.6122,-4.39431) significant levels respectively. Therefore null hypothesis is rejected. It means Bitcoin series does not have a unit root problem and the series is stationary after differencing.
The test result is reliable as the Durbin-Watson statistics is 1.888755 meaning there is no autocorrelation problem.

Figure 1: Jarque-Bera test

Null Hypothesis: Bitcoin series is normally distributed



From the given Figure 1, the Bitcoin series analysis of the Jarque-Bera test probability value is more than 5 percent so null hypothesis is accepted stating the data is normally distributed.

Table 2: Breusch Godfrey Serial Correlation LM Test

Null Hypothesis: The series is having serial correlation

F-statistic	0.944185	Prob. F(2,23)	0.4036
Obs*R-squared	2.048587	Prob. Chi-Square(2)	0.3591

Source: Computed from secondary data

The table 2 analysis of Breusch Godfrey Serial correlation LM Test result shows that the series Probability value of more than 5 percent hence stating the Bitcoin series is not having serial correlation problem. Hence rejecting null hypothesis stating there is serial correlation and vice-versa.

Table 3: Dynamic forecasting model with lag 1

Dependent Variable: LBT
Method: Least Squares
Date: 11/08/18 Time: 09:49
Sample (adjusted): 2011Q2 2017Q4
Included observations: 27 after adjustments

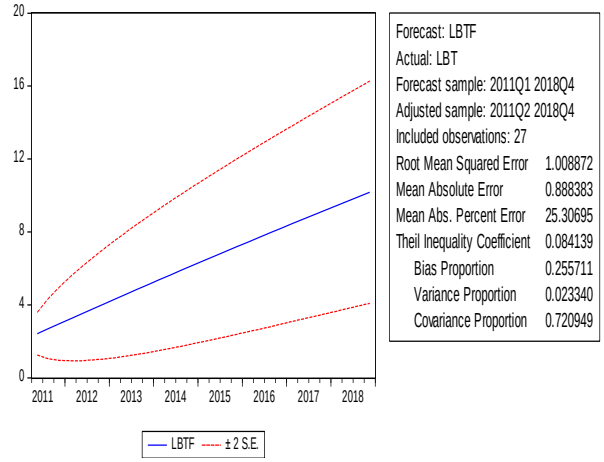
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.284787	0.278239	1.023532	0.3159
LBT(-1)	0.995795	0.050423	19.74886	0
R-squared	0.939762	Mean dependent var		5.35534
Adjusted R-squared	0.937352	S.D. dependent var		2.225858
S.E. of regression	0.557123	Akaike info criterion		1.739125

Sum squared resid	7.759646	Schwarz criterion		1.835113
Log likelihood	-21.4782	Hannan-Quinn criter.		1.767667
F-statistic	390.0174	Durbin-Watson stat		1.821292
Prob(F-statistic)	0			

Source: Computed from secondary source

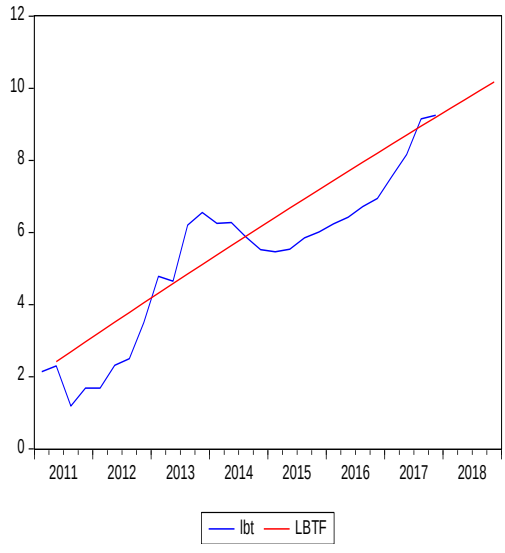
The above table of Regression model for model fit shows R-square value of 93.97 percent which is very good and it depicts that the model is able to give approximation of predictability by 93.97 percent.

Figure 2: Model fit:



In figure 2, it can be seen that the forecasted value is moving in between 95% confidence interval with a less Root mean square error value. When the Root mean Square is less in value, it means there will be less gap between the actual variable and its forecasted value. It is because there is no statistical error.

Figure 3: Graph of actual Bitcoin series value and its forecasted value



From figure 3 that is from dynamic forecasting graph, it is found that the actual series that is Bitcoin after the model fit is moving closely with its forecasted value or trend.

III. DISCUSSION

From the secondary data analysis, it is shown that the Bitcoin is likely to have its peak for the coming year. Despite its data showing peak there are still apprehensions of its usage by numerous government where in some countries it is not legally accepted. It is concluded that though the digital currency has lacked supports from various governments yet it has been traded actively. The active trades are supported by the rising trends in its price. Bitcoins are seen accepted by technology backed firms in particular like PayPal and Microsoft etc. it will further attract more financial technology firms to the region [12]. Nikhilesh (2017) stated that bitcoin exchanges in India are growing every day as 2500 users or residents are added each day and there are now 500,000 residents who are holding Bitcoin [6].

IV. SUGGESTION AND CONCLUSION

It can be concluded that many governments took a conservative stances because of which played in limited success in diffusing digital money more widely (Organization for Economic Co-operation and Development, 2002)[10]. Relative to the private sector there has been a lag in regulator adoption of Regulatory technology [10].

Whereas Government of India has taken a bold stance on Digital India drive against the majority of the citizen picking up with the technology advancements especially in regard to the new internet era that Jio brought. The internet of things brought about changes with the third party payments or digital payments which has increased 7% thrice in growth of GDP in just three years [2]. Yet the Government of India is still skeptical and uneasy with the virtual currency in regard to rolling out Bitcoin. It can be suggested with the prevailing demand and proven track record of Bitcoins' outstanding barrier against hackers or likewise to introduce a reform which is tightly netted into a controlled environment or making the reform on exclusive basis to those institute who are worthy of such privileges. Such institutes can be those who have been following country's regulation and have proven their business over the consecutive periods since the commencement of their institute. With regard to the risks of Bitcoin as to the money laundering, tax evasions and violation of such regulations can be avoided if a formal banking system intermits the transaction at a minimal rate and spotting phishing attacks is another way to avoid an individual from being deceived with regard to e-currency.

It is stated that since the Bitcoin in nature is built for security and liquidity purpose that is why trading Bitcoin will not be risky and (Aaron Higbee,2018) [1]..

LIMITATIONS OF THE STUDY:

Following are the limitation of the study and they are:

- This study is limited with the empirical test on the Bitcoin series only.
- The historical data is limited in period also.

REFERENCES

1. Aaron Higbee. The role of crypto-currency in cybercrime, 2018, 7:13-15.
2. Financial Express (internet). Modi's Digital India at play? Digital payments triple to 7% of GDP in just 3 years. (cited 22nd Novemeber, 2018). Available from: https://www.financialexpress.com/economy/modis-digital-india-at-play-digital-payments-triple-to-7-of-gdp-in-just-3-years-says-morgan-stanley/1194207/
3. Harvey, R., Campbell. Bitcoin myths and facts. (cited 8th January 2018). SSRN 2014. Available from: https://papers.ssrn.com/sol3/papers.cfm?Abstract_id=2479670
4. Jamie Redman. Bitcoin Glyphs added to Apple's shortcuts application (internet) Bitcoin.com. 2018. (cited 25th September 2018). Available from: https://news.bitcoin.com/bitcoin-glyphs-added-to-apples-shortcuts-application/.(accessed on 23.09.2018)
5. Kaplanov, M., Nikolei. (2012). Nerdy Money; Bitcoin, The private digital currency, and the case against its regulation, *Temple University Legal Studies Research Paper, 46 Pages.*
6. Nikhilesh De. India's supreme court prods Givernment on Bitcoin regulation (Internet). (cited 8th January 2018). 2017. Available from: https://www.coindesk.com/indias-supreme-court-calls-government-regulate-bitcoin
7. Nupur Anand. How India choked its cryptocurrency ecosystem to near-death (internet). QuartzIndia.2018. (cited 22nd November 2018). Available from: https://qz.com/india/1321076/bitcoin-ban-how-rbi-choked-indias-cryptocurrency-ecosystem/
8. Lubomir Tassev. The daily: Binance expands, Putin advisor visits Huobi, Brazilian Brokerage goes crypto (internet) Bitcoin.com. 2018. (cited 23rd September 2018). Available from https://news.bitcoin.com/the-daily-binance-expands-putin-advisor-visits-huobi-brazilian-brokerage-goes-crypto/
9. Lubomir Tassev. UNICEF France accepts donations in 9 cryptocurrencies (internet) Bitcoin.com. 2018. (cited 25rd September 2018). Available from: https://news.bitcoin.com/unicef-france-accepts-donations-in-9-cryptocurrencies/
10. ORGANIZATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT. The future of money. (2002). *171 PAGES.available from https://www.oecd.org/futures/35391062.pdf*
11. Pete Rizzo. 'Cryptocurrency' officially added to Oxford dictionary online (internet). Coindesk. 2014. (cited September 2018). Available from: https://www.coindesk.com/cryptocurrency-oxford-online-dictionary
12. Sean Williams. 5 Brand-name businesses that currently accept Bitcoin (Internet). The Motley Fool. 2017. (cited 8th January 2018) Available from: https://www.fool.com/investing/2017/07/06/5-brand-name-businesses-that-currently-accept-bitc.aspx
13. Stan Higgins. A city in Switzerland is going to accept bitcoin payments for government services (internet) Business insider. 2016. (cited 23rd September 2018). Available from: https://www.businessinsider.com/a-city-in-switzerland-is-going-to-accept-bitcoin-payments-for-government-services-2016-5?IR=T
14. Susan Athey, Christian Catalini, Catherine Tucker. The Digital privacy paradox: Small money, small costs, small talk, Stanford Institute for Economic Policy Research. 2017, 17-032.
15. Yu, G., & Zhang, J. A revisit to capital control policies when Bitcoin is in town. Journal of Geophysical research, SSRN working paper. 2018.