

FUTURE OF THE CRYPTO CURRENCIES

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Abstract

The main purpose of this study is to contribute to the literature by performing an original research. The main subject of the study is to investigate the future position of cryptocurrencies included in the sample. In this study, we tried to predict the future expected the popularity of 6 cryptocurrencies. For this purpose, we collect internet search data of each cryptocurrency included in the sample. Popularity variable is determined by the frequency of searched numbers of crypto coins on the internet. We created graphs in the form of scatter plots by using MS Excel 2016. In order to determine the ideal curve that provides the highest specificity coefficients (R2) of related to equations was preferred. According to the results of the analysis, it was determined that RIPPLE-XRP may be taken out of the circulation in the market by November 2020.

Keywords: *Crypto Currency, Internet Search Numbers, Popularity, MS Excel, Scatter Plots Graphs, Google Trends*

Jel Classification: *C13, C20*

1. Introduction

Nowadays, crypto currencies have been grabbing more attention. They are gaining more importance day by day thanks to their price movements particularly Bitcoin's price performance.

The crypto currency is a money concept that differs from conventional money term is subject to physical circulation. Unlike usual money term, the attractive side of crypto currency is that they are traded, issued and circulated in the digital platforms. However the most important feature of crypto currencies is that they are not governed or regulated by a central authority. Bitcoin, the first example of crypto currencies and others that followed Bitcoin are totally are peer to peer electronic cash system and in this system online payments will be sent directly from a party to another without requirement of financial institutions (Nakamoto, 2008 : 1-2)

In this study, in order to contribute to the literature, we tried to determine which crypto money could be removed from the circulation by using the number of searches on internet of each crypto money.

2. Literature Review

Darlington (2014), analyzed bitcoin's both strong and weak sides and make conclusion about Bitcoin's future. Firstly the main issue is described as infrastructure of Bitcoin's system. It is emphasized that this is hindering Bitcoin adoption. It is noted that 2014 a flaw was detected in Bitcoin's transactions and this raised concerns about fraud in Bitcoin. Despite of this disadvantages, many type of benefits that Bitcoin provide are mentioned such as leading economic change, having remarkable potential to help some countries and providing a chance to reduce transaction costs etc. Luther (2016), underlines competition between crypto currencies and existing government based money concepts and shows possible ways for crypto currencies to win this competition. According to his study, the crypto currencies should reduce costs of consumers related to switching to new payments. He found out that the most important problem that crypto currencies should solve is incumbent-monies problem.

Devries (2016), claims that crypto currencies are not replace conventional money term but they can change the way of interaction of internet based global markets and clear the way for national currencies and exchange rates. The author conducted a swot analysis to see Bitcoin's role in shifting in economic paradigms. According to results of the analysis, author claims that crypto currencies are still in infancy period and it will take a time to see that they can find sustainable place in world markets.

3. Data and Sample Structure

Main aim of this study to estimate future positions of each crypto currencies included in the sample.

For the purpose of obtaining internet search numbers, index data indicating the degree of importance (popularity) generated by Google's google.trends.com (Google, 2019) based on the number of monthly searches of the crypto currencies were used. This index gets values in the range of [0-100] and the increase in the index value indicates that the relevant crypto money is very searched on the internet.

Crypto currencies analyzed and the data periods available for these moneys are shown in Table 1.

Table 1: Crypto Currencies Used in Analysis

No	Crypto Money	Analysis Period
1	BITCOIN	2010:M07-2019:M05
2	RIPPLE-XRP	2015:M01-2019:M05
3	ETHEREUM	2016:M03-2019:M05
4	ETHEREUM CLASSIC	2016:M06-2019:M05
5	LITECOIN	2016:M08-2019:M05
6	ZCASH	2016:M10-2019:M05

Note: The data in the table are organized in the order in which the relevant currency is traded on the market.

As it can be observed in Table 1, since the initial date of trading of crypto currency is different, a separate time series analysis will be made for each crypto money and the findings will be compared. Although there are 13 crypto currencies in the first form of the sample, crypto coins with less than 30 observations were excluded from the analysis in order to perform a reliable time series analysis.

3. Method

In this study, we perform analysis to find out changes observed in search numbers of crypto currencies over the time. Based on our findings on change of number of searches, we tried to figure popularity of currencies out for the next future.

3.1. Analysis to Determine the Future of Crypto Coins

Here, the graphs related to the search numbers of the each cryptocurrency will be plotted, and based on these graphs it will be inferred that the crypto money from may become more popular over time or taken out of circulation over time. The graphs were created as scatter plots by using MS Office Excel and different experiments were performed to determine the ideal curve between these lines and the curve with the highest specificity coefficients (R²) of related to equations was preferred. In this context, the graph obtained for BITCOIN and the equation of this graph are provided in Figure 1 as follows.

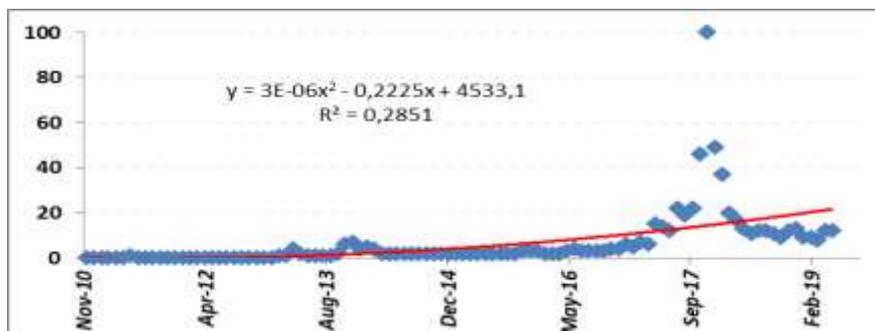


Figure 1. Number of Searches for BITCOIN

Note : Although R2 responses in a increasing way when degree of the function is increased, since parabolic graph (quadratic) represents most recent periods best, this graph type was chosen.

According to Figure 1, the number of searches for BITCOIN reached its highest value in December 2017, after this point although it fell for a while, it started to increase again since April 2019. Therefore, we don't foreseen that Bitcoin will be out of circulation in the short term.

RIPPLE-XRP graph and the related equation of this graph are provided in Figure 2 below:

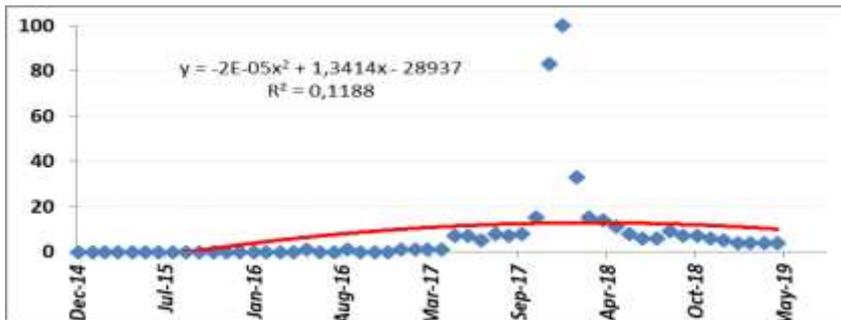


Figure 2. Number of Searches for RIPPLE-XRP

Note: Although R2 responses in a increasing way when degree of the function is increased, in order to determine the cut-off point of the horizontal axis (x axis), parabolic (quadratic) graph was preferred.

As it can be seen in Figure 2, RIPPLE-XRP, which started to be traded in January 2015, reached the highest number of searches in January 2018 and then it started to decrease. When the quadratic equation is solved, it can be expected that number of searches of the RIPPLE-XRP will decrease to zero by November 2020 and it may be out of the market after that date.

ETHEREUM graph and the related equation of this graph are provided in Figure 3 below.

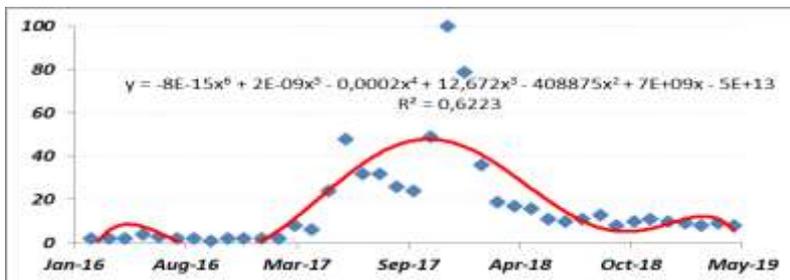


Figure 3. Number of Searches for ETHEREUM

According to Figure 3, ETHEREUM has reached the highest number of searches in December 2017, then downward movement was seen in the number of searches, but it achieved a stability in 8-9 index level monthly basis. As a result, it is considered that ETHEREUM will not be out of circulation in the near term.

ETHEREUM CLASSIC graph and the related equation of this graph are provided in Figure 4 below.

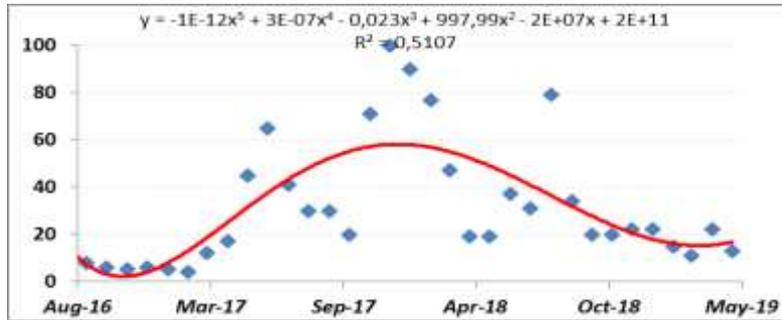


Figure 4. Number of Searches for ETHEREUM CLASSIC

According to Figure 4, similar to ETHEREUM, ETHEREUM CLASSIC also has reached the highest number of searches in December 2017, after that it started to decline but achieved a stability in 15-20 index level monthly basis. Therefore, ETHEREUM CLASSIC also will not be subject to be out of circulation in the short term. LITECOIN graph and the related equation of this graph are provided in Figure 5 below.

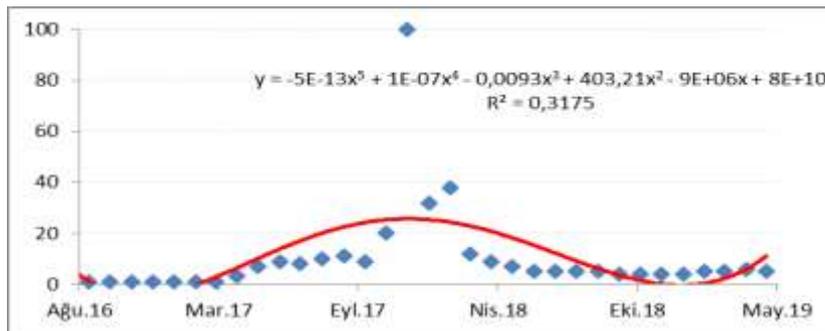


Figure 5. Number of Searches for LITECOIN

According to Figure 5, LITECOIN reached the highest level of internet searches in December 2017, after that it started to decrease but achieved a stability in 5-6 index level monthly basis. Therefore, LITECOIN is not expected to be out of circulation in the short term.

ZCASH graph and the related equation of this graph are provided in Figure 6 below.

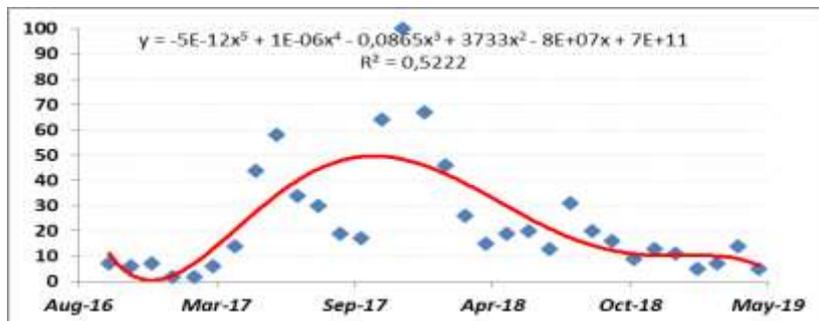


Figure 6. Number of Searches for ZCASH

According to Figure 6, ZCASH reached the highest number of internet searches in December 2017, after that it started to decrease but achieved a stability in 5-10 index level monthly basis. Therefore, similarly ZCASH is not expected to be out of circulation in the short term.

4. Conclusion

In this study, trend analysis was performed to determine future movement of search numbers of the crypto currencies. We aimed to foresee each crypto currency's future position. Therefore, we used monthly internet searches of 6 crypto currencies with the longest data period. Since crypto currencies have different trading dates, the largest data period available for each currency is included in the analysis.

In this study, firstly scatter distribution graphs are drawn by using index data of monthly search numbers of each crypto currency. The functions that best represent the points in the graph have been tried to be determined and by using these functions, we tried to predict the date of being out of the market of relevant crypto money. As a result of these analyzes; It is determined that RIPPLE-XRP may be out of the market by November 2020 but such a situation does not seem the case for other currencies. These graphs also showed that the highest number of searches for all crypto coins was reached in December 2017, and based on this observation it may be concluded that there was a speculative attack on crypto coins on this date.

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