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Libra Announcement: Does it have an Impact on Bitcoin's Price?

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Abstract

The main objective of the current study is to investigate the potential effect that the announcement of Libra, a new Facebook cryptocurrency might have on the Bitcoin prices. Accordingly, an event study analysis was applied to achieve the mentioned objective. The findings revealed that the news announcement had no effect on Bitcoin price changes. This indicates that Bitcoin's investor thinks Libra is not a potential competitor of Bitcoin.

Keywords: Cryptocurrency; bitcoin; libra

Introduction

In the era of Blockchain revolution, cryptocurrencies – led by Bitcoin which was launched in 2009 - are currently in the forefront of financial investment. Cryptocurrencies are not only a potential alternative to the standard fiat currencies, but are also a profitable investment opportunity and an effective diversifier (Trimborn, Li and Harde, 2017; D'Alfonso, Langer and Vandelis, 2016; Klabbers, 2017; Schut, 2017). The total market capitalization of all the crypto currencies which has reached \$707 billion in January 2018 and the multiplied number of Altcoins are evidences in favor of the exponential growth characterizing the cryptocurrency market. This market is not as sophisticated and complicated as it appears. Practically, for each transaction, there are two transacting parties and a miner who records transactions between the traders to the public ledger of past transactions and thus, verifies and approves them. The miner has an important mission also, i.e. he/she creates new coins using cryptography and high corresponding technology.

In this fast-growing environment, Bitcoin remains a leading cryptocurrency with a massive market share exceeding 35%³. Overwhelmed in May 2018 by news reporting that a new cryptocurrency will be launched by Facebook and conscious that there is a relationship between Bitcoin price and search engine and Twitter, as it was shown by Davies (2014), it is crucial to study the impact of these news on Bitcoin prices via an event study. To the best of our knowledge, no previous study has examined the effect of this kind of events on cryptocurrencies' prices. Moreover, despite its huge use in finance, event studies applied to the cryptocurrencies world remain scarce. For instance, Wilson (2018) was among the few researchers who attempted in his work to depict the relative impact of ransom events on the price of Bitcoin through an event study.

Then isn't it right when new players are playing in the crypto market? What is feared is that if groups with strengths like Facebook, with 2.4 billion users enter the financial market, market stability can shake. What's more, it could weaken the role of the dollar as the world's primary currency. And that will have dramatic consequences for US foreign policy. Many sanctions against an unpopular regime or dictator work because of the lever of the American currency. In the world of digital currencies, this sanction may not work anymore. Whether money laundering or terror financing, if the flow of money is not transparent (which is already quite tricky today), everything can get out of control. Even Europeans are awake. German Finance Minister Olaf Scholz has become a champion who fought against Libra. Recently he also received a round of applause from the head of the US Federal Reserve for his risk analysis. Scholz is not only against Libra; he looks forward and instead wants an alternative for fast and cost-effective money transfers across national borders. He is not alone. "We need a digital euro," according to the German Private Bank Association, claiming that if they don't, then others will (Böhme, 2019).

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Is Libra is a part of cryptocurrency? On the one hand, they can agree, but Libra does not follow the basic principles of cryptocurrency in general. Libra is not open, public, neutral, unlimited, and censorship-resistant. This shows that Libra is not as decentralized as crypto fans expect. When thinking of Libra, it might be better to compare it with traditional peer-to-peer payment networks, such as PayPal, Venmo, Square, or even Western Union. Like this network, Libra is the layer above the existing financial system. Traditional currencies support each coin, to eliminate volatility and ensure stable prices. But also very different. Because of Facebook's enormous reach, Libra can unite payments on a global scale and lower transaction costs (Hatzis, 2019).

Next, when Libra's basic principle is quite different from cryptocurrency, then should Libra's announcement not affect the price of Bitcoin? This assumption could be correct, but there is a theory about what is called information asymmetry, and this is commonly used to see changes in stock prices. It is possible that if there is a significant price change based on statistics, then it is possible that the market does not clearly understand the Libra project (Chen, Zheng, Li, & Jiang, 2018; Kongsilp & Mateus, 2017). This study provides an opportunity to current and potential Bitcoin investors, to the government and to the public at large to explore the Bitcoin ecosystem and to gain awareness of some of the dynamics of Bitcoin illustrated by the impact of the news announcements on Bitcoin prices. The remaining part of the paper is organized as it follows: section 2 casts a glance on the anterior studies that focused on the same question; section 3 presents the research methodology with an emphasis on the event study and the data required; section 4 summarizes the followed steps, highlights and interprets the results. Section 5 concludes and points out future research perspectives.

Literature Review

The effect of news announcement on the prices and returns of various financial assets has been widely emphasized in both theoretical and empirical literature. For instance, Suwanna (2012) investigated the impact of dividend announcement of 60 Thai companies in financial industry listed in the Stock Exchange of Thailand (SET) during the period 2005-2010 using event study methodology. The findings indicated that the stock prices move upward significantly after dividend announcements. Particularly, abnormal returns (AR) and cumulative abnormal returns (CAR) from the market model are statistically significantly revealed.

Stankeviciene and Akelaitis (2014) examined the possible effect of various public news announcements on the Lithuanian stock market returns. Using event study, the authors found a negative correlation between the values of stock prices and the price changes caused by most of these public announcements. Anwar, Singh and Jain (2015) focused on the effect of cash dividend announcements on stock return volatility in India. Using event study methodology, the findings provided strong support for Signaling and Risk Information hypotheses indicating that the volatility of stock returns increased post cash dividend announcement due to decline in firm's risk. However, no significant results were reported for stock returns volatility due to dividend announcements.

Suryanto (2015) examined the stock price reaction to the announcement of Indonesia's winning of the Investment Grade, using event study. The author focused on 41 companies listed in the Indonesia Stock Exchange. The findings revealed that there were significant abnormal returns on the day before the announcement of Investment Grade. On the other hand, there was no significant difference in average abnormal returns before and after the announcement of the Investment Grade. Elad and Bongbee (2017) explored the possible reaction of stock returns to acquisition news. The study focused on publicly traded shares on the London Stock Exchange (FTSE100) over the period from July 2012 to May 2013. The findings showed that the event of acquisition does appear to be related significantly to the abnormal returns.

Ndekugri and Pesakovic (2017) examined the effect of the announcement of the November 7, 2000, November 4, 2008, and November 8, 2016 elections on stock market returns of three multinational companies, using event study methodology, and applying t-test to examine the significance of the means and stock returns of the selected companies and the market index. Furthermore, the Capital Asset Pricing Model (CAPM) was used to determine the abnormal stock return. This analysis was inconsistent with event announcements that state they do have an effect on the stock market returns. The findings showed there was both negative and positive abnormal return in all three historical events. Actual return fluctuates within a period prior and after announcements. Chen and Lien (2017) studied the effect of macroeconomic announcements on the stock market returns in USA. The authors focused on consumer price index (CPI), producer price index (PPI), unemployment rate, and interest rate. Their findings revealed that the return on macroeconomic announcement days is much higher than the return on other days, especially when changes in investor sentiment are higher.

In the specific case of cryptocurrencies and Bitcoins, several studies attempted to identify the factors that influence their price volatility (Kristoufek, 2015; Seys, 2016; Guo and Antulov-Fantulin, 2018; Letra, 2016). Nevertheless, very few studies focused on the possible effect of news announcement and events on the cryptocurrencies price fluctuations. In this regard, Bartos (2015) attempted to determine the possible effect of public positive and negative announcements on the price of Bitcoins, using a set of error correction models. The analysis revealed that prices of cryptocurrencies react to the publicly announced information and hence follows the efficient market hypothesis. Specifically, the price of Bitcoin is higher during days of positive events and lower during days of negative events compared to normal days. Overall, the detailed analysis confirmed the significant effect of events on prices of cryptocurrencies.

On the other hand, Wilson (2018) tested the relative impact of different cyber ransom events on the price of Bitcoin using event study. The findings of the study indicated that following the ransom events a significant positive price reaction was observed. Overall, the above studies indicate that various kinds of news announcements have significant effect on the stock prices and returns in different settings. This might also be applied to the cryptocurrency prices that are a relatively new investment class. It is noteworthy that the studies on the effect of news announcements on the Bitcoin stock prices are still scarce. Hence, the current study is expected to greatly contribute to the theory and practice of cryptocurrencies and financial investment in general

Research Method

In these event studies, the commonly used dependent variable is the stock price of the company and the objective is to depict the changes in stock price beyond expectation (abnormal returns) over a period of time (event window). Generally, the abnormal returns are attributed to the effects of the event in question (Tripathi and Singh, 2012). In other words, the event study methodology aims to check if an event has a significant effect on stock returns i.e. illustrated by abnormal returns. A sine qua non condition to apply the event study methodology is that the market is efficient i.e. the effects of the event will be reflected instantaneously and integrally in the stock prices. Such a condition allows the researchers to observe the event's effect over a relatively short period of time. It is important to mention that it has been recently shown that Bitcoin market has become efficient (Bariviera, 2017; Urquhart, 2016; Nadarajah & Chu, 2017; Tiwari, Jana, Das, and Roubaud, 2018). The procedure of an event study comprises the following steps: 1) Identify the event in question; 2) Identify estimation, event and post-event windows; 3) Estimate parameters using data in estimation window; 4) Measure abnormal returns in the event window.

Before proceeding to the estimation of the important parameters that will be used to calculate the expected returns during the event period, the market model was selected to be employed for expected returns calculation. This choice is justified by the fact that it was proven by different researchers that this model is the best and the most commonly used (Cable & Holland, 2010; Samitas & Kenourgios, 2004). Particularly, the market model is written as (1):

$$R_t = \alpha + \beta R_{Mt} + \varepsilon_t \dots (1)$$

where R_{Mt} is the return on the CCI30 (the market index) for the day t and R_t is the return on Bitcoin for the day t , β is a measure of risk which reflects the sensitivity of Bitcoin to the cryptocurrency market, α indicates the mean return over the period that is not explained by the market and ε_t is a statistical error term.

Result and Discussion

The regression will generate estimates of α and β known as $\hat{\alpha}$ and $\hat{\beta}$. Using the linear regression model in Excel, we calculate the constant alpha and the slope beta over the estimation window. The results in Table 1 show an estimated beta value $\hat{\beta}$ is 0.3706 and the estimated alpha value $\hat{\alpha}$ is -0.0009855. After calculating the Bitcoin expected returns, they are compared to the actual returns and the calculated abnormal returns for each day in the event window are determined as the difference between Bitcoin actual returns and expected returns: $(R_t - \hat{R}_t)$. The last task is to deduct the cumulative abnormal return for Bitcoin which is of -5.3929% which means that the investors on Bitcoin have lost about 5.39% return because of the announcement of Facebook to launch its own cryptocurrency.

However, by conducting the Kolmogorov Smirnov and the Wilcoxin Rank Z tests, it is shown in Table 1 that p-values are respectively of 0.147 and 0.2 (more than 0.05) which allow us to accept the null Hypothesis at 5% level of significance. Such a decision means that there is no significant difference between actual returns and expected returns of Bitcoin during the event window period. This is confirmed by Figure 1. Hence, it can be concluded that the announcement by Facebook chairman about the launch of its own

cryptocurrency has no significant impact on Bitcoin prices which can reassure Bitcoin investors and encourage them to continue investing in this virtual currency that seems robust against such news.

Table 1. Parameters estimation and abnormal returns significance tests

	α	β
Estimated value	- 0.009855	0.37063446
Standard Error	0.00510258	0.09186295
<i>p</i> -value	0.84752455	0.00016201
	Kolmogorov-Smirnov test	Wilcoxon Rank test
<i>p</i> -value	0.147	0.2

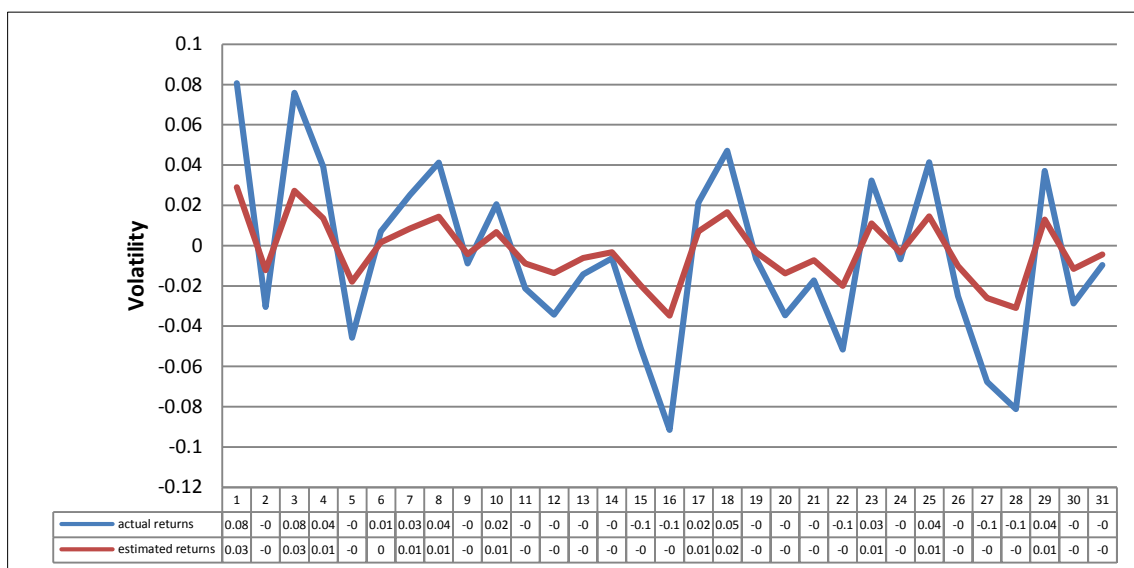


Figure 1. Bitcoin expected and actual returns

Interested by the newly booming cryptocurrency market, this research paper attempted to depict the Cumulative Abnormal Return (CAR) of Bitcoin prices as a reaction to the intention revealed by Facebook chairman to enter the world of cryptocurrency by creating its own. The findings revealed that this event had no significant effects on Bitcoin prices. This study comes to prove to actual and potential Bitcoin investors that Bitcoin prices are not responsive to such news. Several previous studies with various methods have shown that it is very difficult to predict the price of Bitcoin. The following is presented some research results that try to explain the driving factors of the price of Bitcoin. First, there is no indication of a causal relationship between changes in the price of Bitcoin and Brent oil prices. (Ciaian, Rajcaniova, & Kancs, 2016; Erdas & Caglar, 2018). Second, the results of the study did not find a causal relationship between the price of Bitcoin and the exchange rate for the US dollar (Dyhrberg, 2016; Erdas & Caglar, 2018). Third, although some analysts suspect that there is a relationship between the price of bitcoin and gold, research shows that there is no significant correlation between the price of bitcoin and gold (Dyhrberg, 2016; Erdas & Caglar, 2018). Fourth, the study also concluded that Bitcoin prices and the BIST 100 Index do not have mutually influential relationship (Erdas & Caglar, 2018).

But in fact, the price of bitcoin has a correlation with the S&P 500 Index, the negative trend in the price of the Bitcoin affects the S&P 500 Stock Index, both negatively and positively. (Dyhrberg, 2016; Kjærland, Khazal, Krogstad, Nordstrøm, & Oust, 2018; Yermack, 2015). Furthermore, Kjærland et al. (2018) find that the S&P 500 has a positive impact on the price of Bitcoin. This study also shows that the S&P 500 is the independent variable with the largest coefficient, so it gives the most significant effect on the price of Bitcoin. The interpretation might be as follows: when optimism in financial markets increases, investors also display confidence in Bitcoin. Because the risk measured in standard deviation is higher in Bitcoin than in the S&P 500, Bitcoin investors are likely to be risk-seeking investors.

Analysis conducted by Hatemi-J (2012) also shows that there is a causality relationship between the price of Bitcoin and the S&P 500 Index. The results show that adverse shocks in Bitcoin lead to negative and positive shocks in the S&P 500 Index, and positive shocks in Bitcoin lead to adverse shocks in the S&P 500 Index. These findings indicate that investors S&P 500 and bitcoin investors may have slices. Put, some

S&P 500 investors also become Bitcoin investors. In contrast, there is no causal relationship between the S&P 500 Index and the price of Bitcoin. In the end, it can be concluded that there is only a direct relationship between Bitcoin and the S&P 500 Index.

What if the price of Bitcoin is predicted using the Hashrate variable, the results of the study show that the Hashrate has a positive sign. The positive sign is against the law of supply and demand; this is because the high level of mining should also increase the amount of Bitcoin on the market, and this will undoubtedly push prices so that bitcoin prices tend to move negatively. Because Bitcoin supplies are deterministic, adding more processing capacity to mining will not lead to an increase in output. Therefore, it can be concluded that the price of Bitcoin drives Hashrate, not vice versa (Kjærland et al., 2018). They are finding by Kjærland et al. (2018) Consistent with economic theory because price increases will naturally increase bitcoin mining and certainly higher profits. With increasing profitability, new players will enter the mining business, and miners will now increase computing power to the point where excess benefits are zero. A natural price decline will cause computing power to be withdrawn from Bitcoin mining. As such, we consider it irrelevant to include Hashrate as an explanatory variable in models that describe Bitcoin price drivers or in calculating the fundamental value of Bitcoin. This result is different from previous studies that included Hashrate as a variable.

Then what about some reports about external sentiments that affect the price of bitcoin such as, the issue of a ban on bitcoin or easing bitcoin regulation in a country? Until now, there has been no real evidence that this affects the price of Bitcoin. However, several studies show that the search trend on Google is directly proportional to the price of Bitcoin. (Dyhrberg, 2016; Kjærland et al., 2018; Kristoufek, 2013). Meaning, the announcement of Facebook to launch Libra does not affect the level of curiosity and search on Google trends so that this information is not useful for the Bitcoin market. If Libra can attract investors with an average attitude of bitcoin investors who are generally very sensitive, it will have an impact on price changes (Chevapatrakul & Mascia, 2019). This may simple, but if Bitcoin investors are not too hasty in concluding, price volatility will be more awake, and confidence that Bitcoin will become the currency of the future will be realized faster (Luther, 2016; O'Driscoll, 2018).

Will Libra deal with cryptocurrency mainstream or fiat? Libra is not competing with bitcoin. Bitcoin is a perfect SoV (Store of Value), a better version of Gold, with identical Gold correlation features with other conventional asset classes. Libra does not compete with Ethereum, the distributed computing platform that is clearly the most widely accepted. Libra is not competing with XRP; XRP and Libra are targeting two practically non-overlapping markets. XRP aims to be a de facto and settlement currency portal for SWIFT and transactions between banks. Libra is more focused on becoming a MoE (medium of exchange) global currency among consumers. Libra is not a real threat to XRP, at least for now, unless the enormous success of Libra pushes financial institutions around the world for MoE between consumers. Libra does not pose a real threat to XRP, at least for now, unless the enormous success of Libra causes financial institutions around the world to begin accepting Libra as a legal currency.

Libra's main competitor is conventional fiat currency if it takes off and achieves its goal. If the transfer of value on the Libra network will take place smoothly and efficiently and if Libra becomes a substitute for fiat currencies, For instance, in a place like India, USA, Brazil, and Indonesia where Facebook has more than a half-billion users, central bankers and government will have different problems.

Conclusions, suggestions and limitations

This research shows that the market does not react to the announcement of Libra by Facebook. This indicates that libra is in principle different from bitcoin and other altcoins, and there is no respect for it. Thus, the findings of the current study will certainly help advance the body of knowledge on cryptocurrency investment behavior in the future. This will also help the practitioners to predict future cryptocurrency price fluctuations, and accordingly manage their investments accordingly. In addition, the findings support the stability of cryptocurrencies, which makes them a viable and profitable investment as well as a suitable investment diversifier.

Though the current study provided great significant contributions, it still has a number of limitations that should be taken into account in the future studies in this area. Mainly, the study focused only on one cryptocurrency and one event. Hence, the findings cannot be generalized to other cryptocurrencies and other events. Future studies are recommended to extend these findings to other events and cryptocurrencies and perhaps using different models. Moreover, future studies are recommended to examine the impact of the effective launch of a new cryptocurrency on Bitcoin prices.

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