

Jason Sticka
Professor Starr
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Research Topic Statement

My topic proposal is on Bitcoin, a popular example of a type of digital currency known as a cryptocurrency. More specifically, the topic proposal is on Bitcoin, the cause of its value, and the incentive of individuals to hold the currency. This topic is intriguing as Bitcoin regularly fluctuates in value despite attempts to implement it as a regularly traded currency. The driving force or forces behind the value of the currency seem to be rather mysterious. A previous effort by Christopher Campos to determine the source of the value of Bitcoin have found that the price of Bitcoin appears to change in a non-random way in his paper, "Tulip-Mania 2.0? A Closer Look Into Crypto-Currencies". However, the reason behind these non-random changes in value were determined to be inconclusive. The value could in part be caused by pure speculation by individuals that the value of the currency will increase in the future. It was determined that the average account holder of Bitcoins did not make trades involving the currency. However, it seems strange that individuals would speculate on the value of a currency which could lose all ability to be traded once there is no longer sufficient incentive for the validators of transactions, known as Bitcoin miners, to continue to validate transactions. If the currency were to lose its ability to be traded from one individual to another, then the currency would become worthless and the speculation on the value of the currency would be pointless.

It has been written that currencies derive their value from being used as a form of exchange between individuals. By this idea, the value could also possibly be the result of transactions using the currency which take advantage of the purportedly anonymous nature of the currency. One aspect of this trading could be transactions which occur on a hidden part of the internet known as the "Dark Net", where trades of illegal goods occur frequently. One such example of a market on the "Dark Net", which used bitcoin as a currency of trade is the Silk Road, known for being a place where illegal drugs and various other illegal commodities were frequently traded until the site was closed by law enforcement.

I want to investigate possible reasons as to why Bitcoin could have a nonrandom value and why people would hold on to the currency aside from pure speculation on its value. I would like to determine the primary groups of individuals who conduct trade using bitcoins, bitcoin's rate of adoption in legal markets. If it is possible to do so, I would also like to determine the financial risk that individuals such as cybercriminals are willing to tolerate when using a currency such as bitcoin. It is likely that this work would be largely theoretical, though some empirical evidence would be necessary to provide support to claims.

I have developed a working hypothesis about this topic. The hypothesis in its current state is that one potential driving force for the value of bitcoin is the illegal transactions occurring on the "Dark Net" using cryptocurrencies such as bitcoin to ensure anonymity. As part of this hypothesis, I make the assumption that the primary users of bitcoin only purchase the

currency when necessary to conduct trade for illegal goods and that the individuals who offer these illegal goods proceed to transfer their bitcoins to an exchange through a series of middlemen. This assumption implies that the primary users of the currency maintain balances of zero, or close to zero, on their bitcoin accounts.

It seems very possible that data will be needed to pursue this topic. First, the mean and median data of the time at which the last transaction was made by accounts with bitcoins could be necessary. Second, an estimation of how frequently accounts with recent trade activity conduct trade would also likely be important. Third, a list of goods bought and sold on the “Dark Net” and the times at which those transactions occurred, though obtaining this data may not be simple or even possible due to the nature of the “Dark Net”. Likewise, information about trades occurring on the Silk Road site from when it was active could prove useful if it is possible to obtain.

There are other possible sets of data which could be necessary in the pursuit of this topic. Such sets of data could include data on the economic activity of the Silk Road website during a sufficiently long interval of its operation. Another set of data which will very likely be necessary is that of the Bitcoin blockchain (the history of all balances of bitcoin). It is also likely that there will need to be sets of data on control variables such as the frequency with which the term Silk Road was searched on various search engines over time.

One possible theoretical framework behind illegal transactions on the internet propagating the value of Bitcoin could be the amount of financial risk which cyber criminals would tolerate in order to remain anonymous in their illegal transactions. One assumption is that the amount of financial risk that cybercriminals would be tolerant of is directly proportional to the number of illegal transactions that they would make in the “Dark Net”. This tolerance of financial risk due to an aversion to risk of being apprehended could lead to a large number of individuals engaging in their illegal trades through use of bitcoins. This trade could be of a large enough volume to provide Bitcoin with value through the fact that it would regularly be exchanged for goods.