**Introduction of Bitcoin**

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**BRIEF SUMMARY**

Bitcoin is a purely peer-to-peer version of electronic cash which allows for direct exchange of funds and services between parties without a financial institution as an intermediary. The Bitcoin Protocol which dictates how bitcoins are created and entered into circulation is a solution to circumvent the traditional financial systems. Due to its liquidity and ease of transfers, bitcoin may be considered as a source of foreign direct investment to enter international markets that may otherwise contain barriers to international trade and services. However, despite bitcoin’s early rise in popularity, concerns of volatility, lack of government regulation, and generally limited understanding, create barriers that in its current state, bitcoin is not an effective international entry strategy.

**HISTORY OF BITCOIN**

Bitcoin is a peer-to-peer payment system and digital currency that was introduced as open source software in 2009. It is a crypto-currency, so called because it uses cryptography to control the creation and transfer of money. According to the legend, Satoshi Nakamoto began working on the Bitcoin concept in 2007. However, it is widely speculated that Nakamoto may be a collective pseudonym for more than one person (historyofbitcoin.org n.d.). On August 15th of 2008 an application for an encryption patent was filed by Neal King, Vladimir Oksman, and Charles Bry, all three of whom deny any connection to Satoshi Nakamoto, the alleged originator of the Bitcoin concept. Three days later, on August 18th, Bitcoin.org was registered through anonymousspeech.com, a site that allows users to anonymously register domain names. Later in 2008 a design white paper was published by Nakomoto, which described the Bitcoin currency as a purely peer-to-peer version of electronic cash that would allow online payments to be sent directly from one party to another without going through a financial institution. Instead, an electronic payment system based on cryptographic proof would allow any two willing parties to transact directly with each other without the need for a third party, thus eliminating the traditional transaction costs associated with financial institutions. The same paper defined an electronic coin as a chain of digital signatures, with each owner transferring the coin to the next by digitally signing a hash of the previous transaction. Jonathan Zittrain, a Techsplainer from Harvard University, described Bitcoin as “a collective hallucination in which there is agreement that the units of currency will have some form of value,” adding that “The neat thing about Bitcoin is that there is a record as to who possesses it.” (December 16, 2013).

The acquisition of this virtual currency can be accomplished through purchase or exchange on several market places, otherwise known as “bitcoin exchanges”. Up until February 25th of 2014, before going dark amid huge bitcoin theft claims, Mt. Gox was known as the largest bitcoin exchange. Also, similarly to cash, bitcoins can be transferred between users through mobile apps or computers. Most importantly, people can compete to “mine” bitcoins, using computers to solve complex math puzzles, which is how bitcoins are created. January 3rd of 2009, precisely at 18:15:05 GMT marked the date and time when Block 0, the genesis block, was established. The protocol is designed in a way that new bitcoins are created at a fixed rate, which makes the mining process to be a competitive business. The currency is stored in a virtual wallet or otherwise known as, “digital wallet,” which exists either in the cloud or on a user’s computer. The wallet serves as a virtual bank account and allows users to send or receive bitcoins, pay for services or just save their money. Unlike traditional bank accounts, however, bitcoin wallets are not insured by the FDIC. (Yellin, Aratari, Pgliery n.d.)

Recently, bitcoin has been gaining traction towards being considered a mainstream currency, even if it is not necessarily being used by a significant proportion of society. Despite recent shakeups, it is viewed as a legitimate method of payment, and a legitimate asset, by many. CNBC has it as a ticker on its website, for example, and there is a bitcoin hedge fund in Malta (Steadman, 2013).

**BITCOIN AS A FOREIGN EXCHANGE INDEX**

Hill noted that the foreign exchange market is “the lubricant that enables companies based in countries that use different currencies to trade with each other” (2011). Currently, since bitcoin is not very widely accepted, both consumers and merchants have to convert their bitcoins back to fiat currency to be able to spend them across the world. One of the reasons why the foreign exchange market exists is to provide some insurance against the volatility in exchange rates, or foreign exchange risk. As a strategic method for international expansion, we are going to examine bitcoin foreign exchanges and currency conversion, the bitcoin as a vehicle currency along with uses in nonconvertible currency nations, and how bitcoin can create an efficient market with global purchasing power parity (PPP) exchange rate.

Bitcoin currently trades in USD on 13 different exchanges, and globally bitcoin is traded on a total of 93 exchanges worldwide (Bitcoincharts.com, (n.d.). Since it is not tied in to any fiat currency, the exchange rate is determined by supply and demand of the bitcoin market (Virtual currency schemes, 2012). For our first hypothesis of bitcoin as a foreign exchange index, we are going to walk through all of the possible methods that someone in Jacksonville, Florida could acquire bitcoins in February of 2014. First, through the website, [www.localbitcoins.com](http://www.localbitcoins.com) an individual or a business can identify locations where they can either buy or sell bitcoins online or with U.S. dollars in cash. On February 23, 2014, there were two sellers in Jacksonville willing to accept U.S. cash for bitcoins, and one in Atlantic Beach. Each of the three sellers were willing to trade 1 bitcoin for anywhere between $632 and $691 in USD. However, from bitcoincharts.org we can see that the 30 day exchange rate of 1 bitcoin is $550 USD, yet the 7 day rate is $357 (see Appendix A, Figure 2). Therefore, if someone in Jacksonville didn’t want to pay the premium to receive bitcoins in person, they could also buy them on any of the 13 USD exchanges available. Lastly, they could also buy them at a bitcoin ATM if they happen to be traveling in Vancouver, or soon to be in Seattle, WA and Austin, TX (Gross, 2014). If we compare bitcoin to the Euro, we can see how a ubiquitous currency allowed for the free movement of money, people, and goods between the Eurozone (Europe without frontiers. (n.d.)). We are proposing that the future of bitcoin can be one homogenous global economy where money, people, and goods and services can be freely traded throughout the world. Although there are some barriers to wary of such as the fact that the entire global market is not one optimal currency area, we believe that bitcoin could be the first step in achieving one marketplace.

In today’s global market, the U.S. dollar is often used as a vehicle currency because it takes a central role in many foreign exchange deals because the dollar is involved on one side of nearly 85% of all foreign exchange transactions (Hill, 2011). As we mentioned earlier, by using bitcoins across the globe, individuals and companies can seamlessly transfer money and cut out the intermediaries that exist today. If everyone used bitcoin accounts, then today’s money transmitters such as Western Union, who charges a hefty fee to transfer money anonymously, would be rendered extinct (International remittance markets, 2014). There would actually be no need to use the USD as a vehicle currency, and the exchange of goods and services between foreign countries would become infinitely easier to process. Secondly, bitcoin could act as an intermediary to enter countries with nonconvertible currency. When a country imposes strict limitations on external currency convertibility to preserve their foreign exchange reserves, they become an undesirable location for foreign direct investment (Hill, 2011). By using bitcoin, companies can begin to gain access to such developing countries so long as they have not banned bitcoin as an illegal activity. Again, the use of bitcoin opens up a global market place to any business willing to invest in its value.

Lastly, bitcoin can create an efficient market with global purchasing power parity (PPP) exchange rate. According to Hill, an efficient market is one that has “no impediments to the free flow of goods and services” (2011). In theory, we are proposing that bitcoin could create an efficient market, because there is already the basic structure for the free flow of currency across markets by sharing bitcoins on the peer-to-peer network through bitcoin wallets (Bitcoin under pressure, 2013). Therefore, there is already the free flow of money to facilitate the flow of goods and services. However, since an efficient market would require that countries lose control over their monetary policy, bitcoin still has to make strides and work with the WTO and the IMF to try to create a global marketplace. While there are many political barriers to this process, we are on the road to removing some of the economic barriers. For example, bitcoin users have created the Bitcoin Foundation whose primary goal is to keep bitcoin rooted in its core principles: non-political economy, advance standards of security, and act as an organizing body for bitcoin (Bitcoin Foundation, 2014). Finally, with the hypothesis that the entire global economy could operate in an efficient market, we would be able to create the PPP exchange rate for any identical product across different markets, not only using the same price in different currencies, but now everyone could compare the product’s price in bitcoins and all speak the same language. Imagine if the price of a McDonald’s Big Mac was no longer converted on its own index, but rather consumers knew that anywhere they traveled, a Big Mac would be 5 bitcoins (Hill, 2011). A Bitcoin Index would become the ultimate global standard PPP exchange rate against which any consumer in any country could compare the price of an identical product. The Bitcoin Index could revolutionize competition and cause every producer to run at an optimal efficiency.

**Taxation Concerns:**

World governments have a long way to go in order to update their regulations to keep up with the changing technology that bitcoin represents. For US residents that have been using bitcoin; and have experienced gains or losses related to the usage; there are no tax laws currently that advise them of how to report this information on their taxes. This poses a unique challenge for both businesses and individuals as it relates to filing their taxes. Saunders (2013) outlines several pressing questions with regard to taxation issues:

* When should bitcoin be considered a commodity, a currency or a capital asset for tax purposes?
* Are bitcoin transactions similar to barter?
* Is bitcoin subject to the same stringent tax rules as secret offshore accounts?
* Given its anonymity how does the IRS keep bitcoin from being used to promote tax evasion or money laundering?

Since the IRS has yet to offer any official position on these issues; anyone using bitcoin at this stage is operating in a grey area. Once the IRS does rule on these and other related items they may find themselves with heavy tax consequences; including fines, penalties, and possible fraud charges; as a result of their use of the virtual currency. There would be similar concerns in countries across the globe that tax their citizens and businesses.

**Volatility & Security Concerns:**

The value of virtual currencies such as bitcoin is highly volatile, with the currency having experienced incredibly sharp increases and declines over a relatively short period of time. This level of extreme volatility affects both investors as well as people are using bitcoin as payment method. With the constant competition of the local domestic currency which enjoys much more stability; many businesses will be unwilling to accept virtual currency as payment due to the inherent risks associated with the rapid changes in value.

Another concern is that the continuous creation of new trading exchanges has made it next to impossible to ascertain a current price; further contributing to the volatility of the currency and making business decisions involving bitcoin more risky. For example, one bitcoin exchange showed a price of $1,061 while on the same day another exchange showed a price of $965. Yet another index (a combination of two different exchanges) showed an even lower price of $950 (Sidel, Nov 2013).

Safety of transactions is another key issue. While bitcoin exchanges do have security measures in place there have been several high profile hackings of bitcoin wallets since its inception. The very feature that is so attractive to many, its complete decentralization and anonymity, is what poses one of the biggest problems with security. Bitcoins are stored in virtual wallets which in turn are stored on personal computer hard drives as a simple plaintext data file. The transaction to pay someone or transfer bitcoins to them takes place across your network (where security varies); moving them from your wallet to the receiving wallet. Due to the anonymous nature of the transactions there is no way to trace a transaction back to an individual. A quick search of the online forums dedicated to bitcoin discussion reveals many anecdotal stories of people having their bitcoin wallets hacked. High profile incidents include:

* An early adopter of bitcoin was hacked and lost 25,000 of currency worth approximately $500,000
* Bitstamp was victim to a hacking attempt that disabled their platform
* Mt. Gox halted withdrawals in early February 2014 upon discovery of a flaw in their programming that allowed for manipulation that would result in the duplication of transactions

**Lack of International Regulation:**

The International Monetary Fund (IMF) coordinates the international foreign currency exchange market. It strives to maintain global economic stability by regulating the member nations and their individual currencies. The main goals of the IMF are as follows:

* Provide a forum for cooperation on international monetary problems
* Facilitate the growth of international trade, thus promoting job creation, economic growth, and poverty reduction
* Promote exchange rate stability and an open system of international payments
* Lend countries foreign exchange when needed, on a temporary basis and under adequate safeguards, to help them address balance of payments problems

The rules and goals of the IMF only apply to nations that have agreed to adhere to them (About the IMF: Overview: What we do. (n.d.)).

Since bitcoin is not backed by any government, it is not bound by the IMF's guidelines. This means that bitcoin poses a serious threat to the economic stability of the foreign currency exchange market if it continues to grow. The IMF’s inability to directly obtain bitcoin; due to it being out of its jurisdiction; limits its options if an intervention is required in the event of bitcoin being used in a speculative attack on the value of a conventional currency that has depreciated in value relative to other currencies. Without intervention from the IMF a speculative attack could further weaken the currency and eventually destabilize the international foreign currency exchange market. Bitcoins are generated through computer software which is programmed to halt the production of new bitcoins once a preprogrammed cap has been reached. With no additional bitcoins being generated the finite supply will cause value to increase dramatically and subsequently make it more expensive for the IMF to obtain a sufficient supply to fend off a speculative attack. (Plassaras, 2013).

**Banking Issues**

Individuals who are attempting to start up virtual currency businesses in order to function as an exchange for bitcoin are finding themselves having difficulty opening bank accounts to facilitate the wire transfers that they receive from customers. Often as soon as a bank finds out that the intent of the business is to trade in virtual currency/bitcoins they refuse to open an account for them due to fears that the business is, or will soon be, involved in illegal activities and possibly money laundering. Sidel (2013) notes that banks are incredibly leery about doing business with companies in the money service industry due to the need for heightened due diligence and the increased risks. At this point with so little regulation and framework around bitcoin many banks are choosing to forgo the risks associated with providing bank accounts for bitcoin exchanges.

Despite the fact that China has become the largest bitcoin market the Chinese central bank, The People’s Bank of China (PBOC), has made a first step toward regulating the currency by warning Chinese banks against using the currency. Due to concerns about money laundering The People's Bank of China believes bitcoin poses risks to the nation's financial system and has determined that said banks cannot price, trade or insure bitcoin or bitcoin-linked products (Carson, E, 2013).

In 2013 Thailand became the first country to ban the virtual currency outright. The concerns that were raised there by the Foreign Exchange Administration and Policy Department include lack of existing applicable laws, capital controls and the fact that bitcoin straddles multiple financial facets. This decision means that it is now illegal in Thailand to buy or sell bitcoins or send/receive the currency from other jurisdictions (Clinch, 2013).

**TECHNOLOGY DEPENDENCE**

The current bitcoin infrastructure is a sophisticated and complex network of peer-to-peer technology that is generally not well understood by the average layperson. This has meant that early adopters of the bitcoin have been those who are technologically and/or financially savvy. Its ability to be used on smartphones across a mobile network make it attractive in developing nations where the traditional banking infrastructure may be lacking but mobile networks are flourishing. Even with the benefits come the risks. As discussed previously the system has been vulnerable to targeted, mass hackings leaving investors without any recourse. The complex technology involved acts as a barrier for the average consumer who may be uneasy about adapting something so far out of their comfort zone.

 **BITCOIN AND CORPORATE RESPONSIBILITY**

There are significant corporate responsibility factors in connection to the usage of bitcoin. There is a growing trend of bitcoin being used to fund illegal activities; including drugs, weapons, assassinations, human trafficking, child pornography illegal gambling, and terrorist activities. Use of bitcoin on the “Dark Web” is increasingly popular due to its anonymity; just *how* popular is difficult to ascertain due to the difficulties encountered when trying to access this virtual black market (Newton-Small, 2013). Law enforcement is trying to develop tactics to combat this illegal trade. Despite this uphill battle there have been some large scale successes in combating criminal use of bitcoin. Federal agents raided, and subsequently closed, Silk Road which was a website dedicated to facilitating black market activities. Although agents were able to seize the website's servers, they are having difficulty accessing the fortune amassed by the person behind the website. To date, they have only been able to recover approximately five percent of the over $120 million in commission earned by Silk Road (Yadron, D., & Devlin, B., 2013).

Despite bitcoin’s persistent reputation of being linked to illegal and illicit activities there are some companies that are taking a stand and attempting to incorporate corporate responsibility into their bitcoin dealings. For example, Betcoin, an online gambling establishment is working hard to incorporate terms of service that will help to alleviate the illicit activity that bitcoin can generate. A senior spokesperson at the company had the following comments about their stance on corporate responsibility:

BitCoin aims to help educate its players as well as entertain them. A senior spokesman responded to Emily's concerns, "Some other bitcoin gambling sites unfortunately do not have terms and conditions, and thus do not take any action against minors, and players located in restricted jurisdictions, where online gaming and betting activities may not be entirely legal, using their site. This approach seems to be very irresponsible, and potentially harmful and dangerous. On the one hand you have our terms and conditions, and on the other you have certain technical measures that prevent certain users from accessing restricted areas of our sites." The terms and conditions outlined do not condone any illegal activity in their bitcoin casinos, including accessing the games from restricted jurisdictions, and the educational portals offered will ensure that each player has the correct up-to-date information about the potential pitfalls and legal issues of online bitcoin gambling (PR Newswire, 2013).

It will take the concerted effort of likeminded business owners to self-regulate bitcoin usage until governments and authorities around the globe can adapt regulations to keep up with the rapidly developing technology. Until such regulations are in place the stigma of illicit activity will continue to plague bitcoin based businesses.

**FUTURE OF BITCOIN – EMERGING TRENDS /CHANGES**

With the rise in popularity of bitcoin there have been some recent emerging trends and changes. Using bitcoin is heavily technology dependent and the mining of bitcoin is a fairly complex concept that has been out of reach of the average person’s technology capabilities. This has made it something that was primarily pursued by technophiles and sophisticated investors. However in late January 2014 a partnership for a new service between NimbusMining and Butterfly Labs was announced, Managed Bitcoin Mining Cloud. This partnership will allow the average consumer to mine bitcoin without having to purchase or operate complicated hardware. Management at both companies had the following comments on the deal and its implication for the future of virtual currencies (NimbusMining and butterfly labs take bitcoin mining to the masses, 2014).

"We're pleased to be offering NimbusMining cloud contracts on our website and to have been chosen as the preferred hardware supplier for NimbusMining," remarked Jeff Ownby, Butterfly Labs VP of Marketing. "65 Nm technology contracted by NimbusMining will be supporting these mining contracts today, and as we deliver pre-ordered 28Nm products to NimbusMining in the future, customers will have access to the most advanced technology available. We believe that market trends propelling cloud based services elsewhere are also valid in the bitcoin space, and although Butterfly Labs will continue to sell bitcoin mining equipment to people who want to mine directly, we plan to be an important player in the emerging cloud market, as well."

"Butterfly's technology is robust and reliable and most importantly we have BFL's 65Nm equipment on hand already," said Greg Bachrach, co-founder and CEO of NimbusMining. "We strongly believe that bitcoin mining will move to the cloud and it is our mission in the CoinWare group, which is the parent company of NimbusMining, to make bitcoin mining more broadly available and accessible to the average consumer."

However, even with these steps to bring bitcoin to the average consumer the future of bitcoin is incredibly unpredictable. With the recent collapse of is largest exchange, Mt. Gox located in Tokyo, the long term sustainability of bitcoin is very much up in the air. Earlier in the year Mt. Gox initially stopped all withdrawals, citing concerns about security of their customer’s wallets, however they never resumed normal operations. Then on Tuesday February 25th their website was taken down, the offices appeared cleared out, and the CEO (Mark Karpeles) was in hiding after resigning from the bitcoin Foundation’s Board of Directors. Karpeles issues a very cryptic comment which indicated that the company was at a “turning point” and that an official statement would be forthcoming. Rumors and speculation continue to build and even include an unverifiable document circulating the internet labeled “Crisis Strategy Draft” which indicates that Mt. Gox has lost over $360 million in investors’ bitcoins. Meanwhile these investors wait anxiously for word directly from the management team of Mt. Gox. This event has drove down the price of bitcoin and prompted management at other prominent bitcoin exchanges to go into damage control mode to reassure the public and their own investors that the issues at Mt. Gox are related to their incompetent management and is not an indictment on bitcoin as a whole (Pagliery, 2014).

**SUMMARY**

Bitcoin has experienced a bumpy ride since its entry into the marketplace. It has gone from an infancy stage where it was a novelty mainly attracting the interest of techies and speculative financiers to having a place on the world stage as a potential global currency. It has all the makings of a disruptive technology, but with so much volatility and uncertainty it cannot be recommended as a viable entry strategy for a business. While the future and direction of bitcoin is constantly changing one thing seems clear; bitcoin has laid the groundwork for a global currency. Bitcoin may not survive the turmoil currently embroiling the currency but the wheels are in motion for the adaptation of a global currency at some point in the future. National currencies will likely continue to exist, but with the rapid expansion of global commerce traditional methods of doing business cannot keep pace.

APPENDIX A

Figure 1: Projected Bitcoin Supply

http://upload.org/commons/5/54/Total\_bitcoins\_over\_time.png **Can Bitcoin be a Viable International Entry Strategy?**

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| --- | --- | --- | --- |
| Figure 2: 24 Hour, 7 Day, 30 Day Exchange Rates for 1 Bitcoin as of February 23, 2014 **Currency**  | **24h**  | **7 days**  | **30 days**  |
| ARS  | 6400.82  | 6817.00  | 8627.31  |
| AUD  | 306.95  | 311.94  | 590.69  |
| BRL  | 1459.09  | 1509.00  | 1698.53  |
| CAD  | 574.55  | 571.94  | 734.57  |
| CHF  | 206.53  | 260.94  | 474.82  |
| CNY  | 3786.42  | 3684.58  | 4277.93  |
| CZK  | 12650.50  | 12659.79  | 15113.11  |
| DKK  | —  | 1914.92  | 4154.57  |
| EUR  | 245.37  | 201.92  | 346.51  |
| GBP  | 181.79  | 176.38  | 308.39  |
| HKD  | 4909.42  | 4804.43  | 5200.30  |
| ILS  | 2163.92  | 2143.58  | 2458.35  |
| INR  | 43955.34  | 39360.15  | 45583.12  |
| JPY  | 26744.50  | 23914.55  | 40138.18  |
| KRW  | —  | 681307.41  | 847374.16  |
| LTC  | 39.40  | 39.49  | 38.76  |
| MXN  | 8327.23  | 8526.14  | 9558.30  |
| NMC  | 170.20  | 161.62  | 158.87  |
| NOK  | 3893.17  | 3811.21  | 4301.10  |
| NZD  | 718.40  | 561.31  | 717.74  |
| PLN  | 1378.52  | 1287.16  | 1797.45  |
| RUB  | 22878.98  | 22345.23  | 25820.02  |
| SEK  | 3791.37  | 3116.00  | 3689.87  |
| SGD  | 721.11  | 566.80  | 808.06  |
| SLL  | 153812.11  | 153903.97  | 178315.91  |
| THB  | 19213.69  | 19995.86  | 22442.86  |
| USD  | 412.97  | 357.56  | 550.24  |
| XRP  | 39508.73  | 40116.89  | 40292.71  |
| ZAR  | 6455.32  | 7307.34  | 8536.10  |