IMPACT OF CRYPTOCURRENCIES ON MAJOR FINANCIAL MARKETS

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SUBMITTED TO – NMS SINGH

PREFACE

The objective of this report is to analyze the impact of cryptocurrencies on 3 major financial markets i.e. New York Stock Exchange, Tokyo Stock Exchange and Shanghai Stock Exchange around the world with respect to the following parameters –

1. Impact of cryptocurrencies on fiat money in the market

2. Policies in favor of / against use of cryptocurrencies

3. Can cryptocurrencies replace the fiat currencies as the choice for investment in financial markets?

4. Future of cryptocurrencies in Financial Markets

The purpose of carrying out this research study is to gain insight on cryptocurrencies and how they impact an economy and submission of a research project as part of our curriculum subject – Research Methodology.

I acknowledge the motivation and trust of my professor in me for carrying out this study and the help and valuable insight I gained from the net via descriptive articles uploaded by some brilliant authors.

CERTIFICATE

This is to certificate that I *Lakshay Kumar* have successfully carried out and submitted research project on the topic "Impact of cryptocurrencies on Major Financial Market's" in fulfillment of the requirement for internal assessment of Semester 3 Economics Hons. SEC subject Research Methodology. I ensure that this project is for sole purpose of internal assessment and I haven't published this project anywhere else.

It is certified that all suggestions / correction indicated for the internal assessment have been incorporated in the project.

The report has been approved as it satisfied the academic requirement in respect to work prescribed for the research methodology.

The project is done under the guidance of Dr. NM Singh by Lakshay Kumar of Semester – 3 of Aryabhatta College (Economic Hons)

Dr. NM Singh

(Faculty Guide)

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CHAPTER-1

INTRODUCTION

Understanding Cryptocurrencies -

A cryptocurrency is a digital or virtual currency designed to serve as a medium of exchange. The crypto prefix comes from the fact that cryptocurrencies use cryptography to secure and verify transactions as well as create new currency units (coins). Cryptography makes it easy to encode something that is easy to decipher with a key and difficult to decipher without a key, which means coins can be difficult to create but transactions can be easy to verify.

At their core, cryptocurrencies are entries in an immutable and pseudo-anonymous database—known as a blockchain—that no one can change. The blockchain is a public record that is verified by many different nodes, which makes counterfeiting coins extremely difficult or impossible. It also makes it easy to trace any specific transaction between anonymous individual accounts or wallets.

Government Responses -

The official response to cryptocurrencies has been lukewarm at best across central banks and financial institutions. While there are some organizations that have been supportive of the cryptocurrency, many central banks remain cautious given the market's extreme volatility.

- **United States Federal Reserve:** U.S. Federal Reserve Chairman Jerome Powell believes that technical issues remain and governance and risk management will be crucial before cryptocurrencies become part of mainstream society.
- **People's Bank of China:** The People's Bank of China believes that conditions are "ripe" to embrace cryptocurrencies, but the central bank wants full control and authorities are cracking down on the cryptocurrency ecosystem in the country.
- **Bank of Japan:** The Bank of Japan doesn't see a market for cryptocurrencies.

Impact on Global Investments-

Cryptocurrencies offer an easy-to-use, digital alternative to fiat currencies, but for now, cryptocurrencies are not direct contenders with centralized currencies or the traditional stock market, but something that coexists alongside these traditional markets, just as gold does. Some experts have expressed concerns that the inclusion of highly volatile cryptocurrencies into diversified portfolios exposes global markets to high risks in the event that cryptocurrency prices crash, similar to how mortgage-backed-securities sparked a wide-scale financial crisis in 2008. But cryptocurrencies are still a tiny fraction of the world's financial assets (about 0.2% of the world's broad money supply) and it's unlikely that their crashing would have any effect on global markets.

Another way that cryptocurrencies are beginning to show their hand as a vehicle for change is their adoption by companies with publicly traded stocks and the fact that the market is rewarding these companies for their adoption. Cryptocurrencies are beginning to be seen by the public as cutting-edge technology and the market is demanding that forward-thinking companies tie themselves to cryptocurrency.

Types of Cryptocurrencies-

The use of cryptocurrencies has skyrocketed since the launch of Bitcoin. Though the exact numbers of the active currency fluctuate and the values of these currencies are subject to high volatility, the overall market value of all active cryptocurrencies tends to generally increase. The major ones are -

1. Bitcoin 2. Litecoin 3. Ripple 4. Ethereum 5. Dogecoin 6. Zcash

Benefits-

1. Decentralized Valuations-

There are no central banks to randomly change the valuations of bitcoins. Thus, there are no geopolitical influences on bitcoin rates.

2. High Leverage-

Experienced traders can use the high leverages offered by the forex brokers for bitcoin trades ranging up to 1000.

3. No Transaction Costs-

There is no transaction costs involved in bitcoin trading, even for global transfers. This is so because there is no involvement of banks and clearing agencies.

4. Low Cost of Trading-

The brokerage costs are kept very low by the forex broker's that accept cryptocurrency in order to attract new bitcoin traders

5. Security-

Bitcoin trading holds a massive advantage since the traders do not require revealing their bank account or credit card details to depositor to withdraw money.

6. No Global Boundaries-

Global boundaries have been eliminated in bitcoin transactions; a trader from any country can trade forex brokers of other countries

Risks -

1. High volatility of exchange rate-

Since bitcoins trade in multiple exchanges the exchange rates vary significantly.

2. High leverage Risk-

For the newcomers, high leverages are risky and thus they might not comprehend the exposure.

3. Unexpected losses-

Bitcoins being an entire different class altogether has its own valuation mechanism and thus trading forex with bitcoins can project losses in unexpected ways.

4. Prone to Hacking- Despite being a secure way of trading there are chances of broker's digital wallet being hacked.

CHAPTER-2

Studying Major Financial Markets and their regulations on cryptocurrencies

Our research objective here is to identify and try to predict; from the 3 major financial markets i.e. – New York Stock Exchange, Tokyo Stock Exchange and Shanghai Stock exchange; whether cryptocurrencies will be the future way of investment in financial markets or do they need more regulations before they replace a major quantity of fiat money in modern day economies.

1. New York Stock Exchange –

The New York Stock Exchange is an American stock exchange owned by an American company by the name of Intercontinental Exchange (ICE), located at 11 Wall Street, Lower Manhattan, New York City. It is by far the world's largest stock exchange by market capitalization of its listed companies at US$30.1 trillion as of February 2018. The average daily trading value was approximately US$169 billion in 2013.

- ### Impact of cryptocurrencies on the American Dollar -

  While up until now, the US Dollar was termed and perceived as the reserve currency of the global economy, with the rise in the use of cryptocurrencies, the trend might take a toll. The US Dollar lies at the core of the financial web that is spread all over the world. As an example, the 2008 global financial crisis that started in the US spread like wildfire to other parts of the world as far as Iceland.

This centralization and the authority of the US Dollar is being challenged, and at the same time, disrupted by the rise in cryptocurrencies. Financial transactions are being decentralized at a rapid pace with the advent of the most popular Bitcoin and about 1,000 other cryptocurrencies.

The dynamics of International trade can be changed once and for all with the help of cryptocurrencies. There always have been attempts to get the US Dollar off its throne, and the rise in cryptocurrencies might be the last nail.

- **Policies in favor of / against use of cryptocurrencies –**
    - The Intercontinental Exchange, the operator behind the New York Stock Exchange, has announced that it is creating a new company called Bakkt that will hold and manage people's cryptocurrency. The platform will be powered by Microsoft cloud tech and plans to begin with trading and converting bitcoin to US dollars and other fiat (government-backed) currencies as "bitcoin is today the most liquid digital currency."
    - Bakkt represents a significant marker for cryptocurrency. The NYSE and its operator are trusted financial institutions, while cryptocurrency, though it has seen some successes, has been marred by hoaxes and even reports of price manipulation. These problems have been so rampant that in May, the SEC launched a fake initial coin offering in order to warn people against fraudulent cryptocurrencies.
    - While Bakkt should lend legitimacy to cryptocurrency as a whole, bitcoin's price is currently at around $7,500 at the time of writing, far below its nearly $20,000 peak just seven months ago implying its instability as a currency form.
    - Notably, companies like Starbucks have signed up to start accepting cryptocurrency through the network offered by Bakkt, even through Starbucks' mobile app. Earlier this year Starbucks' founder Howard Schultz said blockchain tech had "potential," but at the time the company wasn't interested in bitcoin. "I don't believe that bitcoin is going to be a currency today or in the future," he stated during

Starbucks' quarterly investor call. "I believe that we are heading into a new age, in which blockchain technology is going to provide a significant level of a digital currency that is going to have a consumer application."

- Bakkt says it is preparing for launch and more operational details will be announced in the coming weeks. It plans to begin offering services in November, but will need approval from the US Commodity Futures Trading Commission to introduce futures trading. The US CFTC has been known to crack down on bitcoin scams in the past. However, if all goes as planned, the system could provide a safer, more stable option for bitcoin down the line.

- ## Can cryptocurrencies replace the dollar as the choice for investment in financial markets?

The idea of cryptocurrency, such as Bitcoin, replacing the current legal currency has been highly debated. UBS, a Swiss multinational investment bank, released a report estimating Bitcoin's price would need to hit $213,000 in order to replace the US money supply.

With to the current price of Bitcoin at $7501.89 USD, it would have to rise nearly 28 times to reach the target. Even at the current historical high of $20,052.60 USD from December 17 of last year, it would've had to increase by 9.6 times to meet UBS estimates.

At the same time, Bitcoin's network has to improve its processing power. Bitcoin's current transaction capabilities are limited compared to credit card companies, like Visa. The report also mentioned that UBS believes that Bitcoin is currently too unstable, limiting Bitcoin for global transactions or becoming a mainstream asset class.

Although the report pointed out that Bitcoin is currently unable to enter the mainstream, UBS see's Bitcoin potential to replace the money supply. In recent years, the bank has set up a team to study the use of blockchain technology to issue new digital assets used for trading.

2. Tokyo Stock exchange –

The Tokyo Stock is a stock exchange located in Tokyo, Japan. It is the third largest stock exchange in the world by aggregate market capitalization of its listed companies, and largest in Asia. It had 2,292 listed companies with a combined market capitalization of US$4.09 trillion as of April 2015.

Stocks listed on the TSE are separated into the First Section for large companies, the Second Section for mid-sized companies, and the Mothers (Market of the high-growth and emerging stocks) section for high-growth startup companies. As of October 31, 2010, there are 1,675 First Section companies, 437 Second Section companies and 182 Mothers companies.

- ## Impact of cryptocurrencies on the Japanese Yen -

The impact of cryptocurrencies on the Yen has 2 contradicting sides -

A. Most payments in the world's third largest economy involve paper bills and metal coins. That means the country also has a lot of ATMs—probably over 200,000—as well as cash registers and fleets of vehicles for moving money around. It all adds up to an estimated $18 billion a year in costs, most borne by the financial industry.

Next year, hundreds of thousands of foreign visitors—most from countries where credit cards and digital payments are second nature—will descend on Tokyo for the Olympics. They're expected to spend billions of dollars during the event, and Japan's financial system simply isn't equipped to handle it. Hundreds of millions could be left on the table.

Prime Minister Shinzo Abe says he wants 40% of payments to be cashless by 2025. In August, the government announced plans to offer tax breaks and subsidies for companies that get on board. And while everything from credit card payments to transactions using QR codes would qualify, some of the country's biggest financial players think the way to wean Japan off cash lies in the technology that runs Bitcoin.

Mitsubishi UFJ Financial Group (MUFG), the country's largest bank and the fifth largest in the world by total assets, has teamed with American internet company Akamai to build a blockchain-based consumer payment network in time for the Olympics. If they pull it off, it could be the fastest and most powerful consumer payment network to date. They claim that in tests it's been able to handle more than a million transactions per second, with each transaction confirmed in two seconds or less, and say it could eventually achieve 10 million transactions per second. (Visa's credit card network, by comparison, handles several thousand transactions per second. Bitcoin tops out at about seven transactions per second, and each transaction can take up to an hour to confirm.) The system is designed to handle all kinds of payments, from automated highway tolls to payment-card swipes to in-app purchases.

MUFG, which has also tested its own crypto-token, is far from alone. Mizuho Financial Group, a large holding company, has been experimenting with blockchain technology for several years as part of a project dubbed "J-Coin" and plans to release its own digital currency for retail payments in March. SBI Holdings, a big financial-services firm, says it's building its own token, also for retail payments, called S Coin.

The wager all these companies are making is that Japan's society is primed to start using digital cash. It is relatively technologically savvy, cryptocurrency trading has been uniquely popular in the country for years, and Japan's financial regulators are more familiar with blockchain technology than any others in the world. With the government's pressure to go cashless, and little competition from credit cards and other forms of e-payment, Japan could leapfrog the technology underlying today's electronic payment networks and go straight to blockchains.

If the experiment works, the country's economy might be remade. Everything from huge transactions between banks to small retail purchases could be carried out with barely any delay and at a fraction of the current cost; even today's credit cards would be slow and expensive by comparison.

In the process, Japan will become the world's biggest test bed for the decade-old idea that a cryptographic ledger and a network of computers can be used to create an electronic form of cash. It might even regain its position as a global leader in both finance and technology—a status it hasn't enjoyed for decades.

B. However, as we're aware Japan's economy is regulated by a negative rate policy, under which financial institutions are required to pay interest for parking excess reserves with the central bank.

That way, central banks penalize financial institutions for holding on to cash in hope of prompting them to boost lending.

The Bank of Japan adopted a negative rate in January 2016, mostly to fend off an unwelcome yen spike from hurting an export-reliant economy. It charges 0.1 percent interest on a portion of excess reserves financial institutions park with the BOJ.

The issue comes down to the fact that, if the Bank Of Japan issues a digital yen and set a negative interest rate, individuals and businesses would effectively be charged for holding the CBDC. As a result holders would drop the digital coin and instead hold cash, rendering the introduction of digital/cryptocurrencies to be useless.

- **Policies in favor of / against use of cryptocurrencies –**

Japan is an interesting case-study of cryptocurrency regulation as the country has suffered the two biggest exchange hacks in history - that of Mt. Gox and Coincheck. Thus, when the Japanese government intervened and started cracking down heavily on exchanges, it could not be called surprising.

As of 31st March 2018, Japan recorded 3.5 million active cryptocurrency traders and marked one of the most active countries in the global cryptocurrency space. Japan was the first country to regulate cryptocurrency trading after experiencing hack cases such as Mt.Gox and Coincheck that incurred $450 million & $530 million respectively. The country has since adopted a progressive regulatory policy, hoping to give appropriate guidance without impeding technology and innovation.

FSA further tightening their due-diligence effort had led to 13 of the tentatively approved exchange providers giving up their plans to become registered operators because they were unable to meet the high standards demanded. Though legalization was formed, Zaif's hack pushed FSA to create a new regulatory framework including measures which were not addressed in existing laws. Some mentioned are a self-regulatory advisory body (JVCEA), deemed dealers, hack security countermeasures and the possible subjection of ICO to the securities regulation.

Exchanges

Cryptocurrency exchange regulations in Japan are similarly progressive. Exchanges are legal in Japan, but after a series of high profile hacks, including the notorious Coincheck heist of $530 million in digital currency, crypto regulations have become an urgent national concern. Japan's Financial Services Agency (FSA) has stepped up efforts to regulate trading and exchanges: amendments to the Payment Services Act now require cryptocurrency exchanges to be registered with the FSA in order to operate – a process which can take up to six months, and which imposes stricter requirements around both cyber security and AML/CFT.

Future Regulation

Japan remains a friendly environment for cryptocurrencies, but growing AML concerns are drawing the FSA's attention to further regulatory steps. Following talks between exchanges and the FSA, an agreement to form a self-regulatory body –

the Japanese Virtual Currency Exchange Association (JVCEA) – was put in place. The JVCEA will provide advice to as-yet unlicensed exchanges and promote regulatory compliance.

- ## Future of cryptocurrencies in Japanese Financial Markets-

Although the cryptocurrency market has been tumbling toward the end of 2018, the number of blockchain companies and projects is on the rise in Japan.

Markets -

Key points and notable facts:

1. Japan has a very exchange-heavy ecosystem and most successful cryptocurrency-related companies in Japan are exchanges.
2. In 2017, Japan was the leading force for cryptocurrency trading and speculation in the world after its becoming first nation to officially regulate cryptocurrencies.
3. Since then, however, due to two major hacking incidents at Coincheck and Zaif as well as bitFlyer's suspension of new registrations, regulatory requirements have become much more strict and costly and the trading environment and sentiment has suffered greatly as a result.
4. Also, ICOs in Japan have been practically banned or suspended for the time being.
5. Cryptocurrencies or tokens that are allowed to be officially traded and sold to the public in Japan are limited (so-called white list systems) and the list of those coins is maintained and updated by the industry association appointed by FSA.

Protocols and Applications -

Key points and notable facts:

1. Although the number and the relevance of non-exchange blockchain startups and projects have been traditionally weaker compared to exchanges, more companies and projects have been started in Japan, particularly in 2018.

2. Right now, one of the most popular fields is wallet development and the next upcoming category seems to be crypto gaming utilizing non-fungible tokens.

3. Blockchain infrastructure and protocol development have not been the forte of Japanese crypto companies but Nayuta is one of a few companies actively involved in protocol development of Lightning Network on Bitcoin. Other such companies include Layer X, chaintope and Cryptoeconomics Lab and they are active in protocol development and research on Bitcoin, Ethereum, and other newer blockchains.

3. Shanghai Stock exchange –

The Shanghai Stock Exchange (SSE) is a stock exchange that is located in the city of Shanghai, China. It is one of the two stock exchanges operating independently in the People's Republic of China, the other being the Shenzhen Stock Exchange. Shanghai Stock Exchange is the world's 4th largest stock market by market capitalization at US$5.5 trillion as of April 2018. Unlike the Hong Kong Stock Exchange, the Shanghai Stock Exchange is still not entirely open to foreign investors and often manipulated by the decisions of the central government. This is due to tight capital account controls exercised by the Chinese mainland authorities.

- **Impact of cryptocurrencies on the Chinese Yuan-**

Trade tensions between the United States and China and a weakening yuan are boosting demand for cryptocurrencies among Chinese investors.

Exchanges, researchers and brokers told Reuters they have seen an uptick in activity at crypto trading venues popular with Chinese. They said over-the-counter (OTC) brokers, who act as middlemen for buyers and sellers, have seen much of the activity.

Measuring crypto trading volume in China or elsewhere is highly difficult. While digital wallets used to send and receive coins can be tracked on the blockchain technology that underpins most coins, the geographical location of senders cannot. And the Chinese government’s 2017 ban on crypto platforms means there is little data on the sector in the country.

Still, the impact of the U.S-Sino trade war on China’s economy and its falling currency are driving some larger investors to shift money from the yuan to cryptocurrencies, said Andy Chung, head of operations at OKEx, a Malta-based platform popular among Chinese.

China’s economy has been hit by simmering trade tensions between Washington and Beijing. Data on Wednesday showed the slowest growth for Chinese industrial output in 17 years, suggesting tariffs are impacting demand in the world’s second-largest economy.

And last week, China allowed the yuan to break through the key 7-per-dollar level for the first time since 2008, prompting Washington to label Beijing a currency manipulator and upsetting markets.

The yuan’s sharp fall on Aug. 5 coincided with a 7% gain for bitcoin and a 9% surge in cryptocurrencies’ market capitalization, leading analysts to speculate that some Chinese investors were selling the yuan and buying digital currencies.

“People worry about not just the yuan but the overall economy in China. We see a lot of internet companies freezing hiring, and they are actually laying off people already because of the trade war,” said Chung, who is based in Hong Kong.

China maintains heavy capital controls, leaving few options for Chinese people seeking to move money offshore. That means cryptocurrencies are, in theory, an attractive vehicle for moving assets out of China.

- **Policies in favor of / against use of cryptocurrencies –**

Cryptocurrency-related activities have received little tolerance from the Chinese government. Initial coin offerings (ICO) were banned in China in September 2017. Exchange platforms that traded cryptocurrencies or provided facilitation services were also ordered to be closed following the crackdown on ICOs. Many exchanges chose to relocate to jurisdictions that are more favorable to cryptocurrencies than China. However, organizers and promoters of overseas ICOs and exchanges may not be free from the long arm of jurisdiction of Chinese criminal laws if those persons are Chinese citizens, or if Chinese investors have invested in overseas ICOs or traded cryptocurrencies on overseas exchanges.

Interestingly, it is not illegal to hold Bitcoins and other cryptocurrencies, or even to buy or sell them in China. The Chinese government also encourages the development and application of blockchain technology, but has made it clear that blockchain technology must service the real economy.

China’s policy on ICOs

On 4 September 2017, seven government agencies of China, i.e. the People’s Bank of China (PBOC), the Central Cybersecurity and Information Technology Lead Group of the Communist Party of China, the Ministry of Industry and Information

Technology, the State Administration for Industry and Commerce, China Banking Regulatory Commission, China Security Regulatory Commission and China Insurance Regulatory Commission, jointly issued the Notice regarding Prevention of Risks of Token Offering and Financing. The notice banned all ICOs in China and ordered that any organizations or individuals who had previously completed an ICO to make arrangements including the return of token assets to investors to protect investor rights.

To understand this harsh attitude, we have to look at the big picture of China's economy and financial market. In the past 20-plus years, China has enjoyed rapid economic development which, many believe, came at the cost of high leverage in the financial system and accumulation of financial risks. In the past two years, control of financial risks and stabilization of the financial system has become the top priority of the PBOC. Before ICOs, internet platforms providing P2P loans and micro lending had been targeted by the PBOC and other financial regulators, and are still in the process of cleansing and rectification. It is no surprise that ICOs, due to the sheer increase both in numbers and the amount of funds raised, as well as some socially chaotic events caused by ICOs, received the death sentence from the PBOC.

ICOs in the eyes of the PBOC

In the notice, an ICO was described as a process by which fundraisers distribute digital tokens to investors who make financial contributions in the form of cryptocurrencies such as Bitcoin and Eethereum. The notice further pointed out: "By nature, it is an unauthorized and illegal public financing activity, which involves financial crimes such as illegal distribution of financial tokens, illegal issuance of securities and illegal fundraising, financial fraud and pyramid scheme."

Among the crimes mentioned in the notice, illegal fundraising, which generally means raising funds without government approval, is a crime that has been widely used in cracking down on undesirable financial activities, as the scope of the crime can be interpreted very broadly.

It should be noted that even ICOs outside China are not completely safe if they attracted Chinese investors. According to article 6 of the PRC Criminal Law, if any of the criminal activities or results of such activities occurred in China, the crime is deemed to have occurred in the territory of China. If the ICO involved financial crimes based on Chinese criminal law standards, the promoters or organizers of those ICOs may potentially be subject to Chinese criminal liabilities if they are Chinese citizens. Even if they are not Chinese citizens, if overseas ICOs attracted Chinese investors, they may still potentially be subject to Chinese criminal liabilities.

China's policy on exchanges

The notice also targeted cryptocurrency exchanges and ordered that any so-called fundraising and trading platforms must not:

- Offer exchange services between fiat currency, tokens and virtual currencies;
- Buy or sell tokens or virtual currencies, or buy or sell virtual currencies as a central counterparty (CCP); or
- Provide price determination or information intermediary services for tokens or virtual currencies.

In the several months following the notice, most of the cryptocurrency exchanges closed down their platforms in China but continued exchange business through platforms registered in foreign jurisdictions that seemed more favourable to the exchange business than China.

- ## Future of cryptocurrencies in China's Financial Markets-

In the several months following the notice, most of the cryptocurrency exchanges closed down their platforms in China but continued exchange business through platforms registered in foreign jurisdictions that seemed more favourable to the exchange business than China.

They also made adjustments to their business models. To avoid direct confrontation with Chinese monetary authorities, some exchanges no longer provided exchange services between fiat currency and cryptocurrencies. Some chose to introduce a new token (such as USDT, QC, etc.) to their platforms, which have value equivalent to the value of fiat currency, as an intermediary between fiat currency and cryptocurrency. Investors may use fiat currency to buy this new token and then use this new token to buy cryptocurrency.

Further, many exchanges launched peer-to-peer trading platforms that support direct transactions between investors without the exchange acting as a CCP. On those platforms, one investor can buy cryptocurrencies from another investor and pay the seller via bank transfers, Alipay or Wechat pay.

These modified business models are not entirely safe from Chinese criminal law perspective. Although major exchanges have been relocated overseas, they may still be subject to Chinese criminal liabilities. If the founders or managers of an exchange are Chinese nationals, or they make decisions in China to operate the overseas exchange, or the investors are in China, or if the exchange performs prohibited functions, Chinese justice authorities will still have jurisdiction over those persons.

Access to overseas exchanges -

To further prevent Chinese investors from purchasing and trading cryptocurrencies on overseas exchanges, China has blocked internet access to the websites of some overseas exchanges. According to Chinese law, no person should use the internet to view information that violates Chinese laws and regulations.

Those who access overseas exchanges via virtual private networks (VPNs) may potentially face risks if the exchanges contain prohibited information. In January 2017, the Ministry of Industry and Information Technology ruled that only authorized VPNs could be used in China. The sale or provision of VPN services by companies or individuals without telecom licences issued by Chinese telecom authorities became illegal.

In view of China's harsh attitude towards ICOs and cryptocurrency exchanges, some may assume that it would be illegal for Chinese to hold or trade Bitcoins or other cryptocurrencies.

This is not correct. There is no PRC law or regulation that prohibits Chinese investors from holding cryptocurrencies, or from trading cryptocurrencies.

This seems consistent with an early notice jointly issued by five Chinese government agencies, led by the PBOC, in 2013, which defined Bitcoin as a special virtual commodity, but not a currency. That notice also explicitly provides that Bitcoin does not have legal status as a currency and should not be circulated and used in the market as a currency. This should still be the position taken by the PBOC today.

Article 127 of the General Rules of the Civil Law of China, which took effect on 1 October 2017, provides that: “In case laws have provisions on the protection of data and internet virtual properties, such laws should be complied with.”

Some experts believe that this means that one of the basic laws in China recognizes the legal status of cryptocurrencies as virtual property.

CHAPTER-3

Analysis of the studied financial markets to determine scope of cryptocurrencies in the economy and determining viability of cryptocurrencies in today's era

What Makes The Markets Tick?

There are certain types of news events that affect the markets both negatively and positively when the market correlation is low, specific types are news usually cause and upward or downward trend in cryptocurrency prices.

Regulations: Governments all over the globe are beginning to come to recognize cryptocurrencies as either legal assets or actual currencies and are thus classifying and experimenting with regulatory measures for the fledgling asset class. Regulatory moves in crypto's largest markets are bound to set prices off. Regulatory moves that would restrict the use of digital assets are usually taken badly by the market, whereas more crypto-friendly regulations tend to trigger positive price movements.

Security Breaches: The digital assets sphere is notorious for security breaches by teams of hackers who make off with large amounts of money. The highly speculative state of cryptocurrency markets usually sends prices from support level to support level when news of a wallet of currency exchange being hacked begins to spread.

Current Affairs: With More sophisticated investors entering the digital assets space, political and financial news will likely play a bigger role in influencing digital asset prices as more people begin to hedge into crypto to protect their value from the uncertainty presented by traditional systems.

The Real-world Impact of Virtual Money -

While Cryptocurrency and its usage is at an all-time high, so are the misconceptions about it. Most people still seem to ask - Why use Cryptocurrency? Since such currencies use different algorithms and are traded in unconventional ways, it is important to lookout for some important characteristics before investing in Bitcoin or others of its ilk. This includes –

- ### Daily Trading Volume and Overall Market Capitalization -

  Market capitalization of a cryptocurrency is the total worth of all its forms which are currently in circulation. New forms of Cryptocurrency might not be widely available, and therefore might not have high market capitalization. Similar to this is the daily trading volume, and a cryptocurrency which has higher trading volume than the others is considered more successful.

- ### Verification Channels -

  Each cryptocurrency has its own verification method. One of the most common methods for verification is called "Proof of Work". Herein, to verify a transaction, a computer has to spend time and computing power to solve difficult mathematical problems. On the other hand, "Proof of Stake" method allows users with the largest share of the cryptocurrency to verify the transactions, which requires far less computing power.

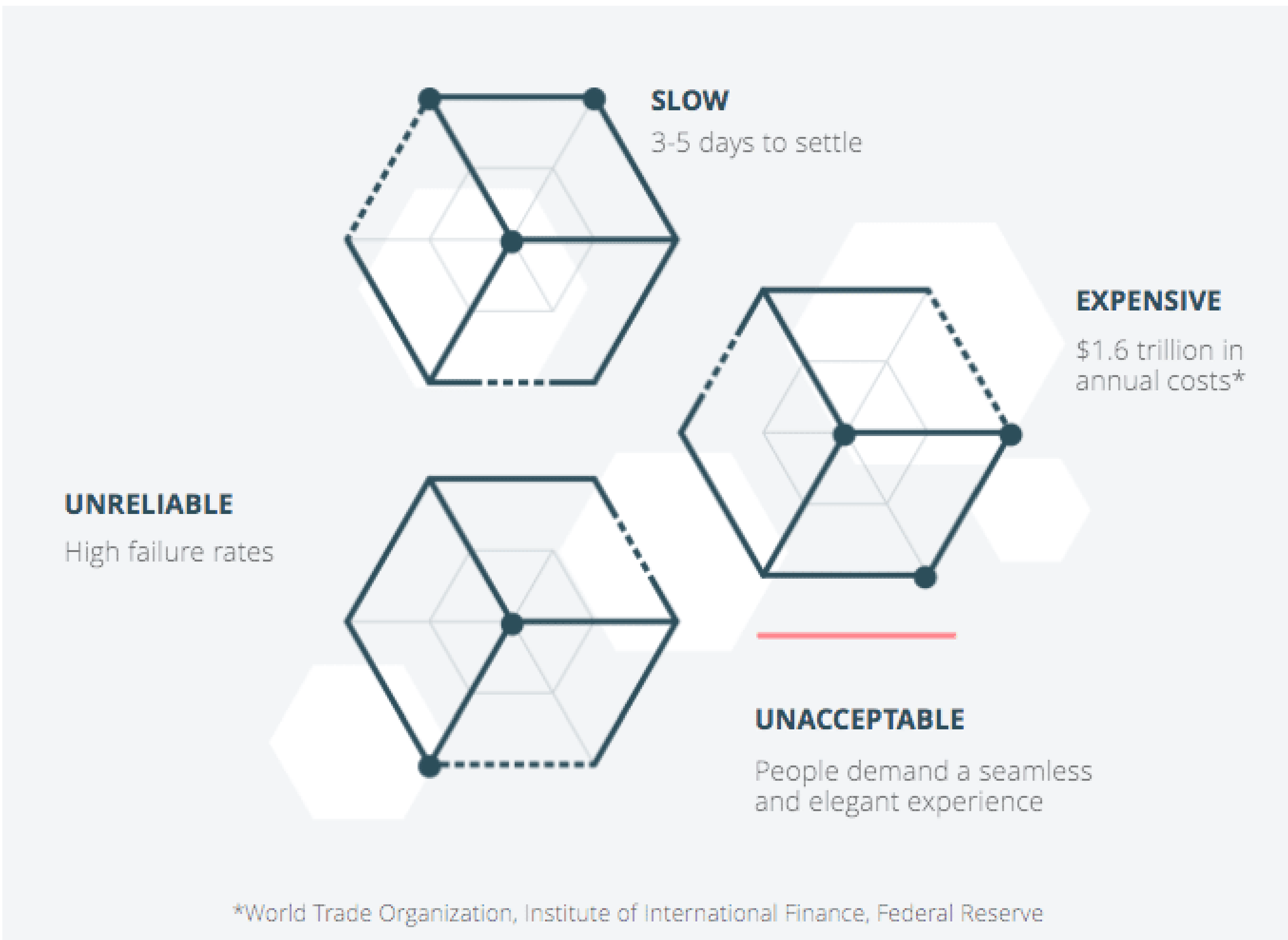
- ### Acceptance of Cryptocurrency -

  Unless a cryptocurrency is not accepted by major retailers or other businesses that you deal with, it doesn't stand much use. That is why Bitcoin still remains the most popular form of digital currency, since its reach is widespread and is accepted by many businesses and retailers alike.

- Existing Institutions Operate More Efficiently -

With products already available, some cryptocurrencies, most notably Ripple and Stellar, are working with existing institutions to make their systems more efficient.

The Ripple Transaction Protocol (RTXP) is a network of financial institutions on the blockchain. Any company using the protocol can transact with any other participant at a fraction of the time and cost it would take in a traditional system. This is especially ideal for global payments which can typically take 3-5 days and cost participants $1.6 trillion annually.



Started by a Ripple team member, Stellar is making a similar impact on the financial industry. The project has joined forces with IBM to also facilitate better cross-world payments. Some Stellar supporters argue that the project's token economics lead it to be a more decentralized solution than its counterpart, Ripple. However, there's room for both in a massively interconnected world.

- You Have Full Control of Your Money -

One of the greatest values that blockchain brings to the financial industry is monetary control. With this technology, you no longer have to trust a bank with your money. It's stored on an immutable ledger that's nearly impossible to manipulate or hack.

Really, any upcoming cryptocurrency serves this purpose. With them all using blockchain technology (or something similar), your faith is in the coin's open-source code rather than any corruptible institution. With cryptocurrency, it's impossible for someone to freeze your funds or tell you where and when you can spend your money.

Your wallets, private keys, and funds are entirely in your control. This is rule number one for any reputable cryptocurrency.

- Transactions are Truly Peer-to-Peer -

Blockchain technology also eliminates the need for middlemen in transactions. And, there are plenty of upcoming cryptocurrencies using that feature for good use. The big players like Bitcoin and Litecoin specialize in these types of transactions, but there are some smaller projects you should be aware of as well.

Nano has gained some popularity for its lack of fees and near instantaneous transaction times. Because Nano uses the directed acyclic graph (DAG) algorithm instead of a typical blockchain, the network becomes more efficient when more people are using it. Although not as battle-tested as big boy Bitcoin, the cryptocurrency could have a promising future for free peer-to-peer payments.

Another project, Request Network, is expanding beyond simple peer-to-peer payments by building a Paypal-like blockchain interface. Using their platform, you send and request money while avoiding third-party intermediaries. But, the team isn't stopping there. They've created an entire mind map for all of the ways they want to change the financial industry. Crowdfunding, payments, point-of-sale – the team is attempting to fix it all.

- More People Have Access to Banking Services -

Most importantly, upcoming cryptocurrencies are bringing banking services to the 2 billion people around the world without banks. Whether they can't afford it, they don't qualify, or the countries they live in are lacking in banking institutions, this group of people is commonly underserved.

Many upcoming cryptocurrencies are making bank services more affordable and more available to the unbanked. With Stellar, financial institutions can afford to offer low-cost accounts as well as loans with more favorable interest rates. Now, a business owner in a developing country can more easily get a loan, stimulating the economy in the process.

Even cryptocurrency exchanges are having an unlikely effect on the financial industries of unbanked nations. For example, Binance recently announced an initiative to transform and improve Uganda's economic landscape. They'll be doing so by proving youth employment through blockchain.

- ## An Entire New Financial Infrastructure Could Exist -

Moving past traditional financial structures, it's even possible that a new technological infrastructure will be powering the entire financial sector soon.

Wanchain is just one project attempting to build finance from the ground up. Instead of tying into the current infrastructure, they're building their own. Their goal is to create an entire blockchain-based ecosystem in which anyone can build financial services on. Wanchain's success could mean that physical banks disappear, becoming (decentralized apps) apps on the blockchain instead.

- ## This is Just the Beginning –

Blockchain technology is already beginning to have a massive effect on the financial industry. With established cryptocurrencies like Bitcoin, you get a secure store of value, trustless peer-to-peer payments, and complete monetary control.

Other upcoming cryptocurrencies are making significant impacts as well. Beyond digital transactions, newer projects are specifically focusing on helping the unbanked, making blockchain technology more scalable, and providing functional interfaces.

As these and more cryptocurrencies continue to improve the finance sector, it won't be long before our current financial infrastructure is a thing of the past.

The Future?

An increase in parallel trends between the stock market and cryptocurrencies market is likely if the, highly anticipated, institutional investors come flooding into digital assets. For now, any correlation between the markets is mostly based on sentiment as opposed to facts, according to Blockforce. If market correlation increases, warns Blockforce, then cryptocurrencies could lose their appeal.

“One of cryptocurrency’s historical advantages has always been the absence of correlation to fiat investment classes. If correlation were to increase on a sustained basis, it would make crypto a far less attractive investment.” opines Tim Enneking, managing director of Digital Capital Management on the matter and others, seem to be of a different opinion regarding the correlation between equity and cryptocurrency markets. They believe Bitcoin’s volatility could make it a useful indicator of market crashes as the riskiest assets are usually first to experience a price tumble.

Conclusion

There appears to be less and less of a correlation between cryptocurrency markets and equities markets over time however, as analysts have observed. This is likely due to a sharp drop in digital asset market volatility as the speculative traders that once thronged crypto trading portals have all but disappeared.

Crypto/Stock market correlation is down in 2019. Cryptocurrency markets have been taking their cues from the news coming out of Asia since the US government shutdown in January and appear to be dancing less to the S&P 500 Index’s tune of late. So to answer the question of whether or not there is a correlation between the traditional stock market and cryptocurrencies, the short answer is yes, no…sometimes. It seems to depend mostly on market sentiment and market correlations tend to be higher over the short term than the long term.

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