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Концепцията за криптовалутата и падението на банковия сектор в отражението на финансовия пазар

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The Concept of the Cryptocurrency and the Downfall of the Banking Sector in Reflecting on the Financial Market

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Резюме: Тази статия има за цел да обясни концепцията за криптовалути като Bitcoin, Litecoin и други, да обсъди техните предимства и недостатъци и как се отразява на финансовия пазар и върху другите валути, които са приети във всяка държава, като нас долар и евро и лирата и така нататък (фиат валути). Тази статия ще обсъди основната промяна, която би настъпила, ако или когато криптовалутите бъдат приети в световен мащаб, когато криптовалутата стане кой ще се възползва от

Abstract: This paper aims to explain the concept of Cryptocurrencies such as Bitcoin, Litecoin and others, discuss their advantages and their disadvantages, and how is reflecting on the financial market and on the other currencies that are adopted in each country, like us dollar and the euro and the pound and so on (fiat currencies). This paper will discuss the major change that would occur if or when cryptocurrencies get adopted worldwide when the cryptocurrency becomes the who will benefit from this change and who will cease to exist, and what would this change

тази промяна и кой ще престане да съществува и какво би означавала тази промяна за банковия сектор и къде е тя ще напусне този сектор. Може ли да го унищожи или да бъде партньор с него? Всичко зависи от това как този сектор ще се справи с тази промяна, когато това се случи, защото това ще се случи рано или късно.

mean to the banking sector, and where is it going to leave this sector. Could it destroy it or be a partner with it? It all depends on how this sector will handle this change when it happens because it will happen sooner or later.

КлючовиДуми: КРИПТОКОЛУРА, БИТКОЙН, ЛИТЕКОЙН, ФИНАНСОВ ПАЗАР, БАНКОВ СЕКТОР, ФИАТ ВАЛУТИ.

Key Words: CRYPTOCURRENCY, BITCOIN, LITECOIN, FINANCIAL MARKET, BANKING SECTOR, FIAT CURRENCIES.

Introduction

A cryptocurrency is a form of currency but not like modern tangible currencies. It is an online currency that can be used almost to do anything like any other currency like the US dollar or Canadian dollar etc., and it operates like any currency [2]. It differs in that it cannot be carried around. This is why it is also known as virtual currency that operates in an electronic form and independently from central banks. Cryptocurrency is a recent phenomenon that is receiving significant attention. On the one hand, it is based on fundamentally new technology, the potential of which is not fully understood [1]. On the other hand, at least in the current form, it fulfils similar functions as other, more traditional assets. This new concept of currency came along with many pros and cons; it will be a huge challenge to current currencies and would bring a huge change to the financial market, do understand how this currency operates, we need to figure out what return does it give us, does it give us returns like any other currency operates? The higher the risk, the better the return? Could it be a new investment opportunity or just another idea passing by and failing later? What does this mean to the banking sectors if this currency is legalized? [7] The basic idea behind Bitcoin is to use a combination of public-key cryptography and peer-to-peer networking to create a virtual analogy of gold, that is to say, a substance that is scarce (if not finite) and fungible. The digital world is a huge world with a lot of complex information [13]; we are at an era where even the currencies are becoming digital; yes, you can own a digital wallet with digital currencies to pay for your service and goods in a digital transaction, this might be the new trend in this era, or might not, but giving the huge form of change that this represents, this research will be aiming to ease it up a little and summarize what does all this non-sense mean and why would it concern us and what would it mean to us individually and what would it mean to the banks in general [14].

Research Statement

The basic concept of the whole cryptocurrency idea was to have an advanced digital currency that can have transactions with no limit, to be able to trade anonymously, to have minimum fees in these transactions [12]. A cryptocurrency is a form of electronic cash backed by mathematical and cryptographic constructs, unlike traditional currency, which was historically backed by gold or silver. Since 2008 when Satoshi Nakamoto proposed Cryptocurrency for the first time, and until now, cryptocurrencies have been rising in popularity, and part of this huge rise is due to the anonymity of these transactions, now the problem we are addressing in this paper is the fact that if cryptocurrencies do not get adopted by central banks as a legalized currency in the financial market, it could lead to a disaster in the banking sectors, it can be controlled, not fully controlled but it will be the cause of a huge downfall and crisis in the banking sector. This huge change would have a lot of ups in down in the long way it would be running to reach its goal, some people might not accept this change and resist it, some might be open to it, a lot of gaps can be argued about in this incoming change, and the most fearsome one is where will this digital currency leave the banking sector at [16].

Research Question

The questions that summarize the objective of our research:

- How does Cryptocurrency operate, and is it trustworthy?
- What different types of cryptocurrencies exist, and what is the difference?
- How does this digital currency affect other modern currencies?
- Could Cryptocurrency affect the banking sector? In what way?

Research Objective

This research will explain the whole concept of cryptocurrencies, how it operates, how safe is it, can we trust it easily or not, why is it rising, why is it a danger to the other currencies and how would it affect the banking sector. How would people react to this change, and how can we provide them with the information needed to trust this new change [17]. It will also explain the difference between different types of Cryptocurrency; we will explain and analyze the birth of a major cryptocurrency called Bitcoin, how it began, how it operated through the years and where it is now and what would an investment in Bitcoin back then brought us today, was it a win or a loss and all the necessary material to make it easy to understand the importance of this digital currency and why it could be the new currency adopted worldwide, as shown in table 1 [18].

Table 1. Time Table

Schedule	Month 1	Month 2	Month 3	Month 4	Month 5
Outline of the research	■				
Discussion on the outline with supervisor	■				
Decide research topic	■				
Decide research problem	■				
Discussion of a problem with a supervisor	■				
Preparation of proposal	■	■			
Feedback		■			
Introduction of the research		■	■		
Literature review				■	
Discussion with the supervisor				■	
Collection of data					■
Analyzing results					■
Discussion					■
Conclusion					■

Literature Review

Conceptual Definition

The little things we need to know about Cryptocurrency is that it is an internet currency, a digital currency, it is medium of exchange [15]. It uses cryptographical functions to make financial transactions. The analysis of encrypted communication methods enables only senders and destinations of a message to access their information. The concept comes from the Greek word kryptos, meaning secret [19]. It is directly related to encoding, which is the scrambling of regular texts and then returns upon entry. Also, cryptography covers the obfuscation of information in images using techniques such as microdots or merging [20]. The use of this cryptography is to encrypt and decrypt everything from buyer to seller for a safe transaction; however, if the transaction or message is interrupted, it means the third party is interrupting it has everything they need to read or make illegal activities [21]. The most unique and important feature that Cryptocurrency has is that it operates without any control of central authority; the decentralized nature of the blockchain used by Cryptocurrency makes it immune to any kind of government control or disturbance [22]. Blockchain is a technology that allows the existence of digital currency, and this currency uses encryption techniques to control how many monetary units are being created and to allow or verify every transfer of money. In the easiest words, blockchain can be defined as a transactional records system that ensures encryption, accountability and decentralization [3]. You may also see it as a sequence of documents held in blocks that have no authority power. A blockchain is a spreadsheet and is fully accessible to everyone on the network. When a piece of knowledge is stored on a block-chain, modifying or changing it is incredibly complicated [4].

Cryptocurrency and Fiat Currencies

When we say fiat currencies, we refer to currencies like the euro and the US dollar and the Australian dollar; in fact, most of the world currencies are considered in one way or another fiat currency [5]. Fiat currency, also known as fiat money, is the opposite of commodity money. The difference between fiat money and commodity money relates to their intrinsic value. Historically, commodity money has an intrinsic value derived from the materials it is made of, such as gold and silver coins [23]. Fiat money, by contrast, has no intrinsic value. It is essentially a promise from a government or central bank that the currency can be exchanged for its value in goods. Following is a self-made table 2 comparing Cryptocurrency and fiat currency [6].

Table 2. The comparison of Cryptocurrency

Fiat Currency	Cryptocurrency
The physical medium of exchange	Digital medium of exchange
It is represented by coins and bills	Represented by codes, one public code and one private code
Unlimited supply, produced by government	Limited supply, each type of Cryptocurrency has a maximum set
Issued by government and central banks	Produced by computers
Centralized, controlled by central banks and laws	Decentralized, not controlled by any government of anything
Value determined by the market regulations	Value determined by supply and demand

Different Types of Cryptocurrencies

In this part, we will focus on the most common cryptocurrencies with a brief introduction of bitcoin and the difference between the major or most known cryptocurrencies and a brief explanation of mining [11].

Bitcoin

Bitcoin is the first Cryptocurrency, a digital currency created in January 2009, created by Satoshi Nakamoto, whose real identity is still a mystery [10]. Bitcoin is the most known and most popular, and most successful Cryptocurrency out there. Bitcoin doesn't suffer inflation and deflation because there is a certain number limit for the number of bitcoins ever to exist, its 21 million bitcoins, they offer low to no transaction fees, federal banks cannot manipulate bitcoin. Most importantly, it does not require a bank account [9]. Bitcoin is a digital currency (also called crypto-currency) that is not backed by any country's central bank or government. Bitcoins can be traded for goods or services with vendors who accept Bitcoins as payment [8].

Other Cryptocurrencies

Many new cryptocurrencies began to show up other than bitcoin, like Litecoin, Peercoin, Ruppel and others; they aimed to write the wrongs that bitcoin did overtime, maybe offer what bitcoin couldn't [24]. Many altcoins such as Litecoin and Peercoin have been designed to counter Bitcoin's failings. These altcoins only draw a few customers in the early years. However, recent times as people have shifted their opinion of the digital currency, penetration into the digital currency sector has risen, and people have started investing in various digital currencies since that period. Bitcoin was the best-known cryptocurrency, and then Litecoin, the second best-selling digital currency [25].

Litecoin

On October 7, 2011 Litecoin was formed and there is 84 million Litecoin in total. It's an alternative to Bitcoin built on the same model produced former Google engineer Charlie Lee; like Bitcoin, the core premise is that it helps you to make transfers internationally without central or central bank oversight. Litecoin was introduced as the "silver" for Bitcoin's "gold" and since it began has been very common. The internet money of Litecoin is peer-to-peer [26-38]. It is an open source, distributed payment network completely decentralized. Litecoin was built over the years to strengthen Bitcoin's vulnerabilities and attracted interest from business and large volume of exchange and liquidity [39-56].

Peercoin

Peercoin is another popular cryptocurrency, although the difference is that it has no cap from Bitcoin and Litecoin [57-65]. Miners won't have to think about mining all the Peercoin one day. Peercoin is an alternate cryptocurrency introduced by Bitcoin in August 2012. The PPCoin, Peerto-

Peer Coin, and P2P Coin are also known as Peercoin 65-72]. It is one of the leading market capitalization cryptocurrencies. Peercoin is the first digital currency to use a hybrid of proof-of-stake and proof-of-work development by software developers Sunny King (a pseudonym) and Scott Nadal [72-79]. The majority of altcoins have a tendency to tackle alleged deficiencies in Bitcoin. Peercoin aims at high energy demand in Bitcoin and seeks to have greater protection and energy efficacy.

Pi Coin

A pi is a new form of Cryptocurrency, not yet launched into the market; it is the first Cryptocurrency that can be mined on mobile phones; you can collect it and mine it on whatever phones it supports most type of software; it launched on March 14 2019, and it is estimated that the end of 2021 that coin should be priced to 1$ each, I started mining the Pi coin, for three days now. I already have 18 Pi coins; this is pretty much how Bitcoin started, a useless coin worth nothing in 2008, to become the most successful and expensive coin ever. Maybe this coin would be running on the same route that Bitcoin took when it first appeared, and maybe it's just a failed attempt to clone a successful elder coin.

Bitcoin vs Litecoin

There exist many ways and angels to compare cryptocurrencies, but the most used way is by looking at their market capitalization. The market cap is the share price multiplied by the number of shares outstanding, so it represents the amount you would pay to buy up all of the company's shares, not necessarily its true value. The size of a business's market cap determines which broad category of a publicly-traded company falls under the small-cap, mid-cap, or large-cap. Bitcoin is currently ranked first with $ 127 billion while Litecoin is ranked seventh with $2.7 billion; therefore, at 1st sight, we can say that bitcoin is superior to Litecoin, which is a fact. However, there are still some advantages that Litecoin has over Bitcoin, advantages like the total number of Litecoin to exist is 84 million litecoin.

In contrast, Bitcoin limit number is 21 million bitcoin, Litecoin limit is 4 times the limit of Bitcoin, which means that when Bitcoin reached its maximum capacity, people might or might not run to use Litecoin to avoid volatility in Bitcoin, keeping in mind that Bitcoin has already reached 78% of their storage, 16.5 million coins out of 21 million, and Litecoin has reached 61%, 52 million coins out of 84 million. Another leverage that Litecoin has is that is it faster in making a transaction; an average transaction time in Litecoin transfer takes about 2.5 minutes while a transfer in Bitcoin is about 9 to 10 minutes. For the time being, with all that Litecoin has to offer, it is still seventh in the market, and bitcoin is still the first and most powerful among cryptocurrencies. As we can see in figure 1, one bitcoin at the time being is worth $6,937 and skyrocketed in late 2017, early 2018 to reach around $14,000 for a single bitcoin. While Litecoin is currently worth $ 41.5, as shown in figure 2, although it hit $225 in December 2017. Following is a table 3 of comparison to make it easier to understand the difference between these two crypto coins:

Table 3. The difference between these two crypto coins

Cryptocurrency	Bitcoin BTC	Litecoin LTC
Launch	2009	2011
Circulating supply	Around 17 million	Around 58 million
Maximum supply	21 million	84 million
Current mining	12.5 coins per block	25 coins per block
Transactions per second (maximum amount)	7 transactions	56 transactions
Network	N/A	N/A
Block time	10 minutes give or take	2 minutes and 30 seconds

Figure 1. Bitcoin: BTUSD Crypto chart
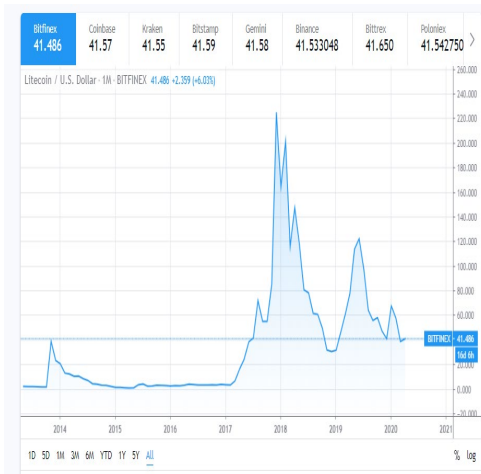*Available at:*
https://www.tradingview.com/chart/?symbol=GEMINI%3ABTCUSD

Figure 2. Litecoin LTCUSD Crypto chart
Available at:
https://www.tradingview.com/symbols/LTCUSD/?exchange=BITFI NEX

Bitcoin vs Peercoin vs Litecoin

Probably no one has heard of Peercoin, well I wouldn't blame anyone for not being aware of this Cryptocurrency, Peercoin is not known because it is not powerful, well not yet at least, Peercoin is like Bitcoin and Litecoin, except that its price is not $7,000 and not $44, its price is as little as 18 cents (US Dollar). So, what makes this currency unique? Well, the thing that makes it unique is, as mentioned before, that it does not have a number limit; it doesn't have the limits that Bitcoin and Litecoin, the mining process can be done forever. It will never end. This point here is a positive and a negative point. On the one hand, miners will never worry, and all the Peercoin is mined, but on the other hand, having unlimited numbers flowing makes it face inflation one day.
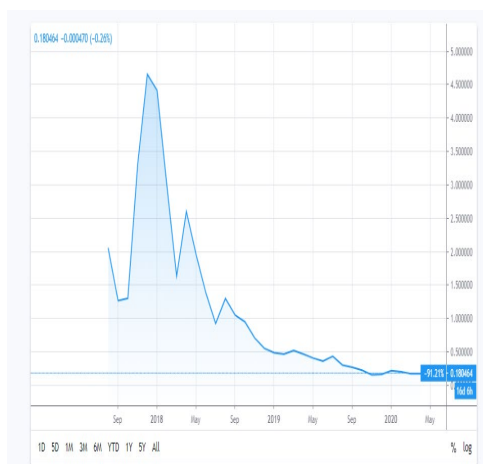

Figure 3. Peercoin PPCUSDT Crypto chart
Available at:
https://www.tradingview.com/symbols/PPCUSDT/?exchange=HIT BTC

Figure 3 shows us the Crypto chart of Peercoin from the 4th quarter of 2017 till the present day. We can see that the best days Peercoin ever had was when it reached $4.66 in December 2017 and have been less than 50 cents since January 2019, which might seem a little not worth investing in. Still, we need to keep in mind that when Bitcoin was created in 2009, it had no price because it was not even on the market, in March 2010, 1 Bitcoin was worth $0.003 2 months later in May 2010, 1 Bitcoin was a little less than $0.1, also 2 months later in July 2010, Bitcoin skyrocketed from $0.008 to $0.08 900% in five days, it kept going up until it reached $1 in Feb 2011 and remained the same for some months, until June 2011 it hit $31, and it kept going up and down like any bond. So, it necessary to remember that bitcoin started too little to become the leading most successful Cryptocurrency. So why not Peercoin, too, one day?

The Process of Mining, What does it mean to Mine a Cryptocurrency?

The term mining is commonly used when we are talking about Cryptocurrency. Most of the time, we might have no clue what we're listening to, or maybe our mind would go directly to the mining process that happens using pickaxes and trucks working in a cave to find gold or silver. Cryptocurrency mining is not far from the whole mining idea. After all, it was named mining for a reason. The difference is, in our case, we will not be mining for gold and silver using some equipment. We will be solving mastermind mathematical problems using super-powerful computers. These mathematical problems are so hard or complex that the human mind cannot process them in most cases. It is nearly impossible to solve them without a powerful computer.

High-powered machines are used in mining to solve complex math problems (that is, so complex that they cannot be solved by hand, and indeed complicated enough to tax even incredibly powerful computers). The luck and work a machine takes to overcome an issue is like a miner striking gold on the field – grabbing in a sandbox. The probability that a machine solves one of these issues is around 1 in 13 billion since the mining process takes place in the modern environment first, but more about it and mining is the act of gathering continuous transactions, or blocks, and linking it to the old

transactions called a blockchain. What investors like about mining and motivates them to take a step in such a thing is that mining and solving these problems is rewarding; they get rewarded with crypto coins; this is a successful investment taking into consideration the expected growth of the selected cryptocurrency and the process is easy on the individual because generally all they to do is pay for the machine which is the supercomputer, and let this machine do its work and solve problems for you. And this is not what all mining is about, and another action referred to as mining is when the miners that we can call, in this case, auditors, do their jobs by previous auditing transactions and verifying them with the current transaction to be sure no fraud or theft will take place, and with every verified transaction, they ensure that double spending will not take place.

Double Spending

Double spending is the process where the individual doing the transactions, buying, for example, somehow made a copy of a specific crypto coin and will be attempting to buy two things with it, usually in fiat currencies, this is sometimes easy to catch, sometimes not, well it depends on the one receiving the bill, in easier words, let us say you have a two $20 bills with the same serial number, so it means that one of these bills is a fake bill, so if you spend them at the same place or to the same person, it might be easy to catch, if you spend them in different places, this will not be easy to catch especially if you do know the tiny details that can only occur in original bills, ones that cannot be faked. This problem might also occur in the digital world, but that is why there is some miners or auditors, as we call them in the usual line of work, they mine or audit every transaction and make sure the coins used in this transaction are in the right place and not doubled in any way. Therefore, they avoid any attempt of double-spending, and so far, since the launch of the first Cryptocurrency (Bitcoin), there haven't been any theft, not even 1 Bitcoin. Double investment is a situation when a bitcoin user invests the same bitcoin unlawfully twice. For a bottle of vodka, you no longer have that, but there's no risk of you using $20 bill to buy plenty of tickets right next door. You don't get that now if you don't have a $20 Bill. With digital currency, however, the holder can create a copy of the digital token and submit it to a merchant or party while keeping the original. As explained in the Investitut dictionary.

How Secure is Blockchain Technology?

One of Cryptocurrency's top advantage is that it is secured and safe, first of. You will be storing your money in a digital wallet, so you cannot be physically robbed. Secondly, the information to access this digital wallet is only available in your head, or if you decided to keep a safe key somewhere in case, you forgot it. Blockchain transaction exists on numerous nodes, and nodes are like different servers that exchange the same data stored by the blockchain. A blockchain exists out of blocks of data. These blocks of data are stored on nodes (compare to small servers). Nodes can be any kind of device (mostly computers, laptops or even bigger servers). Nodes form the infrastructure of a blockchain. All nodes on a blockchain are connected, and they constantly exchange the latest blockchain data with each other, so all nodes stay up to date. Blockchain cannot be hacked because for every transaction made, 51% of the nodes need to confirm the transaction by checking if the rightful owner of this digital wallet is making this trade. For example, in the Bitcoin blockchain, the owner will be asked for the private key, the public key and signifying ownership. Therefore, one of the most difficult things to hack is block chains. I wouldn't say it is impossible because nothing is impossible for computers and technology; 15 years ago, this whole topic would have been a joke. Generally, everything can be hacked, or its firewall bypassed, no matter how good your firewall is and no matter how professional your security team is, there will always be loopholes, but giving the history of Cryptocurrency, especially Bitcoin, since it is the most famous and the usual face of the digital world, is its history since its birth there hasn't been a single break-in in the blockchain or the nodes or any transaction has gone wrong, everything is confirmed and audited before any approval.

What is the Purpose of Blockchain?

Blockchain technology is a very complex topic; even though it is complex, it has a very simple purpose; it

has the basic idea to decentralize the storage data so that it can never be owned by any central actor, by a central actor we mean and refer too central banks and the traditional financial institutions. In easier words, Cryptocurrency or Bitcoin is fully linked to the network, to the blockchain, they cannot be separated, Bitcoin has one place to travel and one place to live, and that is only on its blockchain. Blockchain was created to get rid of double-spending, double spending already explained above, for example, we all have heard of "The Pirate Bay" and all the other torrent websites and servers that steals original copyrighted files and share them online, blockchain is the way to block such actions, because as stated before, Bitcoin can only exist on its blockchain, unlike other currencies, fiat currencies that can be transferred anywhere, for example, if can use my fiat currencies to buy in the New York stock exchange or take it to Hong Kong and use it there or transfer it around the different bank and different visa or withdraw in ATMs, this will never be the case with Cryptocurrency because it cannot be taken outside its blockchain. This picture shows us what is meant by the above statements, as we can see the fiat currencies on the left can be linked to all the networks and ledgers on the right, but Bitcoin cannot be linked or integrated into any network; it only home is its blockchain, as shown in figure 4.
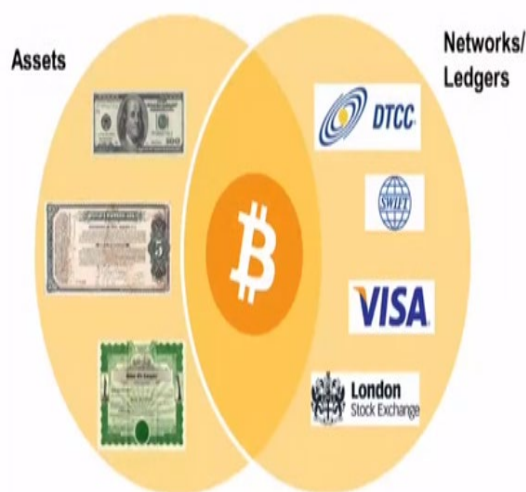

Figure 4. The blockchain

Why is Cryptocurrency a Threat to Banks?

The only reason Cryptocurrency is causing a threat to banks is not that it's threatening it or because it's doing some scary things; no, it's because it is offering features superior to what banks have to offer; let's begin by stating that the cryptocurrency market, Bitcoin let's say, is open 24/7 with ongoing transaction every second. Banks close on Sunday, on holidays, and it is normal because you need human resources for banks to operate in most of their services. Still, the Bitcoin market doesn't close, and the average traded bitcoins daily is around $7 billion and $1 billion transmitted. We add another feature that makes Cryptocurrency superior to banks, is as mentioned before, little to no fees in the transaction made because there is no need for a middle man; the trade is made from seller to buyer, from one person to another directly, and counting the amount of transaction made daily you can imagine the amount of money saved because of this no-fee transaction cost.

Anonymity holds a huge plus for cryptocurrency trading; there is no way to relate the address linked to your balance to any individual, transactions are anonymous unlike banks, your name, address signature is all over any transaction you make, this is a good and a bad thing if we are to speak ethically, it's a good thing to keep your identity private when there's no need to anyone to know who you are, but it also allows transaction between criminals for illegal sales, for example, you can hire an assassin on the DEEP WEB by paying them in Bitcoins, and a lot of other illegal stuff can be bought by Bitcoin because of its anonymity. As mentioned before, Cryptocurrency, most of them at least can never face inflation because their supply is capped, 21 million bitcoins, 84 million Litecoin, so there is no way to be facing inflation, and unlike the US dollar, for example, that loses 3% of its value every year due to inflation. As discussed above, the security measures on the blockchain of cryptocurrencies are some serious measures, unbreakable firewalls, impenetrable encryptions, which gives cryptocurrencies another advantage over banks because we all know how many times hackers have breached accounts in banks, hackers like *Hamza Bendelladj* that stole from the US banks by using computer viruses. Until now, Bitcoin has never been hacked, and not a single Bitcoin is not accounted for; every transaction is recorded and verified by nodes, as mentioned above.

Digital currencies, especially bitcoin, are in a good place to destroy central banks, but would they do it? Should it do it? Or could it do it? Anything

involving financial topics, especially central banks, is complex, with strong arguments against the idea and with the idea. On the one hand, we have people saying that even that this era is the digital era and that the digital currency can finish off central banks and is aiming at central banks, finishing them this fast won't be easy; the first central bank is traced back in the year 1401 in Spain Barcelona, central banks helped fund wars and other initiatives, central banks have helped nations come back from the deep economic crisis, they maintain stable prices and ensure stability in times of crisis.

On the other hand, people are stating that the central bank is unnecessary and damaging. A lot of people and politicians state that the central bank is the reason why its nation fall into a crisis in the first place because they are the ones who control the economy; the fact of them being on a monopoly on this matter is disturbing; they can manipulate the economy, cause inflation, play with consumers by raising prices of the goods and services, cause their currency to fall apart; therefore, these people are with the fall of central banks and the domination of the digital era. Cryptocurrencies are becoming superior to fiat currencies and central banks. Traditional financing institutions provide such friendly services and easy ways to do your deals; in summarized thoughts, is traditional banking under threat from cryptocurrencies? No questions asked banks are afraid of this digital era. It has to offer to be superior to what banks are currently offering, little to no transaction fees, anonymity, a fast transaction with no central control. But people will always be afraid of the volatility of Cryptocurrency and the fact that it does not have a unit of account; for example, many places worldwide take bitcoin as payment, bars and pubs being some of them, let us say you are going to buy a beer in a pub that accepts bitcoin as payment, let us say that this beer costs $5 or 1.5% of a bitcoin, because of the volatility, let us assume that we slept today that bitcoin market price was $10,000. We woke up to it being $5,000, this beer's price will still be $5, but if you are to pay it with bitcoin, it will now be 3% of a bitcoin (the stated numbers are virtual and not calculated and only used to quick example purpose). This is why the answer to, is the digital currencies threatening banks can be answered by yes and no; it all depends on the situation and the volatility.

Research Methodology

Research Design

A research design is the arrangement of techniques and strategies utilized in gathering and investigating proportions of the factors determined in the problem research. Research design is the framework of research methods and techniques chosen by a researcher. Business research is a systematic approach to collecting and analyzing data to resolve management problems. The design allows researchers to hone in on research methods suitable for the subject matter and set up their studies for success. Research Design is a plan, structure, and investigation strategy considered to obtain answers to research questions. The research process identifies a specific problem or interest area, converting it into a research problem, data collection, data analysis and reporting the research findings. There are three types of research approaches: Qualitative, Quantitative and Mixed Methods; the researcher will choose one of these three methods to conduct his research. And there exist 3 types of research design, exploratory research that helps to determine the best research design, data-collection method and selection of subjects; exploratory research can be defined as a tool to seek in-depth insights on topics that are not well understood without investigating reasons. The descriptive type aims to describe subjects that we know about it, and we form descriptive research for a subject at a certain level of understanding to be more accurate and precise. We describe more with higher accuracy and precision. The descriptive research describes the situation's state, as it currently exists. The third is Explanatory research, which tries to explain relationships between variables. It is conducted to help us find the problem that was not studied before; Explanatory research attempts to find justifications and establish causal relationships between aspects of a situation or phenomenon.

Qualitative, Quantitative And Mixed Method

Qualitative type and its four methods of data collection

- Focus group where a debate takes place to gather multiple thoughts about the topic at hand
- Case studies about the group or organization or the person linked to the study
- Literature review surveys published by other authors
- Interviews where the question and open-ended and related to our research

The qualitative approach is an unfolding model that occurs in a natural setting that enables the researcher to develop a level of detail from high involvement in the experience. There are five qualitative research areas: case study, ethnography study, phenomenological study, grounded theory study, and content analysis.

Quantitative type and its four methods of data collection

- Observations where we observe people naturally related to our topic
- Experiments that help us find out the causes and effects of a precise problem
- Surveys come with multiple-choice questions or closed questions about our topic
- Content analysis is used to study the communication cycle while using themes in a set of texts

Because quantitative research focuses on data that can be measured, it is very effective at answering the "what" or "how" of a given situation. The quantitative research method is employed by developing and adapting mathematical models, theories, and/or hypotheses on phenomena.

Mixed method (Using both Quantitative and Qualitative method)

Combined techniques are study methods including quantitative (e.g., assessments, surveys) and qualitative (e.g. focus groups, interviews) research and the selection, review and incorporation. This method is used to help explain the issue of analysis rather than alone through this integration. In a single research sample, researchers link data collection or interpretation techniques from quantitative and qualitative research approaches. Our case study relies on statistics and graphs and tables that show us the detailed description of what is occurring in the digital monetary unit and some qualitative methods. In this case study we shall use the quantitative method. We can, after all, clarify those descriptive challenges.

Research Sampling

Sampling is a mathematical research method used to collect a predetermined amount of findings from a broader community. However it can require basic random sampling or rigorous survey methods depending on which research is conducted. It is a way of providing researchers with the necessary knowledge regarding a research-based community. Two forms of samples occur, probability samples and impossible samples. Probability Sampling is a technique that sets certain selection criterion for a random population. It is also known that randsampling allows for an equal risk of occurrence in the sample something and anything in the universe. Sampling probability covers various forms such as systematic random, stratified sample types, Cluster sampling, multi-stage sampling, Area sampling. Sampling is possible.

Unlikely selection is not randomized and normally depends on the opinion of the researcher; participants are chosen who are easily accessible. The ease of sampling, purposeful sampling, quota sampling, and snowball sampling are other unexpected approaches. There are several likelihood and unlikely sampling methods:

Random or simple it is most easy to sample, yet time consuming; any researcher has to ensure that everyone in the community is included in the master list and then randomly chooses subjects from the master list. A plain random sample is a subset of a statistical population with an equivalent likelihood of being selected for each part of the subset. An impartial reflection of a population is intended to be a plain random selection.

In stratified we randomly choose subjects in various subgroups for sampling. Stratified random

samples are a tool for sampling that separates a population into smaller subgroups called layers. The strata are created in stratified random sampling or stratification based on the common characteristics or characteristics of the participants, such as income or educational achievement.

Systematic when a group is chosen for the evaluation, the sampling is when. If you have 100 participants, for example, you choose 20 to measure and evaluate the findings on the basis of the 20 people that are supposed to serve the 80 others. Systematic sampling is simpler than spontaneous sampling and easier. It may also span a wide research field more conveniently. Systematic sampling, on the other hand, adds certain subjective data parameters. This will allow the trends to be over or under-represented.

Convenience Sampling is the study where the researcher picks members depending on their nearness. Comfort sampling is characterized by researchers as a method for the collection of market research data from a comfortable pool of respondents. It is an exceptionally quick, uncomplicated and inexpensive sampling procedure. It is the most widely used. Mostly, participants can be easily reached to participate in the survey.

Multistage Spectrum Two or all of the chance techniques mentioned above are a mixture of Multi-stage sampling. Multilevel sampling is characterized as a method for sampling, dividing the population into study groups (or clusters). It is a dynamic type of sampling clusters, often referred to as multi-level sampling clusters. During this form of sampling, large classes of the chosen individuals are divided into subgroups at many levels such that primary data collection is easier.

In our research, we will be using probability sampling because, in this research, our numbers will be fixed and known, we will be objective, tests already ran will be shown, it will be an unbiased sampling, objective and conclusive, we will show numbers of the evolution of Cryptocurrency, bitcoin, Litecoin and couple other, we will be showing the capitalization of these currencies and estimating based on year to year capitalization, the estimated capital in the coming years and what would it mean to the financial market.

Data Collection

Data collection is the process of gathering required data that allows us to answer the research questions and handle the problem statement; we have found two types of data collection. The first is primary data collection, which insists on interviews where we ask open-ended questions. Primary data is a type of data that is collected by researchers directly from main sources through interviews, surveys, experiments, etc. Primary data are usually collected from the source where the data originally originates from and is regarded as the best research data. The second type is secondary data collection is less complicated; it generally consists of searching the internet, reading books and articles. Secondary data consist of observation, Literature reviews, content analysis etc. Usually published data are available in technical and trade journals, books, magazines and newspapers, reports and publications of various associations connected with the business, Reports prepared by research scholars, universities, economists, and others, Public records and statistics, historical documents, and other sources of published information. A researcher using secondary data must make sure of the reliability of the sources he extracts data of, for the reason that some data posted on the internet may not be trustworthy.

In this research, we will be using secondary collection, gathering information on the matter and reading different articles managing related issues or related topics.

Data Analysis

Let me begin by stating that cryptocurrencies are being taken seriously and are not considered a joke passing by or whatever people have been saying over the years; the Bank of America (BAC) had listed cryptocurrencies among the risk factors that are affecting or impacting the bank power of competition and is reducing the bank's profit and revenue, this idea that one day the cryptocurrencies will pose a threat to the financial system dates back to the day the idea was even introduced, when its purpose was stated, which was for the payments between two parties to be sent directly from one party to another without any central authority or any financial institution regulating the transaction. Cryptocurrencies are considered a threat by banks for three main reasons, the first being that this digital

currency will limit the bank's ability to control any fund movement, there for the "Know Your Customer" regulation will be thrown into the trash, and with no control over the moved funds lifts the stakes for money laundering, the second reason is that the digital currency can be used to trade anywhere, even in places that the banks consider it risky to allow transactions, the third reason is that digital currencies can Intermediaries circumvent. In addition, the rise of non-depository entities offering conventional banking and new creative products could influence the competitive landscape. In addition, widespread adoptions of new technology, like internet networks, cryptocurrencies and payment systems, could include significant costs for altering or adapting our current products and services as we expand, evolve and add remote-connectivity solutions to our internet banking and mobile banking strategies.

Transaction fees played a huge role in the uprising of cryptocurrencies; we take the example of Bitcoin, no matter how big the transaction is, the fees remain the same, fees being so little that might in some times be unnoticeable, following is a graph and a table 4 showing various Bitcoin transaction fees over the years, as shown in figure 5:
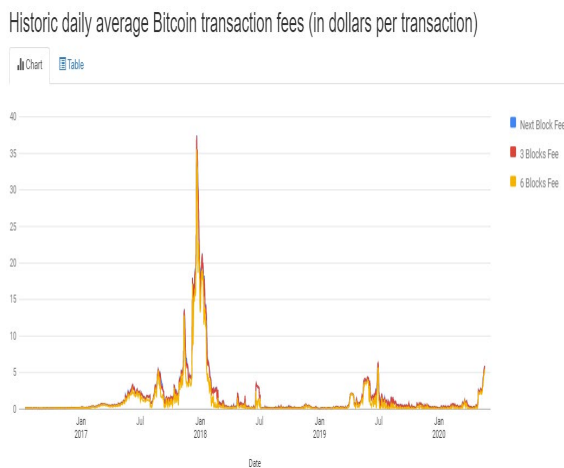

Figure 5. Bitcoin transaction fees over the years

Source: https://billfodl.com/pages/bitcoinfees

Table 4. Bitcoin transaction fees

Date	Next Block Fee	3 Blocks Fee	6 Blocks Fee
2020-05-20	5.94 USD/tx	5.90 USD/tx	5.40 USD/tx
2020-04-20	0.28 USD/tx	0.27 USD/tx	0.09 USD/tx
2020-01-04	0.13 USD/tx	0.12 USD/tx	0.05 USD/tx
2019-06-28	6.25 USD/tx	6.25 USD/tx	5.64 USD/tx
2018-01-09	20.06 USD/tx	20.00 USD/tx	18.58 USD/tx
2017-12-21	33.82 USD/tx	33.26 USD/tx	33.26 USD/tx
2016-07-14	0.1 USD/tx	0.1 USD/tx	0.07 USD/tx

Source: https://billfodl.com/pages/bitcoinfees

Giving the previous graph and table, we can now see why Bitcoin or Cryptocurrency is superior to banks in this matter because fees are little to nothing; we also see that sometimes the fees are as little as 10 cents per transaction and sometimes it was over 30 dollars per transaction, so why this huge gap? Well, suppose we double-check the table and compare it with the Bitcoin at that exact time. In that case, we will figure it out easily. For example, transaction fees hit over 30 $ in December 2017. On the 21st, it was 33 dollars average transaction fee. At that time, in December 2017, bitcoin skyrocketed to almost 19,000 dollars per bitcoin. Hence, it is just normal for the transaction fee to rise a little bit. The following graph shows the bitcoin activity in late 2017 early 2018, as shown in figure 6.

Figure 6. The bitcoin activity in late 2017 early 2018

Source:https://www.tradingview.com/chart/?symbol= BITSTAMP%3ABTCUSD

Cryptocurrencies eliminated the need of a middlemen, which is usually the bank, the bank that you are forced to trust with your money and fortune, you are blindly forced that this financial institution will do good with your money and store them for you and that you will be able to withdraw it anytime you want, well this isn't always the case, let us talk about the

easiest thing that comes to mind, what is happening to us in Lebanon, we are in an indirect capital control cycle, you can't transfer money outside, you can't withdraw the desired amount that you want, some banks are not accepting checks or are freezing them for three or more months, and a lot of other complication that we will not discuss because it would drive us a little too far from our subject, what I want to show you is that all this non-sense doesn't exist in the cryptocurrency world, there are no limitations to what you can do with your money, you do not need a middle man to do your transactions, the only people involved in your transaction are you and person you are trading with, of course the miners that verify that this trade is valid as well, to keep your wallet safe with no possible theft happening.

The banking sector has for almost a century operated the same it is operating now with no actual competition because there simply was no alternative to banks, you needed and still need banks for everything, including loans, pay check withdrawals, a place to store your money, a long term investment based on the interest you get, banks have been the only financial institution to manage your financial life. However, now all this has changed and is still changing daily, the word cryptocurrency has made an earthquake in the whole banking sector because, for the first time, there is an alternative, an alternative that is offering better services to what banks has to offer, as mentioned previously a couple of times, anonymity, fast transactions, little to no transaction fees, perfect security, both electronic and physical security referring to block chains and digital wallet. We have to look at this matter like we look at any business, let's say you opened a woof manufacturing business company, in area X. It is known that area X already has 2 operating woof manufacturing companies, let's say that somehow you managed to offer the same or better services and products that these other two companies have to offer, you will pose a threat to the companies, the same thing is happening here somehow, there always was a financial institution called "Banks" they were at the high end of the table and still, for the time being, a new concept arrived that told you, why to carry physical wallets and get robbed, have your digital wallet and never worry about it. Why pay transaction fees to every check you deposit, every amount you withdraw, and every transfer you make? We offer

you barely noticeable fees per transaction; why wait for banks validation when you can control your transaction and only you and so on.

There remains one small point that we need to keep in mind that the cryptocurrency market does not offer, which is taking loans. The main things that are keeping banks where they are and that gives them a huge money boost is giving loans and setting interest rates to these loans, adding to that the fees they apply to their services and the deal they make in financial markets, and giving the analysis and the information provided above it now seems that the only way banks could still be superior to crypto market is because it provides loans for businesses and individual or car or student loans, which is something that might change in the future if Bitcoin, for example, started giving out loans.

CONCLUSION

To sum up everything in some short words, the digital currency have made its spectacular entrace there is no questioning that, banks are being affected negatively, people are trusting the rising new currency more and more, most of the banks have not yet took any actions to make a plan to oppose this problem, people are shifting from fiat currencies to digital currencies, because everything seem to be better in the digital world, there are might be ways for the bank to cut its losses by adapting the blockchain technology partially, because it can never be adapted fully with the control the central banks have over the mother currencies, however the only negative point in this Cryptocurrency is its volatility, but like every investment, the higher the risk the better the rewards, you could loose some but when you will, you will win a lot of money investing in this, people have made millions investing in bitcoins, and some people have lost a lot as well, it is a matter of risk taking, this is whole new concept entering the financial market, a concept that will cause a lot of talks and issues and might forces banks to close or adapt, it's still a long way ahead of it, but not too long.

Limitation

There was some limitation in the study, and this topic is not a well- studied topic. There isn't

sufficient information to manage a complete and perfect research; for example, I couldn't find a well sorted list of how many customers are the banks loosing yearly since 2009; this would have supported the matter at hand and proved a point to be right or wrong, but it is still early to handle such huge information, the crypto world and now starting. The outcomes are not yet fully delivered. The situation of the nation currently (pandemic outbreak) makes it difficult to find the right people and interview them even though this topic is hard to wrap around; therefore, there were no interviews made, and most of the analyzed data is based on information from the financial market websites and from various point of views both with and against the concept of Cryptocurrency.

Future Studies

For some suggestions for future studies, when the time passes, and more information is available, the detailed study showing numbers of clients moving from traditional banking to cryptocurrency markets could be helpful, the yearly loss in customers, some information about new rising Cryptocurrency compared with old ones that we spoke about, this topic opens a lot of future studies. The more time passes, the more information will be available, and the more real examples or experiences will be provided.

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