IOSR Journal of Economics and Finance (IOSR-JEF)
e-ISSN: 2321-5933, p-ISSN: 2321-5925.Volume 10, Issue 1 Ser. IV (Jan. – Feb.2019), PP 01-07
www.iosrjournals.org

The Evolution Of Money – A Brief Introduction Into The Emergence Of Cryptocurrencies

Markus Schindler, MA
[1]*University of Sopron, SzéchenyiIstván School of PhD students*
Contact: Markus Schindler Kirchfeldgasse 60/4/7
2482 Münchendorf, Austria
Corresponding Author: Markus Schindler, MA

Abstract: *Cryptocurrencies like Bitcoin and Ethereum are experiencing a veritable boom. However, the prevailing opinion among many investors and consumers, is that these digital currencies are only for computer experts, with no potential as a means of transaction or as an investment. Cryptocurrencies as applications on the Blockchain and community based decentralized open ledger technologies have been very controversial issues ever since they have come into existence.This literature review aims to provide a brief introduction to the history of money, illustrate the role of central banks and national banks in our economic system and explain why cryptocurrencies could be the next evolution of a modern value-transfer system. The underlying technology of cryptocurrencies, the Blockchain, may be an as disrupting technology leap as the invention of the Internet and there may be a chance this technology is going to change the way we trade and interact as human beings without the need of trustworthy third parties as banks.*

Date of Submission: 03-02-2019 Date of acceptance: 18-02-2019

I. The origins of money

The history of money starts several thousand years ago. Although currencies were introduced with good intentions and their use in most cases made sense and is still useful today, money is certainly not just used in positive ways. To date, it not only simplifies trade but also contributes to deepening the gap between the poor and the rich, mainly due to the compounding interest principle.

Long before the first coins came into circulation, trading took place as a barter transaction. As early as about 6,000 years before Christ, when people lived together in small communities, they exchanged things of everyday needs among themselves. From garments over food to spearheads, salt or tea was exchanged and traded without the use of money.

About 2,000 years before Christ primitive money was introduced for the first time. In China, Southeast Asia and northern Africa, people used cowrie shells to trade among themselves. In Latin America, the Majas used cocoa beans (Allen 2009, 73-74), other peoples used special stones. What these first preforms of money all had in common was that they existed only in limited quantities. In addition, the currencies were relatively small and thus easy to transport. For the first time in human history, goods were converted into a currency, which could then be used to purchase other goods.

Primitive types of money often included materials such as copper, silver, or gold. In part, the metals were cast in the form of ingots or bars. If necessary, a piece of it could be separated again and weighed appropriately to meet the desired value. This so-called "weight money" (to exchange metals according to their weight and not according to their number) already existed several centuries before Christ. But even in the Middle Ages, the Europeans used ingots or rings of precious metals, which were cut and weighed. However, in the Middle Ages there were also coins made of silver, for example, in Europe. But these, too, were mostly weighed at that time and not counted to determine their value. (Orrell and Chlupatý 2016, 17)

From about 600 BC, people in Asia paid with the first coins. The Indo-European people of the Lydians are considered the inventors of coins. The Lyder made metal pieces in a uniform size for the first time. Later, the Romans and Greeks also used coins to pay for their goods. Over time, various valuable coins have been developed, making trading even easier. Depending on the time and place, for example, the Senate had the right to stamp brass and copper coins, as the Emperor had this right for silver and gold coins. (Orrell and Chlupatý 2016, 2)

However, many scientists believe that the first coin money was produced in parallel and independently of one another in different places. Between about 700 and 500 BC, for example, this occurred in China, India and in many larger towns around the Aegean Sea (Macdonald 2012, 9). Although the coins have been developed in the same period, they were made of different materials and looked slightly different. As a rule, Chinese coins had a hole in the middle and were made of bronze (Macdonald 2012, 59). Coin money from the Aegean was

hammered in shape under great heat and then got stamped. Coins from India mostly consisted of stamped metal plates. In the 8th century an attempt was made in Europe to introduce a single means of payment: the denarius. However, this "forerunner of the euro" was abolished quite quickly. As early as the 9th century, pennies, denarii and other coins had different value in different countries. (Macdonald 2012, 68)

Above all, those who wanted to acquire higher-quality and more expensive goods quickly had the problem of having to carry around many heavy coins. Even if, for example, coins with a hole in the middle could be threaded well and hung on chains, at some point the weight was still too heavy and the carrying too laborious. The solution was very simple: they invented the paper money.

In the 10th century, the Chinese were the first who did not want to utilize heavy iron coins for payment and invented paper money. Instead of having to carry the iron around, people now paid for goods with pieces of paper on which their respective value (in iron coins) was written (Chown 2005, 256). The Italians did likewise in the 14th century (Chown 2005, 259). The money was deposited in banks. The customers received "disbursement claims" that could be passed on and thus also constitute a kind of paper money. In other parts of Europe, the first banknotes also came into existence in the Middle Ages. Just like in Italy, they developed out of pay-out claims from bankers. The first "official" paper money was probably from 1661 in Sweden. There, the merchant Johan Palmstruch received permission from the Swedish king to found his own bank. The "Stockholm Banco" issued its customers receipts for copper coins, which can be considered as the first banknotes (Lui 2017, 14). Also, the "AmsterdamerWechselbank" was one of the first financial institutions that implemented banknotes as currency. However, the Dutch bank handled the paper money with particular caution and - in contrast to Johan Palmstruch - always paid attention to having enough coins in the house to be able to exchange the issued notes. (Ufer 2008, 119)

In order to be able to trade globally simply and quickly today, cashless payment transactions are used. EC or credit cards make it unnecessary to use physical money during a transaction. Online banking ensures that people no longer need to leave the house to transfer money or shop on the Internet. Within milliseconds, huge sums of money can be transferred from one account to another as needed.

II. The role *of* banks and central banks in our economy

A complex economy without money is hard to imagine. Effective payment transactions are of fundamental importance to our current economic order. If you want to harm economies today, you no longer have to attack the production base. History has repeatedly shown us, that it is enough to interfere in the payment traffic with sanctions (G. Askari et al. 2003, 6).

Monetary policy concerns central bank decisions that seek to influence the cost and availability of money in an economy. As far as the euro area is concerned, interest rate decisions are, under normal circumstances, the most important instrument of the European Central Bank in this regard. Changing interest rates will affect the level of interest rates at which commercial banks provide credit to their customers. In other words, interest rate decisions affect consumer spending and business investments. In the case of the ECB, the monetary policy objective is to ensure stable prices. As a result, it seeks to keep the rate of inflation below but close to 2% in the medium term. This is to support the EU's overall economic policy, which aims at full employment and economic growth (European Central Bank 2018).

In times of continued low inflation and low interest rates, central banks may also take special monetary measures (such as asset purchase programs). That means to create money. The most common way of producing money happens through commercial banks.

When lending, the borrower enters an obligation to repay their loan and backs up this obligation with a security to increase the confidence. The bank undertakes to credit the borrower with the loan amount in their account. Worth mentioning in this process is, the bank does not take existing money from investors, savers or money borrowed from other banks, but creates it by committing itself to the borrower at any time on request to pay off the loan in cash, but in practice of today's cashless payments this barely occurs.

Thus, the bank creates the appearance of a permanent liability by the obligation to pay out the loan in cash at any time. In the double entry bookkeeping system, the bank is now required to make an offsetting entry to the liability, which is the requirement of the borrower to repay the loan. The money is created through these two bookings (book money), which extends the balance sheet of the bank on the assets side by the receivable and on the liabilities side by the liability. In summary, it can be stated that banks generate money by justifying the requirement on the borrower to repay the loan that they still owe the borrower the legal tender. This book money, which is also referred to as a bankroll, is not a legal tender.

Hardly any bank customer knows that when paying cash into their bank account, legal tender (central bank money) is exchanged for a promissory note (private bank money) of the bank where the account is kept. Bank customers therefore exchange higher-value legal means of payment for inferior private means of payment. While the European Central Bank (ECB) stands behind the legal tender (euro) and the money it spends is covered by the economic performance and tax revenues of the eurozone countries, the book money is only

covered by the low equity of the individual bank. From the mismatch of the money stock, which consists of 10% legal tender and 90% credit money, which is covered only by promises of repayment today often over-indebted states, banks, enterprises and private persons, results in the inferiority of the promissory notes of banks (Bank statement via book money) against legal means of payment (cash or central bank money) (Bontrup 2004, 461-475).

Many sides criticize this form of money creation by commercial banks. The problem is that the money creation of commercial banks generates an excess of money, which regularly leads to blistering. If these bubbles burst, because commercial banks subsequently restrict their earlier lending, which leads to a shortage of liquidity, this increasingly leads to bankruptcies and corporate takeovers in the economy.

There may have been good reasons in the past to use commercial bankers' money creation as a tool for economic growth, as it can finance companies or other projects that will only make profits in the future. This only works if the money supply is not too closely linked to economic growth. Also, the introduction of electronic payment systems in the last century may have been in favor of maintaining this form of money creation. However, when there is a lack of instruments and institutions that ensure effective control and limitation of monetary expansion by commercial banks, this money creation may be abused and the money system may get perverted, as happened between 1971 and 2008, before the last worldwide financial crisis (Kuhn 2013, 234-236).

Not a long time ago a small group of people who have never been elected by the people in Cyprus have decided that all banks in Cyprus will be closed overnight, that there will be no online banking and that all bank transactions are suspended. Resulting in the expropriation of people's savings (The Guardian 2018).

Originally, the term "economy" meant "the totality of all facilities and actions for the planned fulfillment of human needs". But the term has undergone a change of meaning. What it seems to mean today is what the ancient Greeks described by the term "Chrematistik" (the unnatural acquisitive art, their only goal is the accumulation of money). If the Cyprus case showed us anything, then money as a means of the economical vehicle seems to have become secondary. Money may be used as a tool of exercising power. Cyprus showed us, that a group of people who have not been democratically legitimized by those affected can control their money supply.

Central bank money has no utility or consumption value. The central bank money is backed by an issuer with a legal mandate. The value of central bank money rises and falls with the creditworthiness and integrity of a central bank. The value of the currency depends on confidence in the central bank and in the state behind it. (Bontrup 2004, 438-459).

It could may be argued that the current central bank money is being created out of nothing. A central bank imprints a piece of paper with a number and proclaims, "it will be (latin for fiat) money". There is no anchoring to the real economy. The former "security", namely the bond to a metal - to gold -has long gone (Bontrup 2004, 438).

The further criticism refers to the debt claim character of Fiat money. In fact, the central bank is in debt with the issue of its money. The necessity, it is argued, lies in the political needs and requirements of the state, which - as history shows - has regularly led to the worthlessness of central bank money (Berger 2016, 61-65).

III. The idea of decentralizing money & the creation of Bitcoin

As government forms have changed over time and society in many parts of the world has realized that decentralized power brings many benefits, it might make sense to decentralize money. "Money is power" is a well-known saying of unknown origin, so why should power in a democratic society be controlled by central institutions such as central banks or governments.

Of course, this thought experiment cannot be reconciled with modern economic theories. Monetary policy and fiscal policy are the most important control instruments of modern state forms that cannot be undone easily (Bontrup 2004, 474).

The Vienna School of Economics contains of well-known and respected economists worldwide, such as the Nobel Prize winner Professor Friedrich August von Hayek. As early as 1976, Hayek demanded the "denationalization of money", the lifting of the linkage between money and state and the creation of independent, decentralized money (Kresge 199, 239-241).

On the basis of a new technology - the blockchain technology – many of these goals can be achieved and on the basis of Bitcoin, various so-called crypto currencies have been created since 2008.

In 2008, a person or group under the Japanese name "Satoshi Nakamoto" published a white paper that designed a decentrally-managed currency, completely exempt from access by states and banks. The unnamed Nakamoto wrote at the time that it needs an electronic payment system based on cryptographic evidence rather than trust, allowing two parties to trade directly with each other without a middleman whom they trust (Nakamoto 2008).

Programmers and other enthusiasts took up the vision and in 2009 the idea was put into action. Soon, the first trading center, Mt. Gox, started to operate, where the digital coin could be exchanged for real money.

An important catalyst for the breakthrough of Bitcoin outside of Asia was the euro crisis. At first, only technology excited people and, according to a much-voiced reproach, criminals had used the new financial service to transfer money unchecked to the treasury and the police. However, in 2012, the number of new accounts exploded on the bitcoin exchange Mt. Gox, which accounted for around 90 percent of the trade at that time.

The number of new members jumped from 10,000 per month in the fall of 2012 to 20,000 per day in April 2013. The circulation of Bitcoin surged from estimates of 60 million to one billion US dollars. Promptly, the new currency, which had just come to prominence, had its first globally recognized crisis – precisely because of the pioneer, Mt. Gox.

For more than twelve hours, the company's servers went to their knees. The Bitcoin price collapsed. And suddenly, Mt. Gox owner Karpelès was a sought-after interviewee of the global finance and technology press, and marketed himself as one of those start-up heroes who want to make the world better and get rich against technical adversities. That was the first big bitcoin crash. (Hornyak and Jeremy 2014)

The year 2017 was the biggest hype year for cryptocurrencies such as Bitcoin so far. Taking a look back at the year 2017, cryptocurrencies have quickly become established as a global public agenda in the media. Started as an insider tip among tech insiders, over the year 2017 the crypto scene has become a phenomenon that has suggested everyone the chance of becoming rich. Media spoke of the "digital gold rush" (Mcintyre 2017) that had hit the world. It developed a spiral in which on the one hand always new coins and tokens were developed and on the other hand investors invested ever further into these currencies. The entire crypto market currently consists of more than 1,500 tradable crypto currencies and in total, the crypto currencies globally had a market capitalization of over 250 billion euros in 2017.

Looking back on 2017, it can be said that the crypto market had many exciting stories to tell about ups and downs. The prices fluctuate on daily bases in areas that make ambitious small investors richer or poorer by thousands of euros (Stocker 2017).

The last big drop started on January 10, 2018, when CNBC and other big news sites like The Verge reported on how South Korea was preparing a law banning crypto currencies. However, the messages at that point were exaggerated. What South Korea was really up to was the regulation of cryptocurrencies to provide consumers with better protection and standards for customer deposits, and thus more transparency. This policy measure was not really new and was officially announced in November 2017, but received little media attention then.

In the course of this publication, many different news stories about South Korea and its alleged ban have been spread, causing uncertainty among investors. It took only several hours for the value of Bitcoin to fall by more than 15 percent (Choudhury 2018).

Just a few days later, on January 15, 2018, influential media such as Techcrunch, The Guardian, Bloomberg, and CNBC published articles on the topic of global regulation of cryptocurrencies. Bloomberg used the hurdle that China is increasingly trying to regulate crypto currencies (Bloomberg News 2018). Also this article goes back to moth before published news, that China had forbidden the crypto trade in general already in September 2017 and the ICOs in particular (Choudhury 2017).

Techcrunch then released the results of a scientific study on how Bitcoin's $ 150 to $ 1,000 increase was probably manipulated by one person in 2013. The Guardian joined in with a general swan on the cryptocurrencies. All this happened in a single day, January 15, 2018. The result was that Bitcoin's price dropped 24 percent within 20 hours and 35 percent over 48 hours (Biggs 2018).

TABLE 1 – TOP 10 CRYPTOEXCHANGES (VOLUME USD)

Rank	Exchange Name	Markets	24h Trades	24h Volume	Marketshare
1	Bitfinex	143	>314,511	$1,506,074,538	33%
2	Binance	224	>3,256,420	$1,194,297,329	26%
3	HitBTC	311	>423,266	$257,487,868	6%
4	Coinbase GDAX	12	>162,281	$254,193,290	6%
5	Quoine	26	>110,218	$226,196,403	5%
6	Bithumb	12	>183,876	$157,016,102	3%
7	Bitstamp	11	>68,236	$141,723,539	3%
8	coinone	6	>168,901	$125,349,982	3%
9	EXX	30	>54,354	$84,408,697	2%
10	BTC-e / WEX	26	>40,980	$82,357,298	2%

(Source: https://cryptocoincharts.info/markets/info, accessed May 19, 2018)

Table 1 shows the top 10 biggest crypto-exchanges ranked by trading volume in USD per day. Actually, there are 200 existing crypto exchanges with a total day volume of 4,80 billion USD.

What is discussed and evaluated in further research is whether cryptocurrencies will be able to arrive in the midst of our society in the near future and be used as a means of payment or value transport vehicle. To find out if cryptocurrencies are a relevant payment vehicle, we first need to understand what we need money for, what the purpose of a currency is and what it must be able to afford.

In particular, the function as a medium of exchange and payment, as a calculating unit and as a store of value would differ. To fulfill these functions, money must be well divisible, stable in value and generally accepted.

Calculating Unit:

Through this function, the values of an economy are expressed in monetary units, that is, by means of money goods are made comparable in value.

Medium of exchange:

An exchange economy arises when individual economic units agree to produce different goods and exchange their own goods for the goods of the other economic units.

However, bartering with multiple economic entities is difficult to accomplish through direct exchange unless the bartering partners agree on a generally accepted medium of exchange.

The invention of money as a legal tender reduces the search problem for suitable exchange partners.

Store of value:

Money only becomes a store of value if there is a certain period of time between the purchase and the sale of goods. The money is thus kept for a short or long time. Therefore, it is very important that the money retains its value in the retention period - but this requires price stability (Arnold 2005, 242-245). That is one of the biggest issues with cryptocurrencies, rashes of several thousand dollars a day up or down are not uncommon.

However, Bitcoin is anything but stable in value and therefore cannot create trust. In 2017, the value of a Bitcoin has risen from $ 1,000 to nearly $ 20,000, collapsing at the end of the year.

How should paying with Bitcoins work, how can you find relatively stable prices for goods if you can buy a notebook for a Bitcoin in January and a small car in December? The prices would have to be adjusted permanently. The daily price rashes in all directions are not even included in the consideration. That's why Bitcoin is not suitable for loans either at the time.

The value stability of a currency is a partial reason why you can divide it and spend it. If the Bitcoin price rises rapidly, the digital coins will be kept in electronic wallet, as they are in increasing in their value and the wealth for their owners. But money has to circulate if the economy is to thrive.

Another actual problem when transacting cryptocurrencies could be transaction fees. In early December, the online computer game dealer Steam stopped accepting Bitcoin. One reason for this was that the charges had risen rapidly from initially 20 cents per transaction to almost $ 20. Thus, the fees exceed the price of many computer games available on Steam (BBC News 2017).

Usually, transfers with Bitcoin should actually nearly be free of charge, but because of the rush to the Bitcoin network (especially in the hype time end of 2017), the system prefers transfers with higher transaction fees A transaction fee is not mandatory. However, the transfer could take several hours or days without fees (Nakamoto 2008). On Blockchain.info interested parties can see how many transactions are still not processed to get an idea of how much the network is currently overloaded.

IV. The future of cryptocurrencies

The technology is technically still in its infancy. For the average person, it is currently almost impossible to acquire, spend or store cryptocurrencies.

Systems require demand and sometimes overstrain to grow and get better. Even though the end of 2017 has pushed the networks to their limits, it results in a number of innovations that bring speed and usability to the network.

The actual situation is probably comparable to when the first Diner`s Club membership cards were introduced in the fifties, which in the beginning could not be representing money for most people. And now we are in the process of creating a global, decentralized, limitless currency. A currency where payments cannot be regulated by third parties such as banks or governments. All that is needed are two interested parties with internet access (Nakamoto 2008).

It is as if every participant of the Bitcoin network is their own bank and has full control over the one balance without any restrictions. Participants do not have to be human, it makes no difference whether you are a person, a coffee machine or a self-driving car. Across history, money has always required belonging to a person, either as an individual or as part of an association or society. Cryptocurrencies can be held by machines. Machines can pay each other, which could open up a whole new world of machine economics.

At a technical level, payment systems currently have systems for a wide range of payment options, with systems for small payments, large payments, person to person and interbank payment systems. Similar to how worldwide communication was prior to the triumph of the Internet. There were systems for transmitting texts, some for the transmission of images over short distance or long distance. The Internet united the world-wide communication. The same innovation could be triggered by cryptocurrencies. It creates a single trusted network in which transactions ranging from the smallest to the largest transactions to the most hidden corners of the world can be carried out almost cost-effectively within a few seconds.

According to estimates, 2.5 billion people on this planet are completely unbanked (Business Insider 2017). Cryptocurrencies and related applications could help these people to participate in the economic system. It could give them the opportunity to stand against dictatorial governments, against corrupt banks. It may be a chance to take their future into their own hands. if they have been given the opportunity to conduct transactions with anyone in the world, whenever they want, without any restrictions. They will receive control over finance that cannot be seized, frozen or censored.

Bitcoin's unique architecture and payment mechanisms have important implications on the network access, privacy, innovation and regulation. If a malicious actor participates in the Bitcoin network, he will have no power over the network and cannot compromise trust within the network.

This means that the Bitcoin network is open to any participant without verification, authentication or identification. The network is not only open to everyone, it is also open to any software application, also without prior verification or authorization.

The ability to innovate as part of the Bitcoin network without restrictions is the same fundamental force that has been driving Internet innovation at great speed for the last twenty years, creating benefits for consumers, economic growth opportunities and jobs.

Since Bitcoin does not have to rely on one central point, centralized regulation and control is not required. Instead, the power lies with the end users, who have to take care of their own deposits. While individual Bitcoin wallets can be compromised or hacked unless properly secured, the Bitcoin network does not suffer from centralized systemic risks.

Bitcoin is not completely unregulated. Various aspects of the Bitcoin network are regulated by a mathematical algorithm. Bitcoin's algorithmic regulation, however, provides the user with predictable, objective, measurable results, such as predictable money supply. These results are not manipulated by centralized or government-related institutions that are both corruptible and, in some cases, deprived of democratic control. A Bitcoin user can predict the amount of Bitcoin circulating in 30 years (Nakamoto 2008).

V. Conclusion

Bitcoin's decentralized architecture is unlikely to meet the expectations and experience of consumers or regulators in these early days of its development because there has never been such a large, secure, decentralized network before. This technology takes time to thrive. It takes time to show the full potential of what is possible with decentralized, programmable money. New niches are being created in which new players can enter the financial services market, bringing innovation, competition and, presumably, changes in the banking sector.

For any problem that currently exists in the area of crypto currencies, there is also an entrepreneurial opportunity to solve the problem while achieving commercial success. At the starting point of groundbreaking technologies such as the Internet, there were dozens of articles in the 1990s about why the Internet would fail, most likely because no one would ever find anything on the Internet. Sergey Brin and Larry Page decided that this was an opportunity and not a problem and founded the search engine "Google". For each of these problems, Bitcoin may also have a very innovative new finance industry that can offer solutions.

Before cryptocurrencies will become suitable for the masses, however, a lot of things have to change on the technical level and in the minds of the people.

Crypto currencies have become more and more discredited in the media, especially as a speculative vehicle that has destroyed many existences at the beginning of the year 2018 and the previous crash in 2013, similar to the dot-com bubble.

Due to media coverage, cryptocurrencies are often associated with speculative bubbles and bubbles are generally negatively affected. Above all, technology bubbles may be important engines for new technological approaches. The massive investments and speculation on the Internet in the nineties probably helped to speed up the process and greatly increased the awareness of this new technology. This could be analogized to the environment of crypto currencies. In the Western world, the awareness of cryptocurrencies has massively increased due to the massive blistering. Much money has been flowing into this new industry and a whole new economy was able to expand, flourish and establish itself in this environment.

However, as long as cryptocurrencies are mainly seen as a speculative object, no regulated payment flow will probably be possible. With fluctuations as we see in the cryptocurrency charts, it is not possible to

trust it as a currency. Trust is one of the most essential aspects in a currency in order to become mass suitable (Hosp 2018, chap. 11).

Consequently, an adaptation is mainly based on the attitudes of the population of this new currency. Naturally, the banking environment also plays an essential role in the adaptation process. Even if cryptocurrencies have a chance to find their way into everyday life in the medium to long term, they will have to coexist with actual currencies and traditional commercial banks. Conversely, this also means that the role of the banks has to change in order to survive in this new environment. This may only affect a focus shift of business areas.

References

[1]. Allen, Larry. 2009. The Encyclopedia of Money. Santa Barbara: ABC-CLIO. LLC.
[2]. Arnold, Roger A. 2005. Economic. Mason: Thomson Higher Education.
[3]. BBC News. 2017. "Steam stops accepting payments in bitcoins". Accessed June 23, 2018. https://www.bbc.com/news/technology-42264622.
[4]. Berger, Nils. 2016. Wie Funktionieren Zentralbanken? Geld- und Währungspolitik verstehen. Wiesbaden: Springer Gabler.
[5]. Biggs, John. 2018. "Researchers find that one person likely drove Bitcoin from USD 150 to USD 1000". Accessed July 16, 2018. https://techcrunch.com/2018/01/15/researchers-finds-that-one-person-likely-drove-bitcoin-from-150-to-1000/?guccounter=1
[6]. Bloomberg News. 2018. "China Escalates Crackdown on Cryptocurrency Trading". Accessed July 16, 2018. https://www.bloomberg.com/news/articles/2018-01-15/china-is-said-to-escalate-crackdown-on-cryptocurrency-trading.
[7]. Bontrup, Heinz-J. 2004. Volkswirtschaftslehre: Grundlagen der Mikro- und Makroönomie. München: Oldenbourg Verlag.
[8]. Business Insider. 2017. "The world's 2 billion unbanked, in 6 charts". Accessed June 23, 2018. https://www.businessinsider.de/the-worlds-unbanked-population-in-6-charts-2017-8?r=UK&IR=T.
[9]. Choudhury, Saheli Roy. 2017. "China bans companies from raising money through ICOs, asks local regulators to inspect 60 major platforms". Accessed July 16, 2018. https://www.cnbc.com/2017/09/04/chinese-icos-china-bans-fundraising-through-initial-coin-offerings-report-says.html.
[10]. Choudhury, Saheli Roy. 2018. "Ethereum dives as one of the world's biggest cryptocurrency markets considers a bill to ban trading". Accessed July 18, 2018. https://www.cnbc.com/2018/01/10/south-korea-official-reportedly-readying-bill-to-ban-all-cryptocurrency-trading.html.
[11]. Chown, John. 2005. A History of Money: From AD 800. New York: Routledge
[12]. Cryptocoincharts. "Exchange, Volume." Accessed May 19, 2018. https://cryptocoincharts.info/markets/info.
[13]. European Central Bank. "Introduction". Accessed August 20, 2018. https://www.ecb.europa.eu/mopo/intro/html/index.en.html.
[14]. G. Askari, Hossein, John Forrer, Hildy Teegen, and Jiawen Yang. 2003. Case Studies of U.S. Economic Sanctions: The Chinese, Cuban, and Iranian Experience. Westport: Preager Publishers.
[15]. Hornyak, Tim, and Jeremy Kirk. 2014. "The tangled tale of Mt. Gox`s missing millions" Accessed August 3, 2018. https://www.computerworld.com/article/2488362/e-commerce/the-tangled-tale-of-mt--gox-s-missing-millions.html.
[16]. Hosp, Julian. 2018. Kryptowährungen: Bitcoin, Ethereum, Blockchain, ICOs & Co. einfach erklärt. München: Finanzbuchverlag. Kindle.
[17]. Business Insider. 2017. "The world's 2 billion unbanked, in 6 charts". Accessed June 23, 2018. https://www.businessinsider.de/the-worlds-unbanked-population-in-6-charts-2017-8?r=UK&IR=T.
[18]. Kresge, Stephen, ed. 1999. The Collected Works of F. A. Hayek Volume V1: Good Mondey Part II The Standard. London: Routledge.
[19]. Kuhn, Oliver E. 2013. Alltagswissen in der Krise: Über die Zurechnung der Verantwortung für die Finanzkrise. Wiesbaden: Springer Fachmedien.
[20]. Lui, Alison. 2017. Financial Stability and Prudential Regulation: A comparative approach to the UK, US, Canada, Australia and Germany. New York: Routledge.
[21]. Macdonald, George. 2012. The Evolution of Coinage. Cambridge: Cambridge University Press.
[22]. Mcintyre, Alan. 2017. " Selling Banking Shovels In The Digital Gold Rush", Accessed August 3, 2018. https://www.forbes.com/sites/alanmcintyre/2017/09/26/selling-banking-shovels-in-the-digital-gold-rush/#c6b46b36b538.
[23]. Nakamoto, S. 2008. "Bitcoin: A Peer-to-Peer Electronic Cash System", Accessed May 19, 2018. https://bitcoin.org/bitcoin.pdf.
[24]. Orrell, David, and Roman Chlupatý. 2016. The Evolution of Money. New York: Columbia University Press.
[25]. Stocker, Frank. 2017. " Ist das der finale Bitcoin-Crash?". Accessed July 16, 2018. https://www.welt.de/finanzen/article171849475/Bitcoin-Ist-das-der-finale-Crash.html.
[26]. The Guardian. "Cyprus bailout deal with EU closes bank and seizes large deposit", Accessed August 20, 2018. https://www.theguardian.com/world/2013/mar/25/cyprus-bailout-deal-eu-closes-bank
[27]. Ufer, Ulrich. 2008. Welthandelszentrum Amsterdam: Globale Dynamik und modernes Leben im 17. Jahrhundert. Köln: Böhlau Verlag.

Markus Schindler, MA. "The Evolution Of Money – A Brief Introduction Into The Emergence Of Cryptocurrencies." IOSR Journal of Economics and Finance (IOSR-JEF) , vol. 10, no. 1, 2019, pp. 01-07