A Survey On Crypto Currency-Revolutionary Monetary System

Shruthi BM¹ Assistant Professor Dept. of Computer Science & Engineering, GSSS Institute of Technology and Engineering, Mysuru, India

Abstract— Money is perhaps the best recognized and at the same time less understood figure of economy. During the evolution of a monetary science starting from the eighteenth century and fundamental works on such questions as true nature and main functions of money, the approach and theories about monetary science have changed significantly up to date not reaching the final state. The twenty-first century can be characterized with a vast development of technologies and the increase use of the internet which significantly succeeded the development of monetary system introducing a new phenomenon - virtual currencies. While remaining rather illusive, virtual currencies have been broadly noted by both, legislative authorities and practitioners. Moreover, such prime authorities as Securities and Exchange Commission, S Treasury and European Central bank have also shared their concerns about this new type of currency. Due to the growing popularity of virtual currencies, especially crypto currencies the suggested topic deserves extra attention. Despite the diverse opportunities virtual currencies might offer it is rather hard to ignore the related risks - virtual currencies, representing a type of unregulated, digital money might support superior risks such as money laundering, financing illegal activities et cetera. In scope of this paper the overall analysis and estimation of risks related to possible development of virtual currencies and the insufficient, not unified regulation is discussed. The main findings of the paper suggest that virtual currencies have a strong potential for further development nevertheless, the development of global or at least regional legislative base should stand prior.

Keywords—Virtual Currencies, Ledger,

1. INTRODUCTION

When speaking about money and its functions perhaps one of the most fundamental ideas is the separation of such terms as money and wealth. As T.H. Greco suggested, wealth creation and money creation should be seen as two entirely different things. He offered, that while wealth is created by the application of human skills to natural resources in the myriad ways that produce useful goods and services, money, on the other hand, is a human skills to natural resources in the myriad ways that produce useful goods and services, money, on the other hand, is a human contrivance; it is a symbol created by a deliberate process involving entities called banks. The discussion of development and the main aspects of virtual currency seems even more important during the time, when the fight with financing illegal entities stand prior to the possibility of private money emission. Nevertheless, despite the drawbacks virtual currency possess, it managed to increase the recognition significantly. One might say, that an

Dr. S Meenakshi Sundaram² Professor and Head, Dept. of Computer Science & Engineering, GSSS Institute of Technology and Engineering, Mysuru, India

important risk is that people tend to exchange goods and services via thousands of currency types rarely questioning the legal aspects of those.

Before evaluating the virtual currencies and discussing related risks, it might be handy to recall the development of alternative currencies as a class, especially being aware of the fact that alternative or complementary currencies range from quaint to robust, simple to high technologies showing in many various forms and being organized in quite different ways. Here, a Local Exchange Trading Systems (LETS) systems of mutual credit and CES, an online money and banking systems can recalled. While LETS functions as clubs that set their own guidelines, CES is administered through an online program that connects local groups to create a global network.

The whole idea of e-gold still might seem rather grounded -Jackson, a creator of e-gold was convinced that gold was a superior currency to paper money, despite the consensus among professional economists that a gold-standard prevented governments from responding quickly to monetary crises. Through its existence, e-gold managed to gain popularity having more than 5 million active accounts (archive.org), nevertheless, the vast risks to illegal activities were identified. In April 2007, Department of Justice USA announced that federal grand jury in Washington, D.C. has indicted two companies operating a digital currency business and their owners on charges of money laundering, conspiracy, and operating an unlicensed money transmitting business - those two being named were E Gold Ltd and Gold & Silver Reserve, Inc particularly dealing with e-gold. A brief summary would state, that being a new step in technological development virtual currencies especially socalled crypto currencies still are able to demonstrate a vast development. In scope of this paper the diverse aspects of virtual currencies will be summarized. While performing a literature and statistical analysis, this paper will seek the answer on whether new types of currencies hold the ongoing possibility to diverse their usage possibilities and could virtual money in any way lower the role of nationally emitted money. Above all, the possible encouragements for legislative virtual currency development will be formulated.

2. LITERATURE REVIEW

2.1. Virtual currency:

Although the modern trade in some extent can be characterized by the existence of virtual currency, this term is not a new one. Virtual currency continues to maintain the main features of traditional currency, in other words virtual money are a symbol or synonym for a value, a payment system technology which continued to grow over the past 20 years. Virtual currency is based on the idea of exchanging value without the approval of an institution. While being aware of a broad developments of various payment mechanisms and creation of alternative currencies, the bold question of what virtual currency is should be answered. Legislative acts of United States explains virtual currency to be a medium of exchange that operates like a currency in some environments, but does not have all the attributes of real currency, which points the absence of legal tender status in any jurisdiction.

Appropriate regulatory treatment of administrators and exchangers under three scenarios have been addressed:

- Brokers and dealers of e-currencies and e-precious metals. Since the definition of a money transmitter does not differentiate between real currencies and convertible virtual currencies, the same rules apply to brokers and dealers of e-currency and e-precious metals.
- Centralized convertible virtual currencies. Convertible virtual currency is generally understood as a substitute for real currencies, transmitting the convertible virtual currency at the direction and for the benefit of the user constitutes money transmission on the part of the exchanger;
- De-centralized convertible virtual currencies. Have no central repository and no single administrator, and that persons may obtain by their own computing or manufacturing effort.

In essence, virtual currencies were admitted to act as a medium of exchange and as a unit of account within a particular virtual community. The question then arises as to whether they also fulfil the "store of value" function in terms of being reliable and safe, or whether they pose a risk not only for their users but also the wider economy.

Even though it is important to define and classify aspects of virtual currencies, the definition tends to vary depending on the context, for example taxation, the registration and licensing of market participants or anti-money laundering, as the digital currency does not comfortably fit any existing classification or legal definition. As it was fairly noted, virtual currency is not a foreign currency, nor a traditional commodity, nor is it simply a payments network.

2.2. Cryptocurrencies

Bitcoin, first being introduced in 2008, is a peer-to-peer digital currency that trades on public exchanges and can be instantly transferred between any two people anywhere in the world with the speed of an email and at far lower cost than for transactions processed through the traditional financial system (Forbes.com). The bitcoin launching was based on a

nine-page "Bitcoin: A Peer-to-Peer Electronic Cash System" unleashing the bitcoin software, all of it public, in January 2009. At this point it might be sound to give a brief explanation on what traditionally is understood with peer-topeer landing. As European Commission explains, peer-topeer lending is a type of crowd funding – the crowd lends money to a company with the prior understanding that the money will be repaid with interest. As a comparison a traditional borrowing from a bank can be given, except that peer-to-peer means borrowing from lots of investors. Nevertheless, there is a feeling that crypto currencies are somewhat different from what is traditionally understood with peer-to-peer lending, as rather often, investing in companies or projects is far not the prime trigger for the use of virtual currencies.

As regards the process of making the economy as a whole rich – here are some doubts as well. Being strictly overviewed and even not allowed to enter foreign exchange market, crypto currencies are highly unlikely to be invested in any assets, for instance, in shares of any company or used to increase the production amounts. It is true to say, that traditional nationally launched currencies hold their position only due to the legal passion of their issuer, but, when addressing the question of the potential positive influence on the overall economy enrichment, crypto currencies fail due to the fact, that their value is not admitted in cross-country relations and therefore, can't be used and is not able to influence the facilities or economic state in cross-national comparison.

Moreover, even those positive aspects of virtual currencies which could be admitted, such as lack of regulation and independence from national regulators are in some points more cons than pros. Fair to note, two hundred thousand of the missing bitcoins later turned up. Before and since, there have been numerous bitcoin heists, blamed on hackers, and more than a few bitcoin losses – people literally lose their bitcoins by misplacing the code that proves ownership. While the lack of legislation and supervision plays good for possible money launders, it doubles the possible negative influence by reducing any possible protection for the society.

3. METHODOLOGY

3.1. Research Goal

As the top goal of this study the author identifies the estimation of risks virtual currencies possess. The understanding of the development of virtual currencies and its availability in different economic zones as well as analysis of quantitative data is essential in order to mirror whether the increasing interest in virtual currencies holds a substantial risk to the economy. In addition, the results should give an obvious answer on whether there is a further development of virtual currencies may bring any impact on the national currencies. In means of the research a diverse statistic data and survey analysis were conducted

3.2. Analyses and Research

As Bitcoins are fairly admitted to be the most known cryptocurrencies, therefore, the collation will be limited to those. Rather interesting data are provided by Coinbase – the

platform which claims to be the world's easiest way to buy Bitcoins. It is claimed, that the service of Coinbase is now available in 32 countries. Fair to say, that providing its service in such countries like Canada, USA or United Kingdom, the list of potential clients holds residence of such countries like Latvia, Romania and Bulgaria - countries with far more less developed financial market. While evaluating the listed countries it can be concluded, that Coinbase provided service on buying or selling Bitcoins is welcomed rather in well-developed and organized financial market representatives or small countries with poorly developed financial system and supervision, which might play a bold role for less legally supported transactions. While analyzing the list of countries where for instance Bitcoins are not banned a rather cautionary seems the fact that despite the development towards union financial market in euro area countries, the possibility of purchasing, Bitcoins which could be awaited to be equal due to its innovative nature, is still an issue. Therefore, the desultory approach towards regulation of virtual currencies seems somewhat of an issue.

CONCLUSION

The performed study leads that H1 can't be supported. It hasbeen proved that there is an absolute lack of systematic legislative foundation regulating transactions with virtual currencies. Even more, the approach varies significantly even in the scope of union European market. Such a situation if left neglected might bring new challenges to the market and give a certain support to illegal transactions and money laundering operations. H2 can be supported. Development of virtual currencies should not be seen purely negative as it might improve the exchange of values among the users. Still, the development of global regulative base should stand prior.

To conclude, a view of G.Gref, the head of Sberbank can be mentioned. Being interviewed at the end of 2013, he admitted that development of virtual currencies is indeed a new step in technological development, however, it will go hand-in-hand with the development of global regulation system development (vestifinance.ru). So far, is seems that the development of virtual currencies has strongly outperformed the union global regulation which in the nearest future can cause significant challenges not only to the users but challenging the overall stability of national financial supervision authorities as well. The development of international and union supervision mechanism as well as synchronized tax system can be advised admitting the fact, that for the new leap in monetary development, residency might become a sort of secondary issue. The spontaneous end of virtual currency development is very unlikely and therefore, the main challenge is the creation of such climate that would eliminate virtual currency's' possible use in illegal transfers.

Reference

- [1] Ryan Farell. An analysis of the cryptocurrency industry. available at repository.upenn.edu, 2015.
- [2] anonymous. Mining. https://en.bitcoin.it/wiki/Mining, 2014.
- [3] Jason Teutsch, Sanjay Jain, and Prateek Saxena. When cryptocurrencies mine their own business.
- [4] Nicolas Sklavos and Odysseas Koufopavlou. Implementation of the sha-2 hash family standard using fpgas. The Journal of Supercomputing, 31(3):227–248, 2005.
- [5] Satoshi Nakamoto. Bitcoin: A peer-to-peer electronic cash system, 2008.
- [6] C Lee. Litecoin, 2011.
- [7] Sunny King and Scott Nadal. Ppcoin: Peer-to-peer crypto-currency with proof-of-stake. self-published paper, August, 19, 2012.
- [8] Gavin Wood. Ethereum: A secure decentralised generalised transaction ledger. Ethereum Project Yellow Paper, 2014.
- [9] David Schwartz, Noah Youngs, and Arthur Britto. The ripple protocol consensus algorithm. Ripple Labs Inc White Paper, page 5, 2014.
- [10] Harry Kalodner, Miles Carlsten, Paul Ellenbogen, Joseph Bonneau, and Arvind Narayanan. An empirical study of namecoin and lessons for decentralized namespace design. Technical report, Citeseer, 2015.
- [11] D Cawrey. Auroracoin airdrop: Will iceland embrace a national digital currency. CoinDesk, March, 24, 2014.
- [12] Pavel Vasin. Blackcoin's proof-of-stake protocol v2, 2014.
- [13] anonymous. Dash. https://www.dash.org/wp-content/ uploads/2015/04/Dash-WhitepaperV1.pdf, 2014.
- [14] anonymous. Decred. https://decred.org/, 2014.
- [15] Andrew Miller, Ari Juels, Elaine Shi, Bryan Parno, and Jonathan Katz. Permacoin: Repurposing bitcoin work for data preservation. In Security and Privacy (SP), 2014 IEEE Symposium on, pages 475–490. IEEE, 2014.
- [16] Melanie Swan. Blockchain: Blueprint for a new economy. "O'Reilly Media, Inc.", 2015.
- [17] anonymous. Blockchain. http://www.investopedia.com/ terms/b/Blockchain.asp, 2014.
- [18] Phillip Rogaway and Thomas Shrimpton. Cryptographic hash-function basics: Definitions, implications, and separations for preimage resistance, second-preimage resistance, and collision resistance. In International Workshop on Fast Software Encryption, pages 371–388. Springer, 2004. [19] ShaikShakeel Ahamad, Madhusoodhnan Nair, and Biju Varghese. A survey on crypto currencies. In 4th International Conference on Advances in Computer Science, AETACS, pages 42– 48. Citeseer, 2013.