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Virtual currency: new step in monetary development

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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 cryptocurrencies 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.

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Keywords: Virtual currency; money; alternative currency; digital currency

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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 contrivance; it is a symbol created by a deliberate process involving entities called banks (T.H. Greco, 2001). While fully supporting such seeing, this paper will focus on the understanding of various aspects related specifically to money, especially in terms of currency. It can be agreed that as long as discussing nationally emitted currencies, which are defined and are broadly associated with national affiliation, a union understanding and criteria have been formulated. Still, as it was noted by Rogajanu and Badea, in nineteenth century the question on private currencies faced significant development (Rogojanu and Badea, 2015). 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 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. (J. D. Schwartz, 2008). The roots of such a vast virtual money development leads up to the year 1996 – when the digital gold currency, e-gold, was first launched. A rather meaningful might seem the fact that at its origins, this type of digital currency was backed up with gold ounce (or other precious metals). 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 (Zetter K., 2009). 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. The charges were claimed to be a result of a two and a half year investigation by the U.S. Secret Service into an alternative payment system that has largely operated outside of normal banking industry regulations. Moreover, FBI Cyber division representative noted, that the advent of new electronic currency systems significantly increased the risk that criminals, and possibly terrorists, will exploit these systems to launder money and transfer funds globally to avoid law enforcement scrutiny and circumvent banking regulations and reporting (Department of Justice, USA, 2007). A brief summary would state, that being a new step in technological development virtual currencies especially so-called cryptocurrencies 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 And Hypotheses

2.1. Virtual currency: essence and understanding

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. (Rogojanu and Badea, 2015). Virtual currency is based on the idea of exchanging value without the approval of an institution (Maftei, 2014). 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 (Department of the treasury… 2013). Moreover, while not having a legal tender and therefore not admitted to be a currency under Bank Secrecy Act regulation, accepting real, legally tendered currency in exchange for virtual currency or vice versa, can't be set as a deal in foreign exchange market (Department of the treasury…, 2013). When speaking about the overall scenarios involving virtual currencies, USA officials' 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 (Ibid.).

USA for sure is believed to be some sort of a spinner in financial innovations but it was not long since European Central bank covered the question on virtual currencies rather wildly as well. In line with USA regulators, European Central bank published its first report on virtual currency schemes in 2012. The ECB drew the attention to the fact that the development of virtual currencies was highly connected with increase in use of internet, especially, vast popularity of various virtual communities in scope of which, their own virtual money developed starting from social networks such as Facebook, Twitter and various online gambling environment creators, like Online Vegas Casino etc. 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. (ECB, 2012). While explaining the essence of virtual currency ECB provided the following definition: "a virtual currency is a type of unregulated, digital money, which is issued and usually controlled by its developers, and used and accepted among the members of a specific virtual community (ECB, 2012). Still, the provided definition did not stay unchanged for long following the every-day development and was revised already in 2015. In line with development of virtual money ECB pointed out that the word "money" had to be excluded from the definition, since it become clear that virtual currencies do not have the nature of a highly liquid asset and have not reached the level of acceptance commonly associated with money. Secondly, the word "unregulated" was to be annulled as some jurisdictions, legislation and regulation has caught up with this innovation and addressed some of its aspects and/or aspects of related services (ECB, 2015). Just for clarification it should be explained that those legislative changes mentioned by ECB mostly were related to specific improvements of taxation law in different jurisdictions. These changes shows above all, the alertness of different national regulatory bodies and officials – even though virtual currency is still believed by many to be a sort of illusion, it has managed to develop to the certain stage, when can't be neglected. Virtual currency therefore was defined as a digital representation of value, not issued by a central bank, credit institution or e-money institution, which, in some circumstances, can be used as an alternative to money (ECB, 2015). Having its latest updates in September 2015, it still can be assumed that development of the definitions at least in European Union, which means the continuation of finalized legislative base formation, has not reached the final state.

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 (Brito. J, 2013).

Perhaps the boldest issue to be acknowledged when speaking about virtual currency is so called virtual currency schemes wildly discussed by ECB. Moreover, in its report ECB implemented the term virtual currency scheme by using it to describe both the aspect of value and that of the inherent or in-built mechanisms ensuring that value can be transferred – in this regard superior attention was devoted to Bitcoins which is classified being the most spared cryptocurrency so far. (ECB, 2015). At this point a sound question is the true value virtual currencies may possess – one might say that nowadays, trustability or in other words, the level of trust one or another currency possess, stand above all other criteria.

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. The system allowed for the creation of 21 million bitcoins, total, with the last ones to be released in 2140 (Bloomberg.com). At this point it might be sound to give a brief explanation on what traditionally is understood with peer-to-peer landing. As European Commission explains, peer-to-peer lending is a type of crowdfunding – 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 (European Commission, 2015). Nevertheless, there is a feeling that cryptocurrencies 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.

When speaking specifically about the Bitcoins, the views on cryptocurrencies related risks and opportunities vary significantly. While citing the opinion of P. Krugman, what is wanted from a monetary system isn't to make people holding money rich; but to facilitate transactions and make the economy as a whole rich - and that's not at all what is happening in Bitcoin (Business Insider, 2011). At this point an explanation to evaluate the Bitcoins, treating them as a representatives of all cryptocurrencies, provided by P. Krugman seems to be very fair. When addressing the facility of transactions a sort of two-sided effect appears. On the one hand, digital creation and exchange of any sort of value, for instance virtual currencies, seems to be free of any bank-related regulations, extra costs and etcetera. On the other hand, it can be argued that the facility is highly connected with unification, homogeneity and commensurability of those. As a certain example coinmarketcap.com can be give, listing 634 cryptocurrency types by the 19th October 2015 (coinmarketcap.com). It can be argued that trade-available cryptocurrencies can't be seen to be a facilitating mechanism. 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, cryptocurrencies 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, cryptocurrencies 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. The high proof of this belief is a co called Silk Road: in 2013, the FBI busted an online drug market that ran on bitcoins. In February 2014, Tokyo-based Mt. Gox, once the largest bitcoin exchange in the world, collapsed, and suddenly 850,000 bitcoins, worth $500 million at the time, were just gone. 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. (Bloomberg.com). 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.

2.3. Development of Hypotheses

Despite all the existing slips in 2014 New York Times noted that Coinbase was taking Bitcoin services to Europe in a move that could help expand the virtual currency's reach. The company, which was claimed to be one of the most popular digital wallet providers, said that it was expanding to 13 European countries, including France, Italy and the Netherlands, by allowing those with authorized European bank accounts to buy and sell Bitcoins in exchange for euros. Previously, only users with United States bank accounts could exchange Bitcoins on Coinbase, though anyone in the world could set up a digital wallet to hold the virtual currency (The New York Times, 2014).

It seems that merely passing the existence of diverse virtual currencies, platforms and various key actors in scope of virtual currency schemes, European Central Bank proves that the "ecosystem" of virtual currency schemes consists mainly of specific, new categories of actors which were not present in the payments environment before. (ECB, 2015). Here a specific point should be lightened- while a broad list of participants of these virtual currency ecosystem may be named, there is no union legislative or explanatory base available.

Currently, if virtual currency schemes have a legal status at all the key actors are generally neither regulated nor supervised remaining overall unclear. Therefore, the users can not benefit from any legal protection such as redeem ability or a deposit guaranty scheme, and are more exposed to the various risks that regulation usually mitigates. Another challenge for the potential users is the difficulty to form even the basic understanding on virtual currency schemes functioning baselines - most of the time, there is only limited information available, if any at all. For decentralized virtual currency schemes, it is not even clear who should provide information to users at the time when no transparency requirements are being applied. Being put in circumstances of the severe lack of information regarding legal obligations users still are at risk of being confronted with unexpected legal requirements that render contracts illegal or unenforceable. As it was fairly noted by ECB itself, in most jurisdictions, the taxation regime is not yet clearly defined and might change unexpectedly, inducing additional costs for users. In addition, when using virtual currencies as a means of payment for goods and services, users are not protected by any refund rights offered for transfers from a conventional payment account, as it is under EU law. To conclude the identified risks it should be stressed, that in the case of unauthorized or faulty transactions (wrong beneficiary, wrong amount, etc.), there is no payment service provider to turn to nor a central dispute resolution body. Moreover, in most virtual currency schemes, transactions are hard to trace, as the beneficiary is known only by its virtual currency schemes "address", and not by its name or any other trustable identification data. Such transactions will consequently result in definitive losses for the user (ECB, 2015). Summing up everything up mentioned, the question that strikes out is why authorities, while recognizing a vast list of virtual currency related hazards, being aware of a serious lack of legislative regulation or at least the fundamental regulation on user protection such of those mentioned before, do not simultaneously ban the usage of at least those virtual currencies, whose developer and provider remains unknown. In the light of broad literature studies, it is argued that virtual currency is a serious fraud that should be put in well-formed regulation or at least structured in a way, all involved parties are fairly acknowledged of what they undertake. Hereby, the following hypotheses are being formed:

H1: In spite of the absence of global union virtual currency supervision, there is a well-developed regional base regulating virtual currency transactions.

H2: The market of virtual currencies has a vast development potential.

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. Fair to say, that the work on simplifying the financial transactions still is an ongoing topic. As an example October 8th 2015 can be named, when the European Parliament adopted the revised Directive on Payment Services (PSD2) to create safer and more innovative European payments. Even though before full implementation the work is still to be done in its basics this new law, proposed by the European Commission in July 2013, enhances consumer protection, promotes innovation and improves the security of payment services. PSD2 is the latest in a series of laws recently adopted by the EU in order to provide for modern, efficient and cheap payment services and to enhance protection for European consumers and businesses (European Commission, 2015). What is more, the data summarized from the Library of Congress which is an agency of the legislative branch of the U.S. government, spotlights the lack of union approach towards the new currencies. This shows the drawbacks not only among euro area, but also among European Union countries. The results of survey of foreign jurisdictions shows that there is widespread concern about the Bitcoin system's possible impact on national currencies, its potential for criminal misuse, and the implications of its use for taxation (loc.gov; European Parliament). As European Parliament briefing material on Bitcoins suggested in 2014, there were very few countries where transactions of Bitcoins was prohibited. Such a scrimpy list of those countries, prohibiting the use of cryptocurrencies arises a certain awareness – in case of such a need, the money laundering operations can be realized with almost no nuisance regardless the target country. In the circumstances of no regulation from the authorities the necessity of which can be ignored for now, there is a vital need for the ability to remain aware of the final destination of illegal value transfers, especially knowing the regional tension met world-wide. The legislative summary of EU member states bolds that even though having few tax-related regulation, there is an absolute lack of both, union understanding of cryptocurrencies (Bitcoins) and union act plan in order to face the possibility of emerging risks simultaneously. Moreover, a rather small is the share of those European Union member states where Bitcoins are prohibited – as an example, Sweden can be named. (Evander, 2015).

Table 1. A summary on Bitcoin use regulation

Country	Regulation
Russia	Bitcoins cannot be used by citizens nor legal entities.
China	Banks and payment institutions in China are prohibited from dealing in bitcoins. Individuals are free to trade.
Belgium	Not regulated.
Cyprus	Not regulated.
Denmark	Not regulated.
Estonia	Not regulated.
United Kingdom	No official statement published.
Finland	Specific taxation regulations.
France	No specific laws or regulations.
Germany	No specific laws or regulations.
Netherlands	No specific regulations.
European Union	No specific legislation relative to the status of the bitcoin as a currency.

The author argues, that the absence of union legislative as well as absence of taxation laws might seem less menacing in case they would be unified at least among European Union member states, USA, and other main market representatives. Still, as the study of the Bitcoin example reveals, the regulation of virtual currency market is in a state, where fair and unified market remains a far destination. The author claims, that the poorly regulated virtual currency market should be denied by all the official institutions – moreover, while possessing rather poor advantages such form of value – exchange seems groundless and any transactions have to be put under a superior supervision.

As the last argument bolding the risks virtual currency possess is their noted high tendency to form so-called bubbles.

Table 2. Bitcoin price dynamics

Date	Price per one Bitcoin
January 26th, 2013	17 USD
July 2nd, 2013	90 USD
November 30th, 2013	1145 USD
January 1st, 2014	747 USD
July 2nd, 2014	648 USD
January 1st, 2015	316 USD
July 2nd, 2015	255 USD
October 1st, 2015	239 USD
October 22nd , 2015	271 USD

While evaluating the Bitcoin price dynamics it is rather interesting how a digitally created code that has no back-up from any central government, nor financial institution or is ensured by any commodity could ever hit a price as high as, for instance, in 1145 USD, January 2013. Such an ability strictly bolds the concerns of many experts and Central Banks that Bitcoins possessed risks are times much higher than the illusive opportunity they are claimed to bring to the market. Volatility of Bitcoins, especially during its peak time at the end of 2013, leaves no suspicion about the absence of economic reasons of those. The last thing worth attention is that Bitcoins have been sold and exchanges for years expressed in USA dollar – national currency of United States that is broadly used as a reserve currency by a long list of other countries officials. The allowance of national companies or even state owned enterprises to deal with Bitcoins pushes the soundness of a global economy under serious risks. It can be concluded, that as soon as trans-national deals via Bitcoins are being made, there is no way for any product to save its true value. Perhaps as the summary of virtual currency market related ideas could be formulated as follows:

- the absence of legislative base regulating Bitcoins or those alike as well as their generated risks for the users can be admitted and should be strongly supervised by the authorities as suspicious transactions;
- national authorities have announced the main risks of trading or making deals with Bitcoins and alike, but there are no concrete unified plan of dealing with them;
- there is a strong need to unify the taxation laws and their implementation to cope with virtual currencies;

- none of national financial authority encouraged the use of Bitcoins or those alike, therefore, any transactions related to virtual currencies should be specifically monitored fully acknowledging the genuine aim of such activities;
- at the moment of writing, no national financial authority admitted Bitcoins to possess a serious risk for national currencies or existing financial system, still, neglecting the proper supervision may lead to increase of illegal financial activities.

4. Conclusion

The performed study leads that H1 can't be supported. It has been 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.

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