

## E-Money and E-Finance as Economic Category

Vladimir V. Glukhov

*Ph.D. in Economics, Far Eastern Federal University, glukhov.vv@dvfu.ru*

Vladimir A. Ostanin

*Doctor of Economics, Professor, Far Eastern Federal University, ostanin.va@dvfu.ru*

Yuriy V. Rozhkov

*Doctor of Economics, Professor, Khabarovsk State Academy of Economics and Law, zdnrff@mail.ru*

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### Abstract

*The article represents the results of the research, which reveals the influence of globalization processes on the evolution of the concept of finance in the modern context. The relationship of e-money and e-finance is disclosed. The problems of the development of e-commerce and electronic calculations are revealed. It is concluded that as an economic category finances are influenced by virtualization processes at the stage of pervasive evolutionary changes. The authors identify the need for the development of relevant theoretical evidence for the new economic concept, which has not been studied thoroughly due to its innovative character and speed of penetration into national and international economies.*

**Keywords:** e-money, e-finance, virtual economic relations, electronic payment systems

### 1. Introduction

The globalization and internationalization of relations together with virtual economic ties becoming more stable, on the one hand, and the emergence of fundamentally new information and communication technologies and resources, on the other, have laid the basis for the integration of the international community, which was previously separated due to existing ideological reasons.

The internationalization of national economies increased the mobility and accessibility of global capital markets for the owners of financial resources. Consequently, the majority of states were forced to restructure their financial and tax systems in order to effectively compete for multinational investment in the new global financial architecture.

In fact, a new economic space has emerged, with the immanent system of financial attributes, products and relationships, cross-border migration of labor and capital markets, financial innovation, the localization of the production of goods and services, where the corresponding types of money resources are created and used.

Integration of the national economy into the world economic territory has transformed the total system of monetary economy and circulation. It has caused deep alterations in the world financial architecture, infinances and even geoinfinances, in banking intermedia area and other fields of economic and social life of different states. Updating of money significance, its destuffation, the generation of «technocurrency» (e-money, digital money, cybercash and etc.) have happened so fast, that theoretical basis and scientific research on this matter fall behind the reality.

The process of globalization and internationalization has caused the generation of new payment products, theoretical aspects and content of which have not been studied properly because of its innovation and speed of penetration in national and international economies.

### 2. Methodology

Thus, "geo-finance" is a new financial space-time defying the laws of geography and national boundaries and representing a synthesis of world money, information technology and the liberalization of legal regulation. Structurally, geo-finance represents a global network of traditional and virtual, dematerialized ("destuffed") financial markets and their participants, with intermediaries playing an organizing and leading role (Rozhkov & Chernaya, 2012).

Today, geo-finance takes shape of an independent scientific discipline, which explains the brand new nature of the modern finances, the sources of its formation and the world cross-border flows, and it has its own independent attributes and nomenclature (Kochetov, 2014).

The above-mentioned processes have led to reframing the existing theoretical concepts and formed the basis for new aspects of economics, including its financial branch, which, in its turn, contributed to the emergence of new schools of thought.

All this gives a serious impetus to the development of finance that includes a new specific area of economic knowledge, that is, the development strategy of the global financial architecture designed to study the integration of different states and the competitiveness of their national economies under the impact of globalization and internationalization.

The transformation of previously used scientific terms and concepts has necessitated the scientific justification of interpretations of the main definitions in economics, which could be relevant to the requirements of the global economic processes associated with the virtualization of the structure and composition of national financial systems, and the internationalization of cash flows.

The latest information and communication technologies have radically changed the financial industry, where electronic money and different types of derivatives related to them have appeared. And above all, these have affected finance, which is currently interpreted as mobile or electronic finance.

The nascence of e-finance, together with other financial innovations, blurs the boundaries between different financial institutions, enhances the capabilities of traditional financial services, and serves the basis for their expansion and the emergence of new financial and credit products. As a consequence, it has become necessary to develop an adequate theory of finance.

In addition, the advent of a peculiar kind of the modern money (e-money) displacing its paper counterparts, which are inherently fiduciary, and, within the national economy, fiat money, represents the process of the formation of special virtual funds of finances, which, in fact, detracts from neither the role of e-finance nor e-money.

One more characteristic of electronic money is that it is much less "tied" to their paper counterparts, thereby repeating the historical fate of the former rigid binding of paper money to the "golden anchor". At the same time, with the emergence of electronic money, paper money broke away from the "commodity anchor" thus losing touch with the mass of commodities, including the «service anchor." Moreover, it is accompanied by the process of alienation and rejection of electronic money from its owner.

The owner can store bank notes in any convenient place, while e-money can be stored only in a bank, and not in an "e-purse" in the form of deposit bank cards, which cannot be taken as cash.

In their turn, banks receive the opportunity to use the borrowed funds. An individual can manage the electronic purse having the illusion of disposing personal finances, or of storing them, defining the direction for their investment and use, etc. thus performing payment transactions under the terms of the contract between this individual and the credit institution.

The moment of truth comes when someone having a real access to the individual's virtual wealth loses control of the funds deposited in custody. Thus, according to the Deposit Insurance Agency as of 20 January, 2014, in Russia 194 banks were liquidated and 126 banks are in the process of liquidation (Deposit Insurance Agency, 2014).

The problem is that concluding a deposit agreement the depositor transfers the money for keeping, and even if the deposit is made in a traditional paper form, the bank immediately gives it a virtual electronic image and disposes it at its own discretion. As for the nature of relationships between the owner of the money functioning now in an electronic form and the bank, title to absolute liquidity can be registered both in a traditional paper form and in an electronic form.

### **3. Results**

At the same time, certain effects enter into force when the property owner puts it into a commercial bank and obtains a record in the electronic system of the deposits made. But this automatically implies tacit consequences that it is now a commercial bank that receives the right to use and derive income from the property of others without mentioning this fact in the contract with the owner of the deposited funds. By disposing the money obtained, commercial banks emit an enlarged scale of loans under the terms of a loan agreement. Thus, the right of use is transferred from the first depositor to another borrower for a fee. The ratio of liquidity received and issued by the bank cannot be of the same quality.

In the modern conditions, the situation has greatly changed. As Karen McCredie notices, at the times of a credit fever, American banks provided credits with the correlation of 30 USD dollars to 1USD dollar of received deposits, and in Europe this correlation was 50 to 1. But the most risky credit policy was in Island, where every receipt liquidity correlated

up to 300 issued liquidities in the form of credits (McCredie, 2010).

Having accepted someone's liquidity not only for custody, but for the following use and disposal, the bank reserves the right to use it, because the latter brings profit. The depositor also needs profit, but he/she proportions possible alternatives of investment of funds taking into account returns, risks, reliability, and thus making a favorable decision to deposit this excess reserve in a commercial bank.

For the depositor, risks arise simply because of the fact that as soon as the property is put into a commercial bank, the control over it is lost. And the bank, while placing this property into different virtual funds, also loses effective control over these virtual processes. In addition, the greater the number of intermediaries, the more pronounced the risk of loss, first, of control, and then, of the transferred liquid assets.

Being within the scope of banks, the transferred financial resources are then involved in the processes of distribution and redistribution on a world scale, thus reflecting the process of internationalization of the financial systems of different countries.

In the modern context, the use of property in the form of new means of payment, even if the latter exist in a virtual form, implies the use of another's property by credit institutions. It allows these institutions to establish derivative rights to use the electronic records of cash and these electronic resources. Thus, benefit is derived from the use of another's financial resources on terms that are not coordinated with the primary beneficiary.

The deposit agreement for the right to use and extract benefits, signed between the credit institution and the depositor, is based on the fiducia, no matter what guarantees may be issued by the bank itself or some other credit institution. Receiving interests by these institutions should be considered a real product that emerged from the depositor's ownership right. In this connection, it is necessary to recognize the legitimacy of the model of the partition of right.

The product of this partition can be regarded as a right, which is complementary to this case, that is, the right to dispose the ownership of financial resources entrusted to the credit institution. By taking financial resources into custody, the bank gains the complementary right to use them and extract the benefit in the same way as it can be secured by the depositor himself, thus ensuring both the safety of the deposit under the deposit agreement and the payment of the corresponding revenue. This process of changing the material form of the modern money called "destuffation" allowed to fundamentally change the very form of the implementation of the essence of finance.

Finance is known to be a form of distribution of funds in accordance with certain objectives of its manager, who directs it in order to raise the appropriate monetary funds. Since this property presents the ownership of the right to use real goods in the future, when the previously raised specialized funds in the form of entries in computer networks accounts of financial counterparties can be transformed into tangible products and services, the distribution function of finance requires a control function as well.

These functions of finance, the object of which is electronic money, represent generic functions. Therefore, financial relationships are monetary relations by their nature, regardless of whether monetary resources are represented in the form of gold or silver coins (when real money was in use), or it is fiduciary, fiat money. Consequently, we see no reason for assigning some new terms to the modern forms of money or finance that would reflect its new essential nature.

If we do not want to produce another "terminological pandemonium" (by J. M. Keynes), we must be fully aware of the fact that in the course of its virtualization finance retained its generic nature, though the command of monetary resources has been changed.

Due to this fact, the conventional categories and tools of economics have begun to actively accompany all financial processes for the production of goods and services, but in a different – electronic – form: e-commerce (trade), e-banking, brokerage, insurance services, etc.

However, most of the processes connected with virtual economic relations are mainly associated with e-commerce and mobile payments, i.e. the machinery for the implementation of electronic payment services, rather than with electronic finances being an emerging, little-explored area of economic science.

#### **4. Discussion**

In retail payment operations an extensive range of both traditional and new forms and mechanisms of monetary calculations are used. This sphere has not been studied completely so far, comparing to a system of wholesale payments, from defining the boundaries and peculiarities of retail payments to assessing the role of innovative tools of non-cash transfers (Usoskin, 2013).

To some extent, this can be explained by the expanding needs of international markets for goods and services as well as by increased opportunities of information and communication technologies, which allow for a variety of financial transactions, regardless of territorial allegiance, and which can help to direct cash flows to different areas of the national

economy.

In general, this has led to the fact that without the necessary theoretical justification and explanation of virtualization of economic relations, practice outruns theory, as indicated by many scientists.

According to Y. Brigham and L. Galenski, in a number of cases a theoretical approach can simplify the situation, for it builds on prerequisites that are not relevant to the reality, so the required rules cannot be accepted. But when theory is not consistent with practice, the former should be modified and brought in line with the latter, or it should be abandoned in favour of another more up-to-date theory (Brigham & Galenski, 1997, p 1,2).

In his turn, Y. Beryozkin points out that such simplification is conditioned by at least two factors. First, it is the "blurring" of theoretical knowledge itself appearing in such a situation. During these periods, financial theory either loses touch with the real financial practices ceasing to reflect it properly, or it becomes inoperable due to an eclectic mix of diverse theoretical assumptions. Second, the effect of uncontrollable finance occurs, which is always accompanied by "old" financial institutions' breakdown, with "new" institutions being underdeveloped and slowly made up (Beryozkin, 2006).

Therefore, it is necessary to determine the theory, since it must precede practice, though there are situations when practice outruns theory forcing it to adapt to the already available results.

However, this is not an accident, but a regularity of the contemporary world that theory confirms practice, that it finds scientific evidence to innovations emerging amongst financial tools, etc. As a set of various assumptions and knowledge, science should primarily be aimed at creating and offering theories and its models with conclusions correlated to the evidence.

In the ongoing debate about which is primary money or finances, it would seem one can already put the point. In fact, the more actively information technology is used in the modern society, the more virtual both money and finance become. They start replacing each other, and within virtual economic relations they perform an integral whole.

Yet, from a practical point of view, there is a contradiction. It was stated earlier that money is a tool for exchange, and finance, in its turn, is a tool for exchanging money and its substitutes, which leads to the creation of monetary funds. Moreover, with emerging virtual economic relations, the difference between money and finances is supposed to disappear.

However, unifying money and finance in scientific terms is not correct, because as a result, these two terms will reflect the nature of the same phenomenon. Probably, the nature of e-finance is to be understood as a mode of finance in general, as a generic concept. In other words, if e-finance is specifically different from the general notion of finance as a generic concept, electronic money is the specifics of money as a *genus proximus* (lat. - *the closest race*).

The volume of money supply, which is uncontrollably moved across the global financial markets, amounts to tens of trillions of US dollars every day. G. Soros states commonplace facts that our understanding of the world is not perfect, because we ourselves are in the world that we would like to know. This thesis is highly important for us, so we will develop it further on relying on the previous research and publications including ours. The matter is not that our knowledge is imperfect, but the fact is that people explore the world by overcoming this drawback. G. Soros connected this function of experience with a cognitive function, which manifests itself in people's seeking to influence the situation and change it in their favor. The essence of this function simmers down to manipulation, or a manipulative function (Soros, 2008, p. 28).

In this connection, it is crucial to understand the difference between monetary and financial resources as well as their owner, keeper and manager. Having monetary resources does not imply that their keeper is their owner, and he/she can manage them on their own, without the consent of other legal entities and individuals. But the availability of financial resources, that is unobligated money, means that it is a resource, which the keeper can dispose on their own.

And in this case, having the appropriate volume of financial resources allows the owner to participate in various operations using information technology that determines the cash flows regardless of produced goods.

The access to information and communication technologies allows integrated business structures together with small and medium-sized businesses to cut transaction costs and participate in various commercial transactions, which reveals the discount nature of e-payments to the recipient of goods and services.

To some extent, this is understandable, as the owner of the money resources attaches little importance to what this or that means of payment called, whether it is money or finance.

Some authors argue that using mobile payments will require accepting the term "abstract" money. The information of its operation may be obtained only through a mobile phone. Users will experience a shortage of physical contact with money, and they may have to re-learn to manage their personal finances. In order to protect the rights of consumers within the new services, which are unusual for market actors, the government participation may be required (Leinonen, Obaeva & Sumbulov, 2012).

The virtual character of finance can pose a threat to the state as an economic and territorial integrity. Today, financial resources do not have national identity, and selecting a convenient jurisdiction, the owners will move to those countries that provide them with the most favorable regime for their allocation of capital, especially from the point of taxation.

Global financial players, who actively participate in the operations in financial markets created by the world community, establish special funds in the modern electronic virtual form thus redistributing the accumulated resources among national economies.

Virtualized economic relations lead to the fact that restrictive barriers (customs, tax, tariff and other regulations) cannot solve the problems of competition between different industrialized and developing countries, either in the labor market or the capital market. It results in changing the classical notions of interconnection and interdependence of the state, population and resources within its territory, the owners of the capital involved in internal and external financial relations.

In this case, the globalization of economic relations presents a major threat to national security, as transnational financial and lending institutions being without the government control can undermine national sovereignty.

A separate issue to be studied within the e-finance industry is taxation. Using information and communication technologies allows business entities to implement various business processes that are not tied to "tax residency or territoriality", which ultimately contributes to a violation of the current legislation and tax evasion. We agree with the opinion of the scientists indicating that the use of instruments of tax regulation of e-business is limited by a number of circumstances.

Firstly, there is a legally controversial nature of the extension of state sovereignty in the virtual space, as well as the specifics of the legal regulation of taxation of commercial activities on the Internet.

Secondly, there are difficulties in the development of a uniform nomenclature in the field of e-commerce, which complicates the identification for tax purposes and, accordingly, the control of both the e-business and its participants (Innovative development of economy, business and trade, 2012).

The inertia of the existing legislation and the lack of the necessary tools do not allow to fully take into account the specificities and volume of e-commerce, which results in failing to receive significant amounts of compulsory payments to the corresponding budgets and funds.

Another issue requiring primarily a practical solution in e-commerce is the blurring and merging of such concepts as "money", "finance", "payment", "credit", which demands the regulation of this activity on the part of the state through the introduction of relevant legislation reflecting the changes.

In practice, e-finance is mainly associated with the electronic money used in electronic payment systems, such as WebMoney, Transfer, Yandex.Money, PayCash, Stormpay, PayPal, Moneybookers, etc.

Virtual economic relations have led to the emergence of electronic money, which in its turn has formed the basis for the cryptocurrency (digital currency). The latter, though having an external similarity to the electronic money, differs from it as it is not governed by any central emitter, and it has peer to peer (P2P) architecture of Bitcoin type – Fairbrx, GeistGeld, Ixcoin, i0coin, Litecoin, Namecoin, Novacoin, PPSoin, Primecoin, Rucoin, SolidCoin, Tenebrx, Terracoin etc. The total capitalization of 100 cryptocurrencies now exceeds \$ 9.2 billion, with Bitcoin accounting for more than 7 billion dollars (Crypto-Currency Market Capitalizations, 2014).

All the cryptocurrency payments are fee free, completely anonymous and not controlled by anybody or anything. Currencies derived from Bitcoin are sold at a discount to it. They all operate on the principle of decentralization and differ from each other in a cryptographic algorithm. Yet, there is a risk of unauthorized transactions when law enforcement agencies may find it difficult to identify their legal status, and thus deterring illegal commercial activity becomes rather challenging. Realizing the danger of spreading such means of payment, China has banned the circulation of such currencies, which actually means disappearance of this pseudo-currency.

Such active development of e-commerce has led to new forms of illegal and criminal operations (bank card fraud, unauthorized access to the accounts, etc.). As a result, various financial and credit institutions, providers, insurers, businesses and individuals are all faced with the problem of maintaining a high level of information security for their customers.

Russia has entered e-commerce later than the others for a number of legal and economic reasons. In Russia, e-commerce is regulated by laws No.115 "On Combating Money Laundering" and No.161 "On the national payment system."

At the international level, trade relations are governed by Art.7 of the Model Law on Electronic Commerce of the United Nations Commission on International Trade Law, where the trade is interpreted broadly, encompassing many of the issues arising from all commercial relationships, both contractual and non-contractual.

In its turn, the Census Bureau of US Department of Commerce labels any computer-aided transaction involving the transfer of ownership or the rights to use goods or services as electronic commerce (e-commerce). And it is an electronic agreement rather than a payment that presents a key feature constituting an electronic transaction.

According to Data Insight analysts, the volume of retail e-commerce in Russia in 2012 reached 405 billion rubles (\$ 13 billion). The annual growth was 27 per cent. Tangible goods constitute only 280 billion rubles. As estimated by Data Insight, in 2012, Russian citizens abroad acquired goods worth 45 billion rubles, which made up 16 percent of the total volume of online sales. It is 2 million customers (Data Insight, 2014).

In 2012, the J'son & Partners consulting agency estimated the market turnover of electronic payment systems at 1 811 billion rubles. So much money passed through two main segments: remote financial services and teller and non-teller terminals. According to the analysts, the market turnover growth amounted to 24 percent compared with 2011, and by 2017 it will have been doubled up to 3,740 billion rubles. The turnover of remote financial services segment amounted to 896 billion rubles in 2012, showing 48 per cent growth in relation to 2011. In turn, the structure of this segment includes sub-segments of banking services (online banking) with a share of 66 per cent, non-banking services (online money) with 31 per cent and mobile services with 3 percent (Krylova, 2014).

The development of mobile payments generates a trend of banking disintermediation. The advent of electronic money leads to a tendency of reducing the role of banks and claims the threat of extinction of this market institution that loses its flexibility and dynamism, because new entrants offer innovative mobile payment services, which is not considered as a global threat by the traditional banking sector so far.

But in the western world, such innovations are called "subversive". The banking system is characterized by a second type of disruptive (subversive) innovation, assuming the launch of a service or commodity to a new market where there are no similar products, and therefore there is a possibility of high returns (Rozhkov & Chernaya, 2012, p. 268).

In addition, the use of a fundamentally new information and communication technologies in the field of mobile payments is also beginning to compete with traditional banking services, because users (service users) of smartphones get accustomed to the fact that it can be used to carry out various financial transactions to transfer money, purchase goods or pay for other services.

As for banks, their main competitors are new entrants of electronic payments markets who are aggregators of financial and payment services and who can quickly adapt new information and communication technologies to the e-commerce market.

## 5. Conclusions

As we can see, the modern electronic financial system acquires a number of specific features, while preserving its main function. The latter should provide for the needs of all the economic agents, including primary needs (food, housing, life-sustaining services, etc.), the needs of business entities, public authorities, as well as other international and supranational institutions which are created by the world's socio-economic community to comply with both national and supranational interests.

All in all, with the further development of society, the emergence of new types of economic relations, transforming under the influence of globalization, the "physical force" of money will continue to be undermined by the states, whose national economies depend on global economic crises destroying the excess money supply, which cannot be hoarded as it was once done with gold. The expansion and further development of virtual economic relations necessitates the creation of international, inter-governmental organizations aimed at resolving problems of "infoeconomy", the legal regulation of the mobile finance market, and the development of common rules facilitating the consolidation of national economies.

It can be concluded from the research that the concept of finance as a scientific economic category is in the process of an evolutionary change, which is projected to other scientific categories and can be applied to a wide range of financial instruments used by public authorities, economic entities and population.

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