

# INFORMATION FUNCTION OF FINANCE: UNDERSTANDING OF ITS NATURE IN THE LIGHT OF MODERN INFORMATION PARADIGM

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## Ryazanova N. S. Information Function of Finance: Understanding of its Nature in the Light of Modern Information Paradigm

The article is aimed to study the information function of finance, based on considerations of modern information paradigm. The article concluded that not only distributive function but also information function is inherent in finance, and the both functions are implemented in close interacting. The substance of the information function of finance is that financial relations always include information about the monetary value of the object of these relations. Because the financial relations include the information about the cost (monetary) cross-section of the social product, processes as to product's distribution and redistribution can arise between the parties to those relations (economic agents, users of information). For distribution and redistribution of the social product, the corresponding information is needed, and thus the information function allows the society to evaluate the values flows, to plan and control them. A problem (challenge) for the society is that the information used does not reflect to the full extent the information which the financial relations bring along. Because understanding the information function lies in the ideological plane, a study of financial relations through the prism of the informational paradigm, in the time of the information society and its innovative economy, opens up new perspectives for the worldwide using of finance. Awareness of immanence of the information function in relation to the financing sets an important basis for effective targeted search for ways to maximum (extraction) financial relationships. This approach will contribute to building of more effective economic relations in the modern information society, it will also contribute to the minimization of information asymmetry in financial relations, and, consequently, of the associated risks.

**Key words:** asymmetry of finance information, attributive conception of information, law of approximation of information, information function of finance, information society, information, finance, finance of the information society.

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## Рязанова Н. С. Інформаційна функція фінансів: розуміння її сутності у світлі сучасної інформаційної парадигми

Метою статті є дослідження інформаційної функції фінансів, базуючись на положеннях сучасної інформаційної парадигми. У статті зроблено висновок, що фінансам притаманна не лише розподільна, але й інформаційна функція, і реалізуються вони у тісній взаємодії. Сутність інформаційної функції фінансів полягає в тому, що фінансові відносини завжди несуть у собі інформацію про грошову вартість того, стосовно чого такі відносини мають місце. Завдяки тому, що фінансові відносини несуть у собі інформацію про вартісний (грошовий) зріз суспільного продукту, між учасниками цих відносин (економічними агентами, користувачами інформації) уможливаються процеси його розподілу та перерозподілу. Для розподілу та перерозподілу вартості суспільного продукту необхідно мати про неї інформацію, і саме на інформаційній функції базується можливість суспільства оцінювати потоки вартостей, планувати та контролювати їх. Проблемою (викликом) для суспільства є те, що інформація, якою воно користується, не повною мірою відображає інформацію, котру насправді несуть у собі фінансові відносини. Оскільки розуміння поняття інформації лежить у світоглядній площині, дослідження фінансових відносин через призму інформаційної парадигми відкриває в епоху інформаційного суспільства та його інноваційної економіки нові перспективи використання людством фінансів. Усвідомлення іманентності фінансам інформаційної функції є важливим підґрунтям ефективного цілеспрямованого пошуку шляхів максимально повного одержання (виокремлення) інформації з фінансових відносин. Такий підхід сприятиме побудові більш ефективних економічних відносин у сучасному інформаційному суспільстві, сприятиме мінімізації інформаційної асиметрії у фінансових відносинах, а, отже, і пов'язаних з цим ризиків.

**Ключові слова:** асиметрія фінансової інформації, атрибутивна концепція інформації, закон інформаційного наближення, інформаційна функція фінансів, інформаційне суспільство, інформація, фінанси, фінанси інформаційного суспільства.

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## Рязанова Н. С. Информационная функция финансов: понимание её сущности в свете современной информационной парадигмы

Целью статьи является исследование информационной функции финансов, базирываясь на положениях современной информационной парадигмы. В статье сделан вывод о том, что финансам свойственна не только распределительная, но и информационная функция, и реализуются они в тесном взаимодействии. Сущность информационной функции финансов состоит в том, что финансовые отношения всегда несут в себе информацию о денежной стоимости того, относительно чего эти отношения складываются. Благодаря тому, что финансовые отношения несут в себе информацию о стоимостном (денежном) срезе общественного продукта, между участниками этих отношений (экономическими агентами, пользователями информации) возможны процессы распределения и перераспределения этого продукта. Для распределения и перераспределения стоимости общественного продукта необходимо иметь о ней информацию, и именно на информационной функции основывается возможность общества оценивать потоки стоимостей, планировать и контролировать их. Проблемой (вызовом) для общества является то, что информация, которой оно пользуется, не в полной мере отражает информацию, которую на самом деле несут в себе финансовые отношения. Поскольку понимание информационной функции лежит в мировоззренческой плоскости, исследование финансовых отношений через призму информационной парадигмы открывает в эпоху информационного общества и его инновационной экономики новые перспективы использования человечеством финансов. Осознание имманентности финансам информационной функции является важной основой эффективного целенаправленного поиска путей максимально полного получения (извлечения) информации из финансовых отношений. Такой подход будет содействовать построению более эффективных экономических отношений в современном информационном обществе, будет способствовать минимизации информационной асимметрии в финансовых отношениях, а следовательно, и связанных с этим рисков.

**Ключевые слова:** асимметрия финансовой информации, атрибутивная концепция информации, закон информационного приближения, информационная функция финансов, информационное общество, информация, финансы, финансы информационного общества.

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*Attitude towards information has a powerful influence on global wealth – who and how gets it. Changes in the understanding of information force economists and lawmakers to rewrite existing rules of taxation, financial accounting, private life and intellectual property security.*

*They intensify competition, accelerate innovation, encourage constant movement and revolution in the methods of production, marketing and management. And most importantly, changes in the understanding of the information required much more rapid decision-making in an increasingly complex, sometimes chaotic environment.*

*Alvin Toffler, Heidi Toffler [21, p. 154 – 157].*

Finance – is an extremely important component of global economic relations, and sustainable economic development of modern society is possible only if the understanding and implementation of finance functions features in the context of scientific paradigms of the information age. Among these paradigms the information paradigm deserves special attention, which represents the key to understanding of the present system of beliefs, concepts and fundamental ideas on information and has been formed as a result of raising humankind awareness of the importance and uniqueness of the role of information in all areas of life.

The information (post-industrial) era of the social evolution began in the last quarter of the twentieth century and now with information getting global, rapidly becomes a resource of management and development, entirely new social and economic relations are formed in which information exchange, including the exchange of financial information plays primary role<sup>1</sup>. Philosophical thought, which includes not only the time between representatives of philosophy as such, but fundamental, ideological developments in other fields of knowledge by examining these processes it reveals a wide range of approaches to understanding of information today. We think that of all the important for understanding of the information function of finance are primarily such concepts of modern information paradigm: attributive, quantitative and the concept of asymmetry of information.

It should be noted that, despite the development of a wide range of concepts, the society has not made a single commonly used definition of the concept of "information", as the level of human belief and knowledge, yet do not allow to formulate an exhaustive definition of information through existing simple concept. In this regard, the science says that information as a fundamental philosophical category similar to the categories of "substance" and "energy" is among the most important in the nature of the world and cannot be reduced to any of the currently defined categories. Simi-

<sup>1</sup> The author of the term "information society" – Professor of Tokyo Institute of Technology Yu. Hayashi, who in the late 1960s – early 1970s on behalf of the Government of Japan analyzed the impact of computerization on the economy. The USA also investigated these processes, and in 1974 the work of the American sociologist, professor at Harvard University Daniel Bell "The Coming of Postindustrial Society" ("The Coming of the Post-Industrial Society") was published. Over some time, there was convergence of these two directions, and the notion of "information" and "post-industrial" society are identified.

larly, "indefinite" concepts are "point" and "direct", which are widely used in mathematics and are still not described by more elementary concepts [5]. It is believed that the current concept of information is used based on intuitive perception [6, s. 159 – 160]. However, formed by the society the information paradigm certainly makes it possible to take a fresh look at the world around us, broadens horizons of outlook and promotes rethinking of seemingly well-known finance, which, by introducing cost – cash – layer of social relationships plays a unique role in the economic exchange-distribution processes.

Emphasizing the importance of finance in the market economy of modern society, George Soros – Honorary Doctor of the University of Oxford, the famous financier and investor – in his book "The Crisis of the Global Capitalism" (1998) notes that the global economy is now characterized primarily by freer movement of capital and a huge influence on it by the financial markets [20, p. 3 – 27]. In the crisis, the consequences of which now most of the world economies suffer, finances, being a determinant of market economy play a key role. Indeed, the roots of this crisis lie precisely in the financial sector, where it began in mid-2007 in the US and rapidly as a great wave through the free movement of money capital that is typical for today's global economy, rapidly spread to most countries.

The uniqueness of finance as a socio-economic phenomenon is that by participating in the exchange-distribution relationships of reproductive process, they carry objective information on cost cut of those relations and the reproduction process in general. But despite the importance of financial relations in society and that they permeate all aspects of modern social life, their function and role in social and economic development are still not known. Confirmation of this is a crisis in public finances in many countries, problems in corporate and international finance, volatility of financial markets and, of course, deep and painful for the public financial and economic crisis. Indisputable is the fact that the underestimation of the informational aspects of finance becomes a factor of risks and volatility of the whole society, and this gives us reason to believe that in the modern information age improving financial relations, resulting in a rise of their efficiency and minimized financial and economic risks for the society lies in further knowledge of the objective funding allocations – that is their functions – through the prism of information paradigm. This is what makes this work topical, as it is dedicated to studying the nature and characteristics of information function of finance.

Finance and its functions have long been a subject of careful research around the world, but the study of finance in terms of their information function has not yet been carried out. At that the western financial science, being primarily oriented to market needs, and having emphasized pragmatic character, until recently did not care to consider the theoretical aspects of finance, their categorical nature, function and role in society. For example, recognizing this fact, the authors of well known in the world books on corporate finance and financial management – Professors of University of Florida (USA) Eugene Brigham and Louis Gapenski – at

the end of the twentieth century, noted that the importance of the theory is clear, however, as evidenced by their experience, students usually do not understand the practical value of theory and see no point to study and because of that the underlying theoretical issues fade into the background [16, p. XIX]. But under the influence of economic cataclysms of the beginning of the XXI century, representatives of Western financial science started to reconsider its position on the study of the theoretical aspects of finance, and, for example, the 2010 work of E. Brigham and Professor of Finance of Tennessee (USA) Michael Erhard already states that the last financial collapse has shown the importance of understanding of theoretical aspects of finance by the students and managers [17, p. XIX].

Regarding the domestic financial science, it has many fundamental developments on the functions of finance, but the information function of finance has not been considered [7; 9; 10; 11; 13]. However, the vast majority of scientists isolate two functions – of distribution and control where the distribution function is considered primary and is defined as one that manifests itself during distribution and redistribution of the product created by society in terms of value, contributing to the transformation of proportions, which are formed in the course of primary distribution of income society in the proportion of end use. As for the control function, we mean that it is caused by objective ability to finance quantitatively reflect the distribution and redistribution in terms of value created by the public product, and manifested during the control of distribution and redistribution of the social product according to purpose. There are also scientists, who believe that the financial and other features, including: regulating, stimulating, reproducing, stabilizing. All the above listed features are described thoroughly in the economic literature and the list of the literature published in the twenty-first century is presented in this paper.

Despite the fact that a lot of basic research in economic science is dedicated to the role and functions of finance, we believe that today one can hardly argue that this knowledge is enough, as evidenced by numerous examples of inefficient financial relations in modern society. We believe that today the humanity is not fully exploiting the opportunities yet that objectively, independently of the will and consciousness, are inherent in finance, not fully aware of the importance of financial relationships as such that carry the exact information on cost layer of relations in society. In this article I do not aim to analyze the distribution and control functions, which are thoroughly presented in the financial literature, while profoundly respecting the position of scientists on the existence of these features, I will try to present my own vision of finance functions of modern information era. As the learning process continues, and the power of science is in that it's constantly evolving, updating, collecting new and different from the existing knowledge about reality around us.

Our goal is to examine the finances in the light of modern information paradigm, resulting in the conclusion that this economic category, in addition to distribution also has an information function, and it is implemented in close collaboration with the function of distribution. The essence of

the information function of finance is that financial relationships always carry information about the monetary value in which respect such relationships occur. And the challenge for society is that the information that it perceives and uses, does not correspond to information, which in fact constitute a financial relationship. We believe that as the understanding of the concept of information is the plane of vision, the study of financial relations in the light of the information paradigm opens the era of the information society and its new innovative economy prospects of mankind Finance.

As already noted, finances represent the cost (money) aspect of economic relations, and, in my opinion, their role in society is determined by close collaboration and information distribution features. Indeed, because the financial relationship will carry information about the cost layer of social product among the participants of this relationship (economic agents, users of information) the processes of its distribution and redistribution become possible. The undoubted fact is that for the distribution and redistribution of value, you must have information about it, and this information function is what the opportunity of the society to evaluate the flows of values, plan and control them based on.

Awareness of immanence of finance information function is an important foundation for effective targeted search for ways to obtain the fullest possible information on financial relations. This approach will contribute to building a more effective economic relations in today's information society, serve to minimize information asymmetry in financial relations, and therefore the associated risks. Indeed, as one of the tenets of modern finance information age is that a simple understanding of the situations by their participants is not sufficient and cannot be viewed as knowledge: in finances the completeness of the information is important, as, in particular, noted in the George Soros's "The Alchemy of Finance" (2007) [19, p. 49 – 72].

Finance as an economic category has an objective character and purpose, which are realized in the course of their functions. In the form of financial relations in the economy, as a kind of living system, there are exchange-distribution processes, which are accompanied by the exchange of information on the movement of exchange value, money capital, and this information is submitted in a unique universal language of numbers. I believe that the knowledge existing now in the society about the nature of the concept of "information", give reason to believe that in addition to the distribution function the finance objectively inherent the information feature, which makes special – information and distributing role of finance in the economy.

Based on the current information paradigm, I find it appropriate to consider the category of finance especially in the light of the of attributive information concept as the recognition of the fact that information is an attribute (property) of all material objects and phenomena in the world around us is fundamental. Key principles of attributive concept of information, which are crucial for our further research, are as follows:

Firstly, in the surrounding world there is primary information, which is perceived by the human and technical means and is represented as secondary information. And

primary information cannot be measured, all measurements and calculations are carried out on secondary information, those actions do not mean that the primary information is being measured.

Secondly, there is a number of dependencies between primary and secondary information: first of all, the secondary information describing the properties of the primary, its structure and shape depends on it; however, having property without loss of content, repeatedly recoding, transferring to other media and multiplying. Secondary information is independent of the primary; and finally, the emergence of a new primary information is influenced by secondary and other primary data, and in this respect the secondary and primary information – are interdependent.

Considering finance through the lens of the concept of attributive information concept, it can be argued that financial information is also divided into primary and secondary. For all financial relationships carry information as an integral part, and this information is primary. At the same time, and financial information, which is perceived by the human mind and recorded by technical means, and that which makes all of the estimates and calculations – is secondary. That is for a man the information about items and processes is their image (reflection) in the form of numbers, formulas, descriptions, drawings, symbols, images [1, p. 53 – 55]. In fact, the human mind is secondary information, which a person has realized according to the level of development, knowledge and capacity to receive information. And, despite the fact that in practice all economic agents of course operate the full information, in fact in various records, reporting forms and analytical material only that information which people and different equipment could record (secondary information) is provided, and not the one that exists around us in the economic environment (primary information).

A striking example of the discrepancy between the information that financial relationships actually carry and the one which at a certain stage is operated by economic agents serves the situation in corporate finance that is associated with the development of the financial statements of corporations. Indeed, despite the fact that at every stage of its evolution, corporate finance remains essentially unchanged, covering economic relations with other entities in the process of formation, distribution and use of capital in order to increase its value, recording of financial information and financial statements of corporations – did change. For example, the statement of cash flows (cash flow statement, known in our country as a statement of cash flows) began to be used in countries with developed market economies only in the 1950s, and in Ukraine it was only in the late 1990s. This means that despite the fact that cash flow information has always been a part of economic relations of corporations, only in the mid-twentieth century, society realized the importance of assessing the financial position of the entity based on the movement of capital in cash and started, so to speak, delete this information on financial relations. Since then, this information began to be recorded systematically by the human mind, accounted for in the relevant registers, shown in the special reports, analyzed

and used according to the needs of corporations and other economic agents. It is safe to say that in the future there will be more than one information breakthrough in corporate finance. As a result the picture will become even more complete and better understood in social corporate finance. New knowledge and the development of technology for collecting and processing information will allow better use of financial information, increasing the efficiency of financial relations corporations.

There are many examples of society using not primary information of financial relations of economic agents and appropriately building its finances but secondary, that is the one that was recorded by the human mind and various memory bearers created by man, not only in corporate finance, but in other areas of financial relations, including international finance. Among these the balance of payments can be taken as a document which shows the value (monetary) terms of international relations. These relationships, and hence the associated flows of money capital, are from ancient times, and their nature has not changed, only increased volumes and there were new forms of money capital flows. However, information on the international movement of money capital became available to the public only in the end of the eleventh century, when England were making the first attempt to account for international settlements, the very same concept of "balance of payments" was introduced to the lexicon only in 1767 by the Scottish economist and follower of mercantilism – James Stewart. Thus, despite the fact that the cost component has always been inherent to the international economic relations, information about it for a long time was not accepted by society, and therefore not used. It was only with the development of knowledge and technical capabilities the society began its so-called "remove" in economic relations and use through the establishment of an appropriate system of accounting (accounting), i. e. the system, which includes accounting, storage, processing and presentation of financial information to users. Gradually the system of the balance of payments improved, which was accompanied by the development of accounting practices of international operations and the formation of public agencies that collect and analyze information on the international movement of money capital, including: treasury, customs, budget and credit institutions. Over time, the nature of public understanding of the balance of payments varied and a need for international comparison of indicators and methods for their preparation occurred and for the unification of those methods by different countries. Only in the mid-twentieth century a scheme of balance of payments was established, which was the basis for the further development of the International Monetary Fund (IMF, International Monetary Fund, IMF) forms and principles of the balance of payments preparation: such a scheme was proposed in 1947 by the United Nations Organization (UNO, United Nations, UN). The development of the balance of payments and display of more complete information about the international movement of money capital continues in the twentieth century as a result of a new level of economic and other knowledge of the society and the development of its technical capabilities. IMF periodi-

cally offers to the new member states the improved Balance of Payments and International Investment Position Manual (Balance of Payments and International Investment Position Manual), and, for example, in December 2008 the IMF published the sixth edition of that handbook. By improving the balance of payments methodology, the company brings the information which it operates, to that international financial relations of certain economic agents carry, and it is the basis for effective international financial relationships of individual countries and the global economy.

In the area of public finances, there are also good examples, including financial relationships during the formation of the state budget in terms of taxes. That information is recorded by the taxpayers registrar and related accounting systems of state tax authorities and is then used as the main, does not completely reflect the information about the financial relations of taxpayers and the state. Checks, clarifying and other measures towards the collected tax information are all steps that reflect the desire of society to bring that tax information which it operates (secondary) to the information that exists in the surrounding economic environment (primary).

The society is making judgments about finance by the information that it has, thus, its economic development is directly determined by how this society brings close the financial information which it operates to that, which a financial relationship carries. This is confirmed by the fact that in more developed economies, the gap between the information contained in financial relations, and that which is perceived by humans and technical devices is lower compared to other countries. For example, information base (financial statistics) on finance in the US, UK and other developed countries are much better compared to many other less developed countries, and it is pretty much a prerequisite for their social and economic growth and at the same time, the result of high level of development of these countries.

**B**ased on the contained by the attributive concept information relationships that exist between the primary (inherent) and secondary data, we can state the existence of the same dependencies in finance. On the one hand, the secondary financial information describing the properties of the primary, its structure and shape depends on it, but at the same time, having the property to repeatedly recoded, transferred to other media and multiplied without loss of content. The financial information, which is perceived by the human mind and created by man technical means, is independent of the primary. Finally, the information that constitutes a financial relationship (primary) depends on the secondary, as the appearance of new primary data is influenced not only by secondary but also other primary financial information.

Corporate finance can again serve as a striking example of the manifestation of such dependencies, in which all information, which is recorded and used in the course of financial management (secondary information), describes the initial financial information that was inherent to specific economic relations of a corporation with other economic agents. The only question is how well it describes the primary financial information surrounding our economic relations.

Financial information, which is used during the management of public finances and financial management of corporations, may, notwithstanding the primary data be repeatedly and without loss of content transferred and multiplied as on different paper and in the form of electronic records. Of course, in real life, unfortunately, there are cases when, due to the so-called human factors or failures in technology, in the course of this transfer and propagation of secondary information is somewhat changing its meaning, which is a risk factor. Thus distorted secondary information, affects the appearance of new primary information, determines the risks to society and it faces challenges associated with the need to the invent methods to minimize distortion of secondary information. The challenge is in finding ways to maximize the full comprehension of the content of financial relations, their information, and adequate formation of secondary information, as appropriate secondary information provides greater benefits to users and allows them to make informed effective economic decisions.

**N**ew financial relations of economic agents and, therefore, the new primary information are influenced by secondary and other pre-existing primary data. The decision on the scope, direction and time parameters of the cash flow are made by the participants of the financial relations and based on the current information and existing knowledge (information perceived earlier). All financial relationships of their members, including raising capital by issuing equity and debt securities, money market borrowing bank loans, accrual and payment of dividends, investing, are formed under the direct influence of the kind of secondary financial information on relevant issues that they already have. This data can be financial statements over the past years, a variety of analytical materials on the market dynamics and their conditions, projected financial performance. As for how the emergence of new primary financial information affects already existing before the other primary financial information, the example is the situation with project financing. Suppose an investor decides on investing in financing the project – bringing to appear new primary data. The decision to invest is based on data from existing financial analysts, which in this case is essentially secondary information. But the implementation of this decision in the case will end as other basic information that has not been recorded before either by the investor, or anyone else. This, for example, an economic crisis, the nature and depth of its consequences, which no one at this stage of social development could have foreseen due to still far from complete knowledge of mankind objective economic laws of development. So, all financial relationships carry information that influences the emergence of new financial relations and new information embedded in them. This formation of secondary financial information depends on the level of economic development of society, awareness and training of users (economic agents) from their consciousness and purpose, as well as technical support.

In the context of the existence of primary and secondary information should recall the concept of so-called "asymmetric information" (asymmetrical information), the essence of which is that there is information asymmetry between the

relationship parties. This concept proves the existence of information asymmetry between the parties to exchange information, denying the principles of the neoclassical theory of the market economy on what the market operates under perfect information (i.e., all its participants receive complete and accurate information), and the only equilibrium price of goods reflects all information about it. First time the asymmetric information was considered by American economist George Akerlof in his article "The Market of Lemons: Quality Uncertainty and the Market Mechanism" (1966) [15]. And in 2001 G. Akerlof and two American economists – Michael Spence and Joseph E. Stiglitz were awarded the Nobel Prize for development on the analysis of markets with asymmetric information. They considered the asymmetry of information in insurance, loans, mortgage-backed securities, health care and labor markets. Scientists have found that in markets with asymmetric information, the average price of goods tends to decrease, even for products with perfect quality, and even a collapse of the market is possible, until it disappears.

**U**sers of financial information, including the owners and creditors, customers and suppliers, managers and ordinary employees, the government and the public, need the information to make good decisions, and they strive in every way to get the necessary information to reduce uncertainty (information entropy) of the finance and minimize the financial and economic risks. However, in modern society reasons for the existence of asymmetry in the financial information of individual economic agents also exist and among them a number of factors can be singled out. First of all, the fact that the society of today is not yet able to fully record (grasp, measure) the primary financial information, and because of that it operates on secondary information that is able to capture the human mind and various memory media (computers, paper and media other). That means that society now operates secondary financial information processing which does not mean that all primary information is measured (perceived). In addition, the existing secondary information can be perceived by users (economic agents) in different ways, depending on their level of general and professional knowledge. It plays a role, and that the existing differences in the interests of economic agents and purely human factor can cause distortion of information by individual members of the financial relationship.

Despite the fact that in today's society, there are factors of financial information asymmetry, which operate on different economic agents, I believe that another pattern can be singled out – information approximation of economic agents. Because with the development of society increases the preparedness and awareness of information users, and improved information technology is resulting in a decrease of differences between primary and secondary information, and minimizes the effect of other factors of asymmetric information. Thus, given the premise of the concept attribute information, the essence of which is that the original information cannot be measured, and all the measurements and calculations are carried out on secondary information, actions over which does not mean that the measured primary information is information approximation of economic

agents has asymptotic character. I believe that the evolution of society is accompanied by objectively approaching secondary information to its original source, i. e. the primary data, and this process is causal and objective, that is logical, indicating the existence of laws (law) the information approximation. In other words, with the law of asymmetry in the information society, there is a law of approximation, according to which secondary information, asymptotically approaching the original, is never the same.

Exploring the fundamental philosophical problem of being, the ontology considers information as an ordered substance which can be described mathematically [4, c. 12] and in the development of this idea was born the concept of quantitative information, which has become a milestone in the evolution of information paradigm. The concept of "amount of information" is difficult to understand, the first attempts to quantify the information were made by American engineer in electronics Ralph Hartley in "Transmission of Information" (1928) by introducing a logarithmic measure of information  $H = K \log_2(M)$ , now known as "Hartley's amount of information". It is determined by using the logarithm of the number of possible strings of code that is transmitted in the message length  $n$ . Despite the breakthrough in science in an attempt to quantify the information, experience has shown failure of this approach in the study of information. Very important is its qualitative characteristics, including, for example, the content (meaning) information, its value and usefulness.

**A**ppeal to the aspect of the quality of information logically leads to the consideration of its practical significance and value, but these characteristics are subjective, depending on the purpose of pursuing the user and other participants in the information exchange. For example, if the user put the problem has been solved, the information that was required before it, for it has lost its significance. In fact, one and the same information simultaneously, as the case may be perceived (evaluated participants) as valuable as one that does not have the value or even as a user that has a negative value. First attempts to approach to assess the qualitative aspect of information made by the American economist Frank Hyneman Knight in monographs on the strategy of corporation conduct "Risk, Uncertainty and Profit" (1921) [18]. Exploring the question of profit, risk and uncertainty, F. Knight identified information as a concept, which is the opposite of uncertainty and inversely proportional to the risk. This notion of risk, according to his theory, defined as estimated in any way probability events, and uncertainty is something that cannot be assessed. Hence risk is incomplete information, which allows a certain degree of reliability predict what else happened. That is, the more information, the smaller the risk. Note that in light of this approach is an important area of research is the search for finance fullest possible information extraction, which carries a financial relationship. It is in this direction is the way to reduce uncertainty, and therefore risk, cost (money) the relationship of the modern information age. Good, full information is the key to sustainability, both financial and market economy.

Twenty years later American engineer and mathematician Claude Shannon and scholar, mathematician Warren Weaver in "The Mathematical Theory of Communication" (1949) proposed to determine the amount of information using probabilistic techniques. They summarized the position of R. Hartley and his predecessors and formulated the concept of different quantitative information by entering as a measure of uncertainty (unpredictability) of information concept of "information entropy", which is explained as the minimum necessary to eliminate the uncertainty of a random variable. And now it is believed that the main function of information is the reduction or complete elimination of uncertainty [2, c. 71 – 72]. The amount of information that is considered to be largely removing uncertainty is calculated based on the likely approach or in terms of the amount of information. Qualitative evaluation of information (value, importance, usefulness, reliability, sufficiency), is subjective, and today is still no clear criteria and their definitions.

Imposing such an understanding of the basic functions of information on finance, we can state that the main purpose of their information function is to reduce or completely eliminate uncertainty of financial relations. Thus, the exchange of financial information (registration, storage, processing, transfer and use of financial information) then can be considered properly when reducing uncertainty among users of financial information, it will allow them to make effective the right financial and economic decisions. In a market economy, economic agents are constantly in search of financial information they need, is dominated by the principle of competition, and the golden rule is to "wins the one who first gets important information", i. e. information that removes some uncertainty in the financial and economic issues [14].

**E**conomic Cybernetics, engaged in the study of the general principles of management of the economy, particularly in finance, interprets the information as a useful guide for information - those that reduce uncertainty (entropy). That is, there is the following approach to the assessment of information: the higher the information content of the message, the more reduced as a result of the notification uncertainty (i. e., entropy). Opinion of Economic Cybernetics is that when dealing with information task should be removed from the universe of information only new and useful [8]. At present it is believed that it is this interpretation of the concept of information linking information from the management process [12]. In our opinion, extremely important and, unfortunately, are not included in this statement is the following: firstly, what is the criterion of novelty and utility, on which the selection of the universe of information only new and useful, that is, those that be considered information; Secondly, the quality and nature of information perception (what is selected from the received messages as information) largely depends on what the system that receives information (host), how it is aware, technically equipped and how her mind set on perception relevant information. In the context of the issue of accepting financial side is very important. Indeed, introducing a system of economic relations in which there are always at least two sides, the quality and efficiency of information exchange be-

tween participants of the financial relations largely depends on the readiness and adequacy of perceiving side.

So, based on what information is for informational purposes only with respect to the system that perceives it, important is the fact that awareness of financial information depends on what information will perceive his mind, as well as technical means to record information. Important for society is the following conclusion: for the effective use of financial information necessary to have a knowledgeable guide. This issue is particularly relevant for the development of modern innovative economy, i. e. an economy based on knowledge. As obtained by the society goods (goods and services) now mostly considered from the standpoint of the presence of information value, the quality and timely financial information is valued by the market and is a factor of extra cost. The benefits of properly functioning information exchange are far greater than the resources spent on its organization. A distortion or blocking information flows immediately evident in the fall of the efficiency of economic agents. It is a feature of modern prosperous business is its informational enrichment, the essence of which is that the winner is the one that has a more efficient system of information exchange [3, p. 320 – 330]. Availability of adequate financial and economic information and effective exchange is a prerequisite for sustainable economic development, and only reducing the uncertainty of economic relations can be minimized or even completely eliminating the risks in its business. Providing the necessary awareness among interested persons in finances can achieve increase in market value of assets.

## CONCLUSION

In summary, I can state that the finance inherent the information function. The basis of this statement is provision of modern information paradigm primarily attribute and quantitative concepts, and the concept of asymmetric information.

The essence of the information function of finance is that the content of financial relationships (and they may include financial relationships of state and local governments, corporations, households, international finance, financial markets) always have data on monetary value of what affected by the relationship. Finance, having inherently cash capital always carries information about the formation, distribution and use of capital, its cost characteristics, physical structure, and more.

According to the concept of attribute information all interactions in nature and society are built on information, as it determines the motion parameters of all that surrounds us. In finance, this premise is the basis of close cooperation between their information and distribution functions, and the essence of this interaction is that finance, presenting information on cost cut economic relations of society, allow the processes of distribution and redistribution of the social product between the parties to this relationship. Indeed, for the distribution and redistribution of value, you must have information about it, and that function is based on the information society the opportunity to evaluate the flow values, plan and control them.

Participants financial relationships result of their interaction information form their relationships, directing and

organizing them according to economic, political and social demands of society, and ordering them to adequate legal framework. This contributes to the current in the information age the opportunity to obtain almost instant financial information and for communication between the participants of financial relations due to the existence of cross-border global information network and readiness of the participants to work in it. It is believed that finances are leaders in globalization of information exchange, which finds expression in the standardization and harmonization of processes and registration forms and further processing of financial information and economic agents, especially transnational corporations (TNCs). However, radical changes in information exchange were accompanied by a change in social relations. ■

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