ИКОНОМИЧЕСКИ ИЗСЛЕДВАНИЯ
ECONOMIC STUDIES

ГОДИНА XXVI, 2017, 6

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ENTREPRENEURIAL RISK THEORIES AS COMPONENT OF THE THEORETICAL FOUNDATIONS OF INFORMATIZATION PROCESSES IN THE NATIONAL ECONOMY

In the article the place of business risk theories in the structure of theoretical background for processes of informational-communicative technologies introduction in the national economy. In addition, the relationships in the structure of risks theories for ICT introduction in conditions of the development of the national economy are outlined. The theories and concepts of business risks are considered and their significance for the revitalization of the national economic system development and improving state regulation of the economy are described.
JEL: D81; L83

Formulation of the problem

The development of the national economy certainly associated with various risks of economic, natural or political character. No exception is such important way of sectoral development as processes of information introduction in it.

As the basis of the aforementioned processes should be quality theoretical background, the main components of which are business and financial risk theories. In this study, we decided to stop on business theories and concepts of economic risk. The development of the national economy should be viewed through the prism of business risks, theories and concepts of which should serve as a reliable theoretical basis for progress activating in it.

Analysis of recent research and publications

Block of risk theories has passed long on a few hundred years evolution, in which the object of study of these theories has shifted from research of entrepreneur risks to investor portfolio risks and identifying of regularities for its acceptance of rational solutions in the financial market and also constructing a variety of theoretical and applied mechanisms for neutralization of these risks. Theories of risk includes classical, neoclassical and modern

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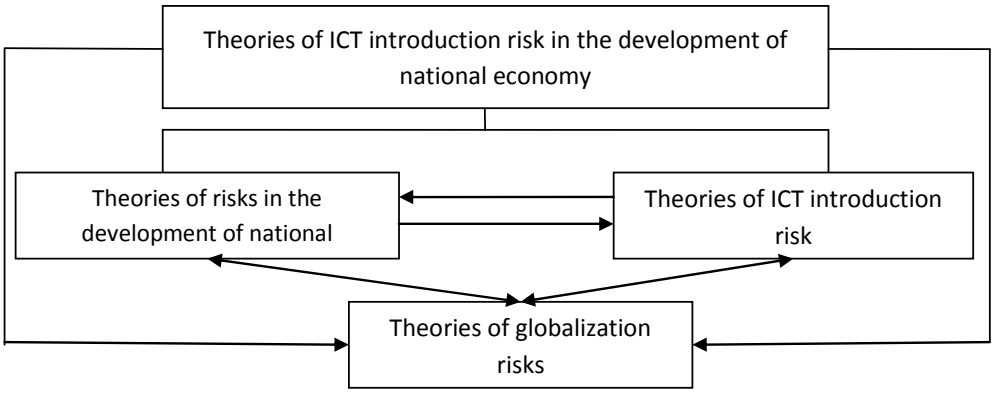
theories and concepts of economic risk, including mercantilist and physiocratic concepts of risk, the concept of business risk of A. Smith (Smith, 1962), the theory of production and distribution of J.B. Say (Say, 2000), the concept of insured risk by J. von Tunen (Thünen, 1926), the theory of business risk and business income of G. von Mangoldt (Blaug, 2008, p. 195-197), risk scientific theory of J. N. Tetens (Pradier, 2003), the paradox of D. Bernoulli, the theory of economic risk and profit of J. S. Mill, the concept of economic crisis of J. S. Mill (Mill, 1980), the concept of business risk of N. Senior (Blaug, 2008, p. 266-268), the concept of excess profits and risk of D.B. Clark (Clark, 1992). The neoclassical risk theories includes the theory of uncertainty and profit of F. Knight (Knight, 2003), the theory of risk and profit of K. Marx (Marx, Engels, 1960), innovative concept of risks and business cycles of W. Sombart (Sombart, 2005), the concept of risk of A. Marshall (Marshall, 1961), Keynesian risk theory (Keynes, 1993), the concept of risk of J. Schumpeter (Schumpeter, 1982), the concept of risk of M. Friedman (Friedman, 2006), portfolio risk theory of J. Hicks (Hicks, 1975), the theory of portfolio risks H. Markowitz (Markowitz, 1959) and others.

The paper purpose is outlining of theories of risk groups, which serve as the basis for the deployment of ICT processes in the national economy.

Modeling of the processes of macro development is not possible without consideration of risks both economic and non-economic. It suggests the need of studying the structure of theories of ICT intrusion risks in the development of national economy. The system existing in its relationships presented graphically in Fig. 1.

Figure 1

Structure of risks theories of ICT in the development of national economy



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Theories of globalization risks are closely intertwined as with the development of ICT such as with the development of the national economy. But anyway, just the theory of economic risk is the basis of all above penciled theoretical concepts. Therefore, it consideration is necessary to begin with its evolutionary origins.

Founder of macro-analysis physiocrat Francois Quesnay, who created the first in economy scientifically based model of social reproduction through "economic table", in which allocated three classes: productive (agricultural), land-owning and unproductive (employed in non-agricultural production), paid attention to risks and uncertainties. In particular, he proposed measures group aimed at comprehensive development of agriculture, considered possible tax risks, threats of government regulation and restriction of competition, risks of trade restrictions system.

The ability to take risks as an integral feature of the individual entrepreneur first praised at the scientific level the founder of the theory of entrepreneurship Richard Kantilyon. According to this theory risk is a defining feature of business activity, which is based in acquiring by an entrepreneur means of production for producing of products and its marketing in terms of price uncertainty. Kantilyon paid great attention to the analysis of price and management risks, presenting them as key conditions that affect on business activity. Thus, from the perspective of physiocratic school uncertainty is the environment of business activities accomplishment, which directly affects on its performance. At the same time, in the physiocratic economic thought the risk is characterized probability, i.e. the possibilities of some negative events development in the implementation of the basic principle of economic life organizing named "laisser-faire".

Physiocratic concept of business risk of K. Bodo comes from two perspectives: firstly, the responsibility of the entrepreneur means taking the risk for it and, secondly, he indicated on the importance of information about the market situation and the availability of knowledge, skills and practices of the entrepreneur as the main factors for successful business transaction.

Group of classical theories of risk covers a number of fundamental theories that laid the foundation for further research in this area. However, views in its on risk are significantly different from modern concepts, but their value lies primarily in the fact that they first put the need to study risk in economic science. The first of these developments is the concept of business risk of Adam Smith, the clauses of which are set out in his fundamental work "The study about nature and reasons of wealth of nations".

Economic risk of Adam Smith is an indispensable attribute of market the same as the main motivating tool of its development, that is profit; between them is always a close relationship, which is that the risk from this point of view is the probability to suffer loss by entrepreneur, but at the same time it acts factor in the formation of profit part, i.e. compensation for risk, which agreed entrepreneur, that is also a potential possibility of obtaining additional income. In other words, profit by Smith is reward to capital owner for risk. It should also be noted that this same regularity – a greater reward for risk – scientist traces also in workforce wage. On this occasion, the Scottish scientist notes that wage of workers in any case can't be profit, it is only part of the value added, reward for overhead work. In this context, Smith stresses about important social significance of the risk, as the owner of capital receives a fee for its risky use because income distribution is socially just. It should be added that Scottish economist identified entrepreneur wages and profits. Thus, profit in the Smith's theory bear labor character and is the difference between the value added and wages paid to workers. Surely the risk acting engine of a market economy development. From the theoretical clauses set forth by Adam Smith follows that risk is

income factor, and profits in turn is a factor of the interest rate in the market, i. e. price of leverage use. Thus, the total economic risk is a factor of market interest rate. Smith argued that "the entrepreneur as the owner, going on the economic risk for the implementation of commercial idea or profit getting" (Smith, 1962). Founders of classical economic theory also came close to understanding the category of industrial risks, analyzing them for potential bankruptcy; particularly at the time it was the sphere of trade. Also, the scientist concluded that the fee for accepted risk which is the share of profit, which compensates it reduces the high level of competition between risky projects that competition creates an additional risk of a shortfall in revenue. We can also say that in terms of the theory of profit and risk theory proposed by Smith, the main motivator of business development is not profit, and risk and profit is positive result of the introduction of venture capital into action. On the other hand, Smith saw monopolism as the only threat to the established economic order which creates an artificial shortage of products on the market for market price overstatement. In addition to the foregoing, the founder of political economy teaching first described the idea of profit insurance procedure, which are widely used in modern developed economies. In summary, we note that the merit of A. Smith is that it firstly discovered and described motivating, regulatory and social functions of economic risks and, secondly, suggested and substantiated the idea of profit insurance as a form of economic activity.

In addition, Adam Smith in his work "The theory of moral sentiments" (1759) the deep studied relationships between man and society, the nature of social and political risks, claimed that selfish economic interest must necessarily be combined with moral and ethical behavior, that actually neutralize these risks.

Special attention should be paid to the theory of the entrepreneurial function of J.B. Say, in which the author sees the main purpose of the entrepreneur to effectively combine and coordinate the factors of production (land, capital), human factors (labor, scientific, scientific-technical, scientific-technological knowledge) for goods production. By Say, its combining and coordinating always associated with the element of risk, but special significance scientist for it does not paid. The business income scientist determined with a residual, i.e. from the total income take away incomes of owners of the factors of production. Such profit in Say included interest for equity of entrepreneur, award for the performance by it of control-combinational functions as well as in Smith's bonus reward for risk.

German classic economist J. von Tunen proposed also his own concept of risk, essence of which in the following clauses: first, business risk can not be fully insured because the insured by Tunen be overhead and the risk of bankruptcy of employer is not insured, but it must be compensated by share of the profits, and secondly, a scientist for the first time introduces in economic theory the concept of alternative choice (decision) and prioritizing of riskier alternate for business as well as explaining the nature of opportunity costs, i.e. potential income from the realization of non-selected alternate of acts. It should be stressed that in the concept by Kantilion entrepreneur is only risk carrier, concept by Tunen considered entrepreneur as carrier of risks and technical innovations, but German economist did not singled out the risks of such innovations.

Developing the ideas of Tunen another German scientist and economist G. von Manholdt that in his work, unlike predecessors, business risk puts to the forefront in this field of activity and the willingness to take risks, along with controlling the production process considered as the key features of the entrepreneur. Also Manholdt differentiate risks according to the degree of danger to the risks of production on demand (when the risk is almost absent) and the risks of production to the market (from small risks in markets with stable demand for certain commodity nomenclature to the highly competitive and commodity-substitute markets, where the risks of losses for the entrepreneur are maximum). Mangold defines the main in his opinion factor of formation risk for entrepreneur as the time lag, the longer it is, the greater is magnitude of the risk. Accordingly, the premium for such risk should be higher. So Manholdt merit first is that it is the first scientifically outlined the crucial role of risk in the business technology.

Risk scientific theory of J. N. Tetens has made an invaluable contribution to economic theory, since it was first proposed a mathematical definition of risk, investigated the European experience in insurance of that time, especially life-insurance. The size of the possible loss of the insurance company Tetens offered to count as half of standard deviation value. In addition, generally as founder of risk scientific direction in economic science considered Tetens.

Daniel Bernoulli paradox lies in the fact that the risk assessment has always individual character (which confirms the fact that entrepreneurs are people more at risk), and the value of possible reward for risk lies not in its absolute value, but in the usefulness of such prize. Bernoulli based on empirical observation in tendencies noticed that the marginal usefulness decreases with another growth because the entrepreneur or consumer expects on a greater reward than in the previous time. It should be noted that the usefulness also has individual character.

The theory of John Stuart Mill found interconnection between the level of profit and risk, which is in the tendency of profit to decline because of the desire of owners to insure own capital against the risk and falling of capital profitability. Scientist to the composition of income included entrepreneur wages, his share in invested capital and premium for the accepted risk. Reducing the rate of profit leads to economic depression. To avoid this, Mill recommends the need to intensify the scientific and technological progress and international capital movement. Today, the theory of Mill founded wide implementation through the system of transnational corporations and the scientific and technological revolution. With the territorial and product diversification of business activities diversified accordingly set of risks. It should also be noted that Mill explored the nature of the risks of economic crisis appearance and concluded that they are caused by not overproduction but the cessation of lending and speculative activities in the commodity market.

Similar scholarly views on the nature and importance of risk seen in the works of N. Senior and D. B. Clark. In the concept of business risk by Senior risk is the mathematical expectation of losses as a result of the adoption by entrepreneur manager flawed management decisions. Like Mill, Senior in profit composition singled percentage on invested capital and the entrepreneur compensation for risk.

The content of the concept of excess profits of Clark, who substantiated on a scientific level the theory of marginal usefulness, is in the fact that superprofit is derived by implementing of innovative function of entrepreneur, systematic improvement of the technical component of production. Thus, the entrepreneur partially neutralize the risks that would be incurred as a result of simple reproduction, without modifications.

The concept of risk of Clark comes down to several important clauses, including the following: 1) the risk bearer is the only owner of the capital; 2) pay for that risk should be included in the percentage for used capital; 3) scientist applied the theory of marginal productivity to assessment the level of wage of workforce and it allows the entrepreneur does not carry additional risks of losing their income. In addition, Clark interprets economic dynamics offered by Mill as a source of formation of business risks. It is also important that the theoretical search of regularities of consumer demand behavior Clarke brings to the choice of production factors and their effective combination. That demand risks, as out of the theories Clark are risks of wrong choice by entrepreneur the factors of production or inefficient use.

Along with the theories of business risks emerged and actively developing the theory of actuarial calculations, which theoretically reflects the mechanisms of insurance at that time and was described in the works of J. Graunt, E. Halley, J. Dodson and others. In addition, in this theory began to play an active role modern for its time mathematical and statistical methods due to the significant contribution to its content collections by such mathematicians as L. Euler, B. Kersseboom, C. Lacroix and several other scientists.

From the theory of uncertainty and profit of Frank Knight follows a number of important theses: 1) Knight in the first time explained the difference between uncertainty and risk, the latter is subjected to numerical assessment (risk is a concrete plan of actions under uncertainty, calculated uncertainty); 2) economist identified three types of probabilities: statistical, mathematical and estimation (i.e., expert); 3) Knight examined the correlation ratio between the value of profit and uncertainty, in terms of risk probability of obtaining higher profits is higher; 4) scientist proposes fight with risk the following measures: insurance mechanisms, information transparency, preferential loans, corporate system development, diversification of risks by dispersal of shares in the ownership of various companies, development of capital market instruments (forwards, futures); 5) monopoly, imperfect competition contributes to the high-tech projects implementation; 6) just uncertainty, according to Knight, is the main reason for the inability to establish perfect competition in any market; 7) in the theoretical constructions of Frank Knight behavior approach prevailing, namely crucial in the flow of economic processes usually are the behavioral factors (consumers, business managers), on which has a direct impact economic uncertainty.

New for its time view on the nature of economic risk gave Alfred Marshall, who saw it first not as the possibility of losses oncoming but as possibilities to maximize enterprise profit. So the possibility is determined by efficiency of organizations management and nature of current market dynamics, i.e. the ratio of market demand and market supply. In this regard, the British economist in his fundamental work "Principles of economics" (1890) distributes risks on business (i.e. depending from the market) and personal (which are determined by decision-making by the governance of enterprises, their abilities, skills and talent).

However, Marshall, unlike other economists of his epoch, was opposed to agreeing to undertake any risky options of solutions. He argued its by marginalist concept of marginal usefulness, according to which the more usefulness has guaranteed income than expected income of larger size, but that can undergo exposure to market fluctuations. Thus, the main essence of the concept of risk by A. Marshall was that the scientist was a staunch supporter of business strategy to avoid the risk, even for the possibility of obtaining additional positive economic effect. Also, scientists on the first time launched economic analysis of volatility in earnings and presented it as one of two main criteria (along with the size of the expected profit) of managerial decision making by heads of business structures in terms of risk and uncertainty.

In his theory of risk and profit K. Marx first described the mechanism of modern venture capital investment as funding of high-risk innovative projects, by which are expected large profits. Moreover, it is one of the two, along with a second source – increased pressure on workforce, stimulants of support prevailing at that time economic system. In addition, Marxist theory has shown that venture capital activity is a major competitive advantage for companies in market conditions. Moreover, Marx set regularity, whereby the higher is the expected return, the greater is the risk, which the owner agrees to accept equity. He wrights if "in the presence is the sufficient level of profit, capital became decisive. Provide 10 percent, and capital agree to any application, at 20 percent it is lively, with 50 percent positively is ready break own head, at 100 percent he tramples all human laws, at 300 percent there is no crime for which he would not risk, even on pain of the gallows" (Marx, Engels, 1960, p. 770). Yet Marxists considered the risk as weaknesses of the market economic system and argued that in a coming of administrative-command management this disadvantage disappears because, in their view, centralized macro planning prevents any economic risks.

Werner Sombart, a prominent representative of German institutional direction of political economy, in own, innovative concept of risk tried to move from microeconomic to a higher level – meso-economic, considered the processes of diffusion of innovations in the industry. For Sombart entrepreneur who always acts in terms of risk (risk is the main feature of the entrepreneur) is not the bearer of risk, but the bearer of innovation, and when it creates new technical developments, it tries to extend them not only in their company, but on the whole market. Sombart argued that the entrepreneur (entrepreneurial spirit) always inherent ingenuity, creativity and adventurism. Also scientist offered to consider on macroeconomic level economic conditions, which does not mean the necessarily onset of the economic crisis. It is caused by uncertainty, expectations of profit by entrepreneurs, expansion of production, which generates disproportionate gaps between mining and not-mining sectors of national economy, between the amount of fixed and working (money) capital, which in turn leads to economic depression. According to scientist, interchange of recessions and economic recovery does not mean the crisis and possible self-destruction of market economic system (Marxism), this interchange means changing development phases of capitalist spirit (business, middle-class). Sombart deeply analyzed the phases of the business cycle and found that during the phase of its economic growth its drivers are risk and innovation, and in the phase of recession – organizational changes, optimization of corporate structures by the criterion of economic efficiency. That phase of growth in Sombart has speculative innovative nature and the depression phase – optimization nature.

For alignment of economic cycles German scientist offers to stimulate enterprises to stabilization the market conjuncture, integration of monopoly capital, normalization of monetary circulation, active concentration of production. So Sombart contribution to the history of risk scientific thought lies in the fact that he put the risk from micro to mesoeconomic and macroeconomic levels, shown its relationship not only with profit, and with the phases of the business cycle and innovation process.

Neoclassical theory of risk was fully described in the work "General theory of employment, interest and money" founder of macroeconomic theory John Maynard Keynes. In it work scientist offered subjective classification of risks in the national economy. To this classification he took business, credit risks and the risk of devaluation of the national currency. Keynes suggested that enterprises must first cover the price, depreciation and force majeure risks (which should be taken into account in their pricing policies) and cause of their appearance he consider risks of staff, conjuncture and costs (i.e. a possible sharp rise of fixed costs, rise in price of production equipment). For this, he introduces in the scientific terminology special term – "risk costs" in order to distinguish above showed covered expenses. Like Knight, Keynes clearly separates content of categories of "risk" and "uncertainty". Thus, uncertainty neoclassicist identifies as "a situation in which there is no scientific basis for determining any probability" (Keynes, 1993, p. 132). Keynes also found tendentious regularity that entrepreneurs tend to go at high risk for getting significant profits. This confirms the thesis of Marshall that the large size of the expected profit is forcing entrepreneurs taking to accept risk. Moreover, Keynes in order to explain this biased regularity introduces the economic concept of "fun", for which, according to the researcher argues, businesses going on high risk. The rest of the Keynesian theory of risk associated with the analysis and selection of investment projects. According to Keynes's theoretical conclusions in practice optimum project should be selected according to two criteria: first, the profitability of investment projects, and secondly, by the sets of possible risks for analyzed projects. Scientist-economist warned from uniqueness in the preparation of the decision making about investment, only weighted score with the above criteria can serve as a reasonable basis for the selection of this or other project.

Theory of economic dynamics and innovative development of J. Schumpeter, which he outlined in 1912 in his work "The Theory of Economic Development" is based on a number of such basic theoretical positions:

- any economic system dynamically developing and task of economics is primarily the clarification, analysis, modeling and forecasting of socio-economic processes and factors that determine or affect on them;
- the driving force of the dynamic development of market economic system is, according to Schumpeter, technological progress, and key factor of socio-economic growth is the introduction of innovative technologies;
- protagonist of macroeconomic development stands entrepreneur who takes themselves a certain set of risks, combining factors of production for achievement of maximum economic effect (profit);

- according to Schumpeter theory, there is a direct functional relationship between business profits and results of innovation activities;
- discrete implementation of innovative potential in the economy leads to the cyclical nature of macroeconomic development, which in turn is a legitimate feature of economic development of the market systems (during the cycle the system goes to a new level of development);
- consistent implementation of processes of economic development is due to monetary relations, which, according to J. Schumpeter, represent economic dynamics.

The concept of risk of Austrian Joseph Schumpeter based on a number of next claims and their theoretical conclusions: 1) compensation for the risk should not be included in income, is the subject of insurance business; 2) entrepreneur as previously thought – not carrier of risk, and this carrier is a creditor (but willingness to take risks, initiative and ability to innovate Schumpeter believes the key features of the entrepreneur); 3) Austrian economist presented his own version of risk classification, dividing them into technical (through the errors in production construction and in technology of its management) and commercial (due to unfavorable market conditions); 4) scientist investigated the relationship between risk level and yield of industries and found that the companies will enter into such sectors when average in sector income offset risk; 5) Schumpeter clearly divided the difference between an entrepreneur and a manager, that it is often equated (entrepreneur tendentious at risk, and vice versa manager for caution and career advancement); 6) compared to the corporate form of management Austrian scientist prefers business form that is much more stimulate market actors to innovation, innovative thinking, initiative and risk perception as an opportunity and not as a "foreign" problem that needs to be avoided in any way. Unlike Sombart, in which drivers of entrepreneur behaviors were risk and innovation in Schumpeter is the only innovation, and the value of the latter he literally absolutizes, treating market as a result of constant changing of waves of innovation. Also, if in many other scholars contemporary to Schumpeter are desirable to achieve a certain static equilibrium, the Austrian scientist supported the ongoing dynamic growth of the economy, and based on innovations, rejecting the establishment of any equilibrium as elements of economic stagnation.

Monetarist Milton Friedman developed a ranking of economic risks by the possible scale of display of their consequences (positive/negative), which requires their quantitative and comprehensive qualitative assessment, in particular, he singled out small, moderate and high risks respectively. But Friedman did not clarified in their own classification moderation of risk that is acceptable risk, and is not, it is no measure of acceptability of risk that directly influences on decision-making process in this regard. Nevertheless, Friedman first tried to quantify the risk assessment, and that quantitative assessment he gave based on the theory of marginal usefulness. In terms of the risk factors acting and diminishing marginal usefulness American scientist came to the opinion that requires a certain fiscal equalizer for the incurred risk. Equally important is grounded thesis of Friedman about ability to measure and risk alternatives (which in turn can be expressed in a certain set of functional dependencies). You can mention that the scientist to put forward his followers demand of supporting of approximation for economic models, i.e. their numerical

approximation to the test economic phenomenon or process, not realistic, since any model always theoretical and abstract. Friedman also shared social environment of manifestation of risk on such that subject to him, and that it tends to avoid using instruments insurance. Thus, Milton Friedman contribution to the economic theory of risk is that scientist brought the research of economic risk on a new – quantitative level, made his from economic concept in the economic indicator. This opened broad prospects for macroeconomic forecasting and planning, made it possible to adjust the magnitude of the risk of implementation of various projects and programs of socio-economic nature.

First from the sector of entrepreneurship in the sector of stock market functioning suffered a problem John Hicks risk that justified the structure and nature of returns of securities that included compensation for expectations of fluctuations in market and risk. At the same time as risk in this context Hicks understands the risk of default of debt in the long time period. Hicks also created a fundamentally new theory – the theory of portfolio analysis, the essence of which is that an economic entity (investor) can distribute their property among different types of assets (public, private securities, investment projects), placing it so as to ensure maximum returns and minimize risk. According to Hicks, the size of the investment portfolio is in functional dependence from interest rate, risk level and amount of real cash balances. Using indifference curves (reflecting supply and demand) instead of the dominant until then marginal usefulness, a scientist based on empirical material analysis provides an alternative for marginalist usefulness – marginal rate of substitution, which is deducted from the value of the indifference curve slope. Thus, 1) Hicks first scientifically grounded technology of the stock market functioning, where risks are one of the key factors of the value of the securities formation; 2) transferred research of market balance to a new, compared to marginalism level by offering a theory of diminishing marginal rate of substitution.

Nobel laureate Harry Markowitz, author of the investment portfolio theory (1952), which opened a new chapter in research of investment risks, spent a great job of finding an effective structure of the portfolio of real investment for firms to identify patterns for ensuring of efficient portfolio investment. In particular, scientist brought the concept of "optimal portfolio", which must meet two criteria: first, there will be no less risky project with the same income, and secondly, there will be no other, more profitable project with the same level of risk. It should also be noted that the portfolio can be not only investment but also banking, stock exchange, stock, currency, commerce, information and more. Furthermore, Markowitz suggests a more complex but efficient combination of assets with low risk but low correlation between the levels of profitability of each of the assets. Based on the theory of investment cost of Williams, Markowitz proposed the use of instruments of economic and mathematical modeling to study the stock market, including the technique of linear programming. Therefore, using his method of optimizing a quadratic function that is subject of linear (and for some cases – and non-linear) restrictions, built algorithm to calculate the optimal portfolio. Return on the investment portfolio scientist calculated as the average value for probability distribution, and risk as standard deviation of possible level the expected yield (i.e. standard deviation, which calculated as the square root of the variance of returns). As an initial base for implementation of portfolio comparisons Markowitz proposed make the so-called spaces of potential portfolios, containing a list of assets, vector of their respective average expected yields and covariance matrix. Having

developed the mathematical side of his theory of portfolio investment, it also paid considerable attention to finding of ways for effective diversification of investments, which enables minimizing and neutralizing risks. However, at the same time, portfolio theory does not take into account the time lag to its investment portfolio implementation, factors influencing on the crisis phenomena was difficult for practical use because of the complexity of preparation empirical input information. This is especially visible when volatility changes sharply (i.e. amplitude of stock price fluctuations) and mathematical expectation (ie, the slope of the Bollinger line) because there is a serious problem with the selection of previous periods data for formation of probability distribution (yield). Nevertheless, Markowitz in terms of risk science, first demonstrated the practical significance of ratio using the probability distribution of risk categories and profitability of a particular investment portfolio, and he introduced in economics algorithmic approach to the selection of the optimal project for investments attraction that are the basis for application packages programs of the corresponding profile, which are now easily solved empirical complexity of the realization of model of optimal portfolio and diversification of investments by G. Markowitz, proving its greatest importance for the development of modern financial sector of the national economy. Interesting is the fact that the scientist in his theory exclude the possibility of speculations (currency, price) and "short positions", that took care of the full effectiveness of investment.

For these reasons, we proposed structure of theories risks of ICT introduction in the conditions of development of the national economy. On Fig. 2 schematically shows the structure of the theoretical basis of introduction of information and communication technologies in the context of national economic complex.

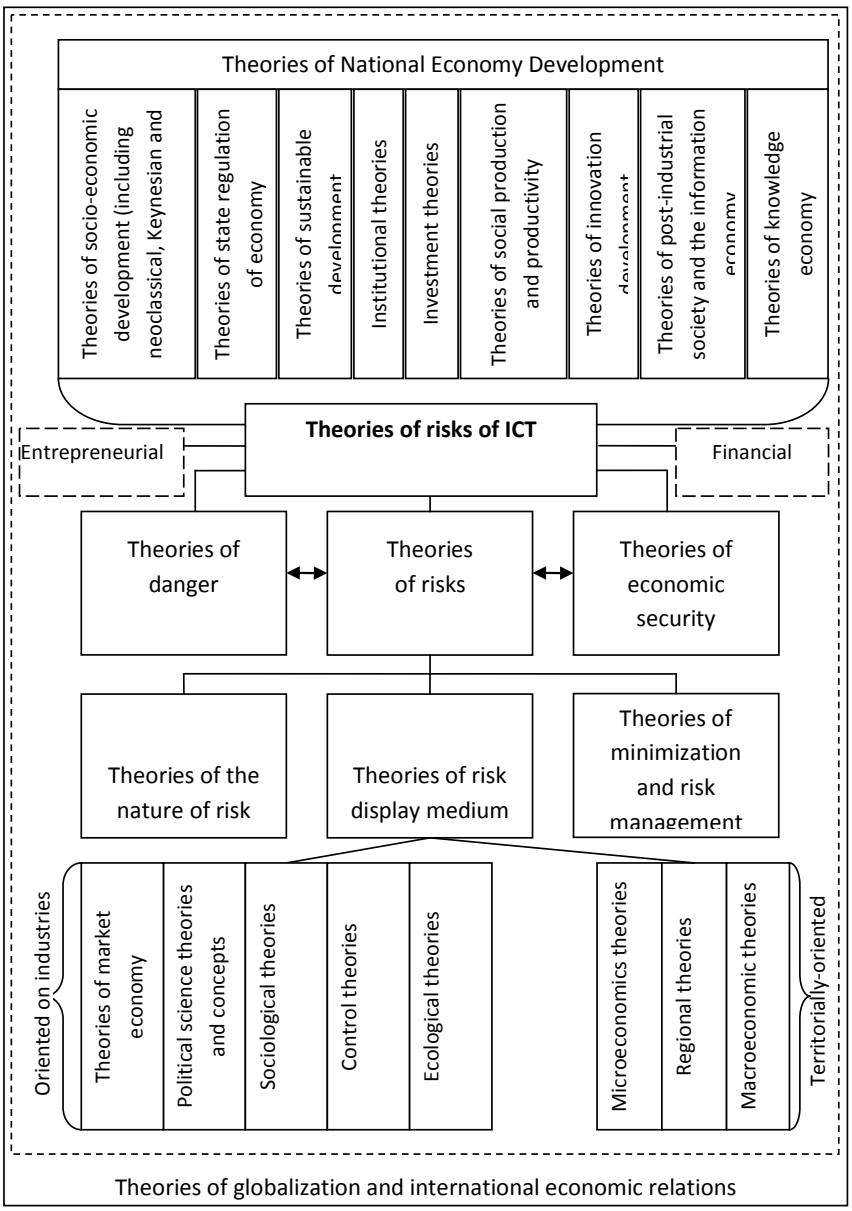
The main groups of theories of risks of ICT introduction in the conditions of development of the national economy is, first of all, the theories of ICT risk, including properly theories of risk, theories of danger and, secondly, theories and concepts of economic security, and the theories of national economy development.

It is worth paying attention to the Ross infocratic signal concept, whereby managers based on information available to them, are able to manage by the risk sending "signals" to investors. In other words, for a fee as a percentage of the market value of the enterprise manager can indirectly control the actions of the shareholders.

Modern concepts of risk also include the theory of "black swans" by N. Taleb, i.e. high probability of occurrence of force majeure events due to unpredictability of financial markets; multi-model of adaptive market by E. Law, which implemented attempt to combine theoretically the aforementioned G. Markowitz portfolio model.

Figure 2

The relationship in the structure of theories risks ICT in the development of the national economy



Source: Compiled by the author.

Conclusions

It can be concluded that the development of the national economy should be viewed through the prism of business risks, theories and concepts of which should serve as a reliable theoretical basis for progress activating in it. In particular, the contribution of W. Sombart in the history of risks scientific thought lies in the fact that he put the risk from micro to meso- and macro-economic levels, showed its relationship not only with profit, and with the phases of the business cycle and innovation process. Compared with the corporate form of management Austrian scientist J. Schumpeter prefers entrepreneurial form that stimulates much stronger market actors to innovation, innovative thinking, initiative and risk perception as an opportunity and not as a "another's" problem that we must avoid any way; he advocated constant dynamic economic growth, and through innovation, rejecting the establishment of any equilibriums as elements of economic stagnation. M. Friedman's contribution to the economic theory of risk is that scientist brought research of economic risk on a new level – quantitative, turned it from economic concepts in economic indicator. This opened broad prospects for macroeconomic forecasting and planning, made it possible to adjust the magnitude of risk implementation of various projects and programs of socio-economic nature. J. Hicks first scientifically grounded technology of the stock market functioning, where risk is one of the key factors of the formation of value of securities and also transferred research of market equilibrium to a new, compared with marginalism level by offering a theory of diminishing marginal rate of substitution. Nobel laureate G. Markowitz, author of investment portfolio theory, which opened a new chapter in research of investment risks, spent a great job of finding an effective structure of the portfolio of firms real investment, identifying of patterns for ensuring of efficient portfolio investment. In terms of risks science, it was he who first demonstrated the practical significance of value using the probability distribution of risk categories and profitability of a particular investment portfolio, and also he was introduced in economics algorithmic approach to the selection of the optimal project for investments attraction that are the basis for application packages of the corresponding profile, which are now easily solved empirical complexity of the optimal portfolio model realization and the diversification of investments by G. Markowitz, proving its great importance for development of modern financial sector of the national economy; scientist in his theory exclude the possibility of speculations (currency, price) and "short positions", taking care about the full effectiveness of investment. Thus, a group of theories of risk is increasingly becoming the subject of study three sciences: economics (economic risks science), applied mathematics and psychology, explaining the various aspects of behavior of the economic individual in terms of risk and uncertainty. In theories of economic security single view about its nature does not exist, but on the other hand they are theoretical paradigm for some of its aspects, which is important for the formation of public economic policy objectives and the successful implementation of its tasks.

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