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Adaptive stability as the conceptual model for managing Russian corporate structures in modern geoeconomic environment

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Abstract. *This article represents the author's approach to provision of adaptive stability of corporate structures as the essential characteristic in a highly moderated geoeconomic uncertainty environment. The analysis of current theoretical and methodological background of modern corporate management, such as network economics theory, financial globalization theory, uncertainty theory within conspiracy theories group, economic and mathematical instruments in supporting management decision making, including a group of methods of fuzzy sets theory, risk management theory and modern aspects of finance and credit theory has demonstrated a principal change in properties and manifestations of economic systems, which allows to draw the conclusion that current risk management technologies are dysfunctional in modern geoeconomic environment due to manifestation of negative network effects, hypersystematic qualities of economics and limitations of available scale of implication of modern analytical instruments. Within the typological structure for types of stability of corporate structures the following types can be distinguished: non-adaptive instability, non-adaptive stability and stable adaptivity. According to the author, adaptive stability in development of corporate structures can be provided by the presumption of achieving the hormesis type reactions as the main criterion in the system of making management decisions. The type of stability of a corporate structure is determined by a system of linguistic variables as well as financial strategy parameters, because the kind and configuration of the engaged financial instruments in finansomics environment demonstrates some serious influence on the mechanism of management decision making, which is especially important when analyzing strategic objectives and vectors of movement of global financial capital. In practice building-up financial sovereignty with consideration of financial flexibility as well as provision of technological sovereignty with involvement of instruments, providing informational interaction and consulting, is essential for the stable development of corporate structures.*

Keywords. network economics, uncertainty, network effects, hypersystem, extraterritorial organization, risk management, corporate structure management, financial globalization.

JEL-codes: G34.

1. Introduction. Relevant theoretical and methodological background of modern corporate management

Modern global economic system demonstrates the crisis of globalism: contradictions, accumulated within the whole period of gigantomaniac leadership and total financization, have been laid bare. Current events at economic and political arenas are a vivid proof of the beginning stage of manifestation of negative effects of horizontal and vertical integration on a planetary scale, which are the main cause of loss of control over these hypersystems, which leads to growing uncertainty for corporate structures. [1] Current systems of

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management decision making retain their functionality only in local economic space environment with acceptable level of uncertainty.

1. Conspiracy theories. Uncertainty in itself has transformed from an external factor into a source of management potential, i.e. artificial formation of uncertainty or, for example, informational asymmetry, stopped being a pseudoscientific hypothesis and is now a quite developed theoretical subdivision of conspiracy theory, which provides large systems some new instruments to manage and model economic environment to their demands. For example, Russian sociologist A.Fursov in his collection of monographies "De Conspiratione" states that unstable systems need regulation from supersystems, while capitalism is by design the economic system, creating unstable national economic systems, which need control from global centers.[2] However such mechanism of control forces economic entities to look for ways of neutralizing uncertainty by withdrawing it from the field of potential threats in cases when full-scale feedback from control centers in unavailable. Network economics provides this opportunity via translating standards of activity to network cells. Until certain moment this technology allowed to obtain the desired level of controllability of large systems: information systems of corporate management (ERP, MRP, CRM), information security provision technologies, business translation through franchising, etc.

2. Network economics theory. Networkization is subject to network effects, manifesting themselves in biological, technogenic and social systems, based on network form of organization. Networkization provides a lot of positive effects for corporate structures: accumulation of organization capital, positive economies of scale from using technologies, high level of transparency and neutralization of uncertainty to limits, accepted within the network. In financial globalization environment networkization was supported by liquidity and turnover of financial streams, which could move freely across the borders within one corporate network, be it a large corporation or a group of companies. Such network effects provide for the benefits of network form of organization, making it better than other forms, but the same effects can lead to catastrophic consequences.

For example, positive and negative network effects were described in K. Kellly's work, in which he noted that with growth of a network's size it controllability decreases, he also called network effects "laws".[3] In his studies V.Shelepov gives some interesting interpretations of negative network effects, manifested by network economy on the financial market, in these works the author further develops and adds to K. Kelly's ideas. [4] If we generalize the conclusions of the above-mentioned researchers, we can state that corporate structures function in the environment, in which classical economics laws don't operate anymore, or operate with distortion. And even more than that - they can be influenced by interest groups, which effectively neutralizes their objectivity and stability of described regularities. In this regard new laws and properties of economic systems emerge, which manifest themselves within the scope of alternative economic theories, while practical information is being taught within training programs, continuing education courses and MBA programs.

3. Problems of economic and mathematical measurements. One of the most interesting ideas, useful from both scientific and practical aspects, was suggested in 1949 by G. K. Zipf. He said that resources tend to organize themselves in such a way as to minimize the work done, therefore 25% of any resource brings 75% of the desired result. [5]This pattern is known in modern science as universal hyperbolic rank distribution. In addition to the network economy theory we can draw the conclusion that this pattern continues to manifest itself, but network forms of organization prevent us from identifying which cells of the network belong to the productive 25% of the resources, how these resources are allocated and where the positive potential is going to build up.

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Another researcher, N. Taleb, directly points out in his book "The Black Swan: The Impact of the Highly Improbable"[6] that it is impossible to use the mathematical statistics apparatus for the reliable analysis of properties and characteristics of social and economic events, if the values, that are being researched, are non physical, but virtual ones, which are not limited in their ranges (levels of income and consumption, propensity to save, investment potential). If you still apply the mathematical statistics apparatus and use the obtained results, for example, for comparative analysis, you should keep in mind that averaged values retain their meaning only until the moment when real practice has demonstrated at least one event, which significantly differs from the known ones quantitatively. [7]

The relevance of surveying new directions to improve instrumental methods of research is determined by yet another reason: in modern economic systems new events and characteristics, as well as their combinations, significantly limit the possibility of standardized estimation, which diminishes the basis for management decision making and often leads to mistakes, resulting in either direct financial losses for entities, or formation of "bubbles" at assets' market, used for securitization.

4. Relevant aspects of institutional theory. Institutional theory is marked by its universal character. If you see the "institution" category as some "rules of the game set", then this theory can provide the methodology for modeling and management in current environment as well. The process of institutionalization per se has sped up significantly, influenced by globalization, informatization and networkization processes. Moreover, the rules and mechanisms, which require minimal costs (transaction costs) are subject to institutionalization. [8]

There is a plethora or examples of this: formation of electronic services of state and private institutions, development of logistics in all spheres of activity (if logistics is considered a management process, minimizing transportation costs). Still, here we can see a contradiction forming: minimizing transaction costs and institutionalization of the most acceptable behavioural models leads to an exponential growth of switching costs. [9] Switching costs are described as organizational, temporal, financial and phycho-emotional losses, caused by the need to switch to an unfamiliar product or new kind of activity. Essentially it is a manifestation of lowered adaptivity of economic entities to uncertainty and dynamic environment, but at the same time it means building up the loyalty of customers (switching cost loyalty).

5. Risk management theory. Certainty or uncertainty is becoming a key parameter for a management system of any scale. Fundamental proportion of risk and profitability as a decision-making parameter in the sphere of financing has formed a trend on the market to hire specialists, competent in risk management. The key objective for a risk manager is to create a risk map for a particular management object and develop the relevant instruments and technologies to neutralize these risks. In other words, the prioritized activity of a risk manager is managing the level of uncertainty.

However, networkization and integration processes, with their characteristic feature to form hypersystems, set the following task, which is almost impossible for risk managers: to predict risks for an extraterritorial structure, i.e. for the structure, spread geographically, which is functioning in various types of business environment. To solve the tasks of risk identification and clustering, specialists employ cognitive maps, artificial neural networks and large-scale software instrumentation, not mentioning the intellectual analysis. A whole industry of informational products and consulting in the B2B segment has been formed, but the Pareto and Zipf laws' effects in network economy environment with domination of financial resources neutralize the positive effect of the above-mentioned instruments of localization and diminishing uncertainty.

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To a large extent it can be explained by the fact that it is impossible to create a risk map, covering all possible variants of developments and outcomes of events and possibilities based on precedent events, while staying within a dynamic hypersystems environment. Information technologies, coupled with modern communication channels, translate huge amounts of information on a daily basis and the user's goal is to "filter out" the signals, relevant to the particular system's development from overall "information noise". In corporate segment, of course, there are both monitoring services and analytical departments, but real practice demonstrates that managing the steady development of a corporate structure within the classical approach, which utilizes the "analysis of accumulated experience - analysis of the environment - identifying coincidences - building assessment of the situation's development" process, doesn't allow to provide a steady development of a large corporation in the long run and answers the needs of only minor systems, functioning locally.

6. Modification of elements of finance and credit theory. Changes in global economic foundations, hegemony of global financial capital, integration and regionalization processes, financial globalization, informatization and virtualization of some part of economic processes have significantly modified business environment, which in turn demands changes of foundations of monetary economics, finance and credit, or at least some improvement of their basic principles. For example, money have long lost their intrinsic value, often they are not even banknotes, but just digital records on credit and financial institutions' accounts. Money have long resigned from their functional field and moved on to the status of a resource, symbolizing power or capability of domination. Financial globalization raised financial resources to the rank of the most liquid ones, as a result of that, participants of global markets fight for additional sources of income, because it is the financial resources that can help you obtain almost any manufacturing resources, be it fixed capital, technologies or financial assets.

From this prospective the classic management theory, which puts financial strategy in cosubordinate position as opposed to general strategy, is now obsolete. In modern environment general strategy is determined by investors' expectations, taking into account the configuration of available financial resources. All factors of production can be involved, if the company has enough financial resources and an adequate level of financial stability.

Credits, originally designed to provide for interindustry flow of capital, now became the mechanism of obtaining superprofits by credit institutions with further spreading of risks along the global financial system by using securitization mechanisms. Consumer crediting has prolonged the lifetime of the economic growth model, based on domestic demand, but formed a significant amount of "bad" indebtedness in economics, thus diminishing the potential of credit and financial systems for development of real sector of economy.

2. Methodological controversies and paradoxes of modern corporate finance

Working out a financial strategy for a corporation in the conditions of financial globalization and networkization requires one to consider a variety of factors. This strategy must be the first to react to new models of managing business, because financial globalization produces the path dependence effect and sunk cost effect, leading to prolonged use of outdated standards of estimation of counterparties.

In this respect, let us emphasize the most relevant parameters of a financial strategy. [10] All currently existing instruments of financing of a corporate structure (including structured securitized and other financial innovations) can be effectively grouped into three types: own sources, investment sources and debt sources. The last two sources are classified as called up financing. Besides the above-provided type

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assignment they should be divided into internal and external. Such method of classification of sources of financing of corporate structures provides for an easy comparative estimation of their cost of servicing. The cheapest ones are own sources of financing, especially in the context of inflation. In this relation, inflation processes and non-economic sanctions are a sure-fire indicator for reinvestments and capitalization. However, the methodology, which was the basis of development of finansomics, boosts expectations of both owners and agents, concerning the marginality level. As a result, businesses fall into a financial panic condition and most commonly increase their credit burden. Methodological causes of this phenomenon lie in the theory of financial levers, which include a number of widely-known models.

For example, the Modigliani–Miller theorem, which was later developed within the concept of financial leverage, was first built with a huge amount of suppositions and conditions, main of them being: low transaction costs, full information transparency and short term for estimation. It is obvious that this model, created in 1956, could be used at that time to make the supposition that the level of debt burden did not influence the level of return on equity. However, financial management methodology and even mere accounting methodology speak in favor of the polar opposite point of view: as interest payable must be cleared off within preferential payments in the course of formation of a company's financial results, the level of debt burden significantly influences the return on equity and therefore, the investment attractiveness. How did it happen that such a limited methodology and principle of provision of positive financial leverage became mainstream for global economy as a whole?

It was caused by the aspiration of some western countries (especially the USA) to receive continuous financial rent. The USA economy is built on trading technologies and financial resources. Multinational corporations, which are basically the driving force behind globalization, were developing in accordance with the principle of forming long distributed chains of added value with active involvement of debt financing, which allowed formation of fictitious capital even at the end of the XX century. However any fictitious capital demands involvement of vast territories, because its consolidation in a local zone immediately leads to either an instant "blowing up" and collapse of a "financial bubble", or to the necessity to hand over ("dump") "bad assets" to actors, which have not been involved into the financial network yet. This is the key goal of geoeconomic strategies of countries, which have built their economy in the "virtual" sector.

Exposure of financial motives of supernational agents explains most of political initiatives, which were demonstrated in the last 9 months: supporting the current model of "draining" the global rent requires new objects. However there has only been a limited number of them in recent years.

Looking at the world's political map, one can see that the zone of geoeconomic interests of some western countries is aimed at Eurasian territories and the Near East. Other political subjects are either already included into global mechanisms of redistribution of fictitious assets or are of no interest due to their low economic and business potential, while the existing ones don't provide the required feedback anymore due to the high debt burden. Here we see the uncovering methodological controversy: the model of financial leverage demands a short period of implication, but in the long run it is fatal for economic system, because it diverts resources from the main producers of added value, which means domestic products too.

The weakness of the strategy, described above, is also demonstrated by the fact that some countries have entered the energy resources market, because orientation on new niches of activity for structures of any scale can only be caused by searching for higher marginality (in finansomics environment it is the dominant factor in the decision making system). High debt burden and low rates of growth of economies, actively participating in the mechanism of redistribution of global rent, don't provide for achieving the main goal - stable economic growth in the countries, which "donor" financial capital.

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If we expand this concept a little bit, we shall see that high debt burden diminishes investors' interest in optimizing innovations, at the same time it stimulates the interest for breakthrough innovations, which, as we know from the pricing mechanism for intellectual products, require much greater expenses than innovatics within the scope of the constant innovations concept. Here emerges yet another methodological paradox: investors demonstrate high demands for profitability, yet they lower the appetite for risk, preferring complex securitized derivative financial instruments to pure innovative mechanisms. I.e. there exist both the need for innovations, the necessity to provide a product's competitive advantages due to resource-saving, as well as vast amounts of available financial resources, still innovative dynamics in the virtual sector of the economy (finances, services, information technologies, etc.) is several times higher than in the real sector.

3. Estimating the influence of sanctions on the development of Russian corporate sector

One might think that Russian corporate sector has been preparing for the imposing of sanctions for years: a tendency for consolidation is being demonstrated, corporate structures with vertical integration are being formed in the most important Russian economic industries, de-offshoring is being performed in order to stimulate capital repatriation, business climate has also improved, as marked by The World Bank in its "Doing business" rating. There is no doubt that the sanctions were imposed to break up economic stability and stimulate Russian business lobbies to start exerting pressure on the government. However that didn't happen. Let's try to look deeper into the essential aspects of the influence of the sanctions' process.

1. Risk of a technological blockade. In fact, this is the most serious risk of all possible risks for the Russian economy. It is not about the uniqueness of western technologies - our Asian partners have similar ones - it is about the switching costs, which, of course, significantly increase alternative costs, that need to be compensated somehow. This situation is not the first one from the historical genesis prospective and history knows a lot of situations, when countries bought operating laboratories or even whole scientific departments. In addition to this, network economy creates a variety of options for substitution of technologies. A good example is Arabic countries, exporting oil, which have no access to technology and equipment for oil distillation. Still that doesn't produce any serious impact on economies of these countries.

However, one should keep in mind the other side of the sanctions process - according to latest calculations, the EU countries have suffered losses in 2014, which exceed the losses of the Russian side, in 2015 the losses will get equal, and only then the Russian economy can start feeling worse than the EU countries' economies. All the above refers to the situation, where the Russian side will not start and implement any major infrastructural projects, maintaining the Russian economy's investment attractiveness. In reality we have such projects and they will be implemented. The truth is that the Russian market can provide an excellent profitability, which can't be offered by the western economy anymore, where the market is shared between multinational corporations. That is why the predicted reaction of the western business will be most likely aimed at searching for new markets and orientation on low-marginal segments, or capital will just flow to the Russian market, changing its "place of residence". Here the manifestation of network effects is clearly visible, where the intention of the network's demiurge contradicts the intentions of the network's cells, as a result the network is out of control and will either break up or evolve into a different form.

2. The risk of extended sanctions, aimed at particular companies and representatives of business community. It is clear that sanctions of this kind are somewhat painful, but very stimulating for the Russian economy. Specifically, major Russian investors should consider choosing the Russian residence and investments into Russia, because the global system with all its supernational institutions is under the G7

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pressing and there is a high risk of extended interference of political issues into the economy, which can look brave in newspaper articles, but turns out to be colossal and more than real losses for business. The highest degree of uncertainty of the western economy's vector of development, high risks from the African continent due to the constantly increasing biological threat (the Ebola virus), problems in many developing economies and a cascade of near-default conditions in many countries, announced in the S&P rating, vividly illustrate the reasons of increased interest of western countries in the Russian economy: The Russian Federation is the ideal zone on a planetary scale at present moment, in which it is possible to develop a business both in the real sector of economy and in the virtual one, because risks, demonstrated by the Russian economy, are significantly lower as compared to other zones and are easily manageable. At the same time the global economic system, which grew businesses of multinational scale in the environment of certainty and standardization, has recently changed the business environment, demonstrating a series of politically motivated stochastic actions, ineffective from economic point of view and catastrophic for some manufacturers. That means that there is no practical possibility to predict the development of political and economic system from the beginning of the Ukranian crisis, because the laws of economism do not apply anymore: the people who initiated the process of sanctions can adjust its scale to their liking, completely ignoring any business ethics and risks by finding any level of affiliation and implying instruments to repress it.

3. Risk of qualified specialists and capital's flight from Russia. Amount of capital flight from Russia from the beginning of 2014 has exceeded 60 billion USD, according to predictions, made in May, by the end of the year it will have reached 90 billion USD. Therefore the capital migration started long before the sanctions. However, repatriation of capital is quite possible, because, as we said earlier, financial capital doesn't tolerate unstable and disturbed environment, as well as the risk of foreign economic limitations.

4. Risk of shortage of particular groups of goods as the result of counter-sanctions on the Russian market. Counter-sanctions became an involuntary measure, because any pressure on the Russian economy has lost any objective basis behind it. Violation of internal law standards (unfortunately, having precedents in the past) has been demonstrated many times, it required counter-measures from Russia, which have vividly demonstrated the real cost of the Ukrainian crisis for global economy. At present moment there seems to be no panic at food products markets in Russia, while Russian manufacturers gladly use this opportunity to fill in the now vacant niches on the market.

5. Risk of advancing dysfunctionality of credit and financial mechanism. Limited access to the global capital market produces a liquidity crisis for Russian companies and credit and finance institutions, which has an extremely negative impact on economic system as a whole. Problems of credit and financial sector put pressure on the real sector of economy, which aggravates the situation for the corporate sector, that has already been harmed by targeted sanctions. That brings up the necessity for Russian companies to switch over to conservative strategies, in which appetite for risk and strategy of cost managing should be seriously revised.

In conclusion we can state that the evolving destructive processes set the complex and complicated goals before the Russian economy, however, these very processes can "pull the trigger" for modernization that is so necessary in Russia. What's very important is the fact that now Russia has sufficient base for making decisions in choosing its strategic partners. More than that, Russia's long silence in response to the western sanctions allowed the country to determine the moment for the turning point itself, as the factor, determining impact of any risk event in modern environment is the moment of its beginning and its duration, and not the character of its risk. At the same time, national economy system is undoubtedly a complex

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system, its characteristic qualities being extensive and hardly identifiable correlations and non-linear reactions. Therefore it is extremely difficult to predict the whole combination of results, including consequences of both sanctions and counter-sanctions for our international partners. In non-linear environment simple causal connections is an anomaly; it is hard to find out, how a hypersystem will react, if you look at its parts in isolation.

4. Type of stability of a corporate structure as the determinant of instruments and mechanisms of financial strategy formulation

The concept of steady development of Russian corporate sector is based not on western heuristics, understood as the conscious simplification of practical rules to provide for speed and efficiency of transactions. Heuristics in corporate management decrease organizational costs, but significantly reduce the tolerance for non-typical and non-standard events, because undercompensation, caused by absence of a stressor and lack of complex tasks weaken even the best companies. Now the course of global history is set in the direction that vividly shows that heuristics in managing large corporate systems reduces their potential for steady development, because they turn out to be completely unprepared for survival in severe environments.

Russian corporate sector has a huge experience of survival in economic turbulence conditions. From the 1990s Russian corporate sector has been acting in conditions of disturbed business environment, where "good weather" periods were significantly shorter than "bad weather" conditions. That allowed Russian corporations to form a number of skills, which proved useful in current conditions of sanctions process:

- hormesis reactions and tendency to hypercompensate as a reaction to stressors - this skill was acquired in conditions of constantly disturbed business environment;
- lack of "neomania", i.e. low susceptibility to new technologies, which have not been field-tested yet. This trait is often mistakingly understood as the lack of open-mindedness of Russian business in the sphere of innovations; however, it is explained by the different pattern of economic activity, characteristic for Russian practice, where new technologies are implemented only if they proved their worth in the course of economic practice, i.e. "innovations for the sake of innovations" characteristic is not present;
- personnel's cautious attitude to risk, hard work and tolerance for authoritarian management in combination with low loyalty for comfort and low salary aspirations, which provide for stability and adaptivity of labour resources to disadvantageous conditions of the environment, which negatively impact the financial potential of corporations;
- susceptibility for constant reconstruction and mild modification of organizational type as a response to external stressors, i.e. tolerance is based not on impenetrability of corporate structures for external influence (which is impossible anyway in networkized environment), but on internal modifications, providing for survival in harsh economic conditions.

These skills are especially important for building up adaptivity and dynamic stability of corporate structures. In a quickly changing and disturbed environment reliable estimation of risks of corporate structures is not realistic.

However the definition of *type of stability* of a corporate structure is quite possible, however, using not parameterization, but the mathematical instruments of fuzzy logic, which allows to overcome the limits of parameterization. From this aspect determining the type of stability of a corporate structure is a top-priority step for formulating financial strategy parameters, because different types of stability require

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different types of financial instruments, which modern corporate structures can attract without any harm for their financial potential.

By using the instruments of fuzzy logic one can formulate the membership function, determining they type of stability of a corporate structure. De facto type of stability characterizes the capability to use different variants of financial strategy and also determines the use of various types of financial instruments.

These skills are especially important for building up adaptivity and dynamic stability of corporate structures. The problem is that appearance of new, non-typical and non-predictable risks, causing financial losses, neutralizes the positive effect of analytical and prognostic instruments, because parameterized estimations of risk or system of risks are valid only until the moment when new risks are identified, when they appear, any estimated characteristics, found earlier, are of no further use. A vivid example is any financial and investment strategies of Russian and western companies, formulated before the beginning of the Ukranian events: when the Ukranian crisis began, all prognoses of both internal analytical services and supernational institutions have lost their value, leaving financial experts empty-handed, because it is impossible even to estimate a discount rate for a forecast period, let alone volatility and level of income.

In quickly changing and disturbed environment reliable estimation of risks of corporate structures is not realistic. However the definition of type of stability of a corporate structure is quite possible, however, using not parameterization, but the mathematical instruments of fuzzy logic, which allows to overcome the limitations of parameterization. From this aspect determining the type of stability of a corporate structure is a top-priority step for formulating financial strategy parameters, because different types of stability require different types of financial instruments, which modern corporate structures can attract without any harm for their financial potential. We consider it logical to offer the following linguistic variables for identifying the type of corporate stability (table 1).

Table 1. – Linguistic variables for describing the type of corporate stability[11]

Characteristic	***Unstable non-adaptive***	***Non-adaptive stable***	***Stable adaptive***
Reaction to stressor	Undercompensation	Immunity to impact	Hypercompensation
Leading subsystem	Financial	Manufacturing	System of management decision making (organization capital)
Leading criterion of estimation	Effectiveness	Redundancy	Ability to adapt
Use of negative experience	Use of technology to prevent repetition of mistakes	Information about causes and consequences	Teaching the skill of stress management and working with consequences
Type of scientific research and technological improvement	Targeted investigations	Conjuncture investigations	Stochastic investigations and improvements
Motivation for work	Clerks («salary is the king!»)	Artisan («work is the king!»)	Creative person

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Characteristic	***Unstable non-adaptive***	***Non-adaptive stable***	***Stable adaptive***
			(«result is the king!»)
Leading segment of labour resources	Senior managers	Medium-level managers	Workers, operators back- and front-office
Type of planning	Mono-modal	Mono-modal	Bi- and multi-modal
Analytical system	Precedential	Phenomenological	Heuristic
Time-based analysis of analytics	Continuous	Rhythmic	Discrete, unregulated
Information base for analysis	Maximal coverage of incoming flow of information	Monitoring significant information channels	Monitoring all information channels in order to separate the significant information signals
Reaction to information asymmetry	Accepting the presumption of determinism	Accepting the presumption of indeterminism	Accepting the presumption of randomness
Goal of analytical and prognostic investigations	Accepting the obtained results as trustworthy	Accepting the obtained results as trustworthy	Accepting the obtained results as the results of cognitive process
Use of analytical and prognostic data	Accepting the obtained data as objective	Accepting the obtained data as subjective	Accepting the obtained data as subjective

By using the set of instruments of fuzzy logic one can formulate the membership function, determining the type of stability of a corporate structure. De facto the type of stability characterizes the capability to use different variants of financial strategy and also determines the use of various types of financial instruments.

These properties determine the particularity of the type of financial strategies of Russian corporate sector and also the kinds of reactions to limitations on the capital market.

The predominant interest of this study lies in stable adaptive corporations, that can provide flexible reactions to the changing environment and keep evolving instead of breaking down. There is no doubt that some degenerative changes in internal environment are inevitable, but their result must provide for increased stability of corporate structure, not for the deterioration of its resistance. It is in owners' best interests too, because the provision of capability to save returns on investments in disadvantageous periods is very desirable due to the reduction of transactional costs and alternative costs, produced by deterioration of the quality of business environment, increase of informational noise and growth of switching costs.

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In earlier studies we attempted to determine the optimal organizational structure of a corporation, where the cluster-network form is thoroughly described, which can serve as an example of stable adaptivity. [12; 13].

Having studied the corporate management experience, we can draw the conclusion that state participation is required in managing such hypersystems, because first of all notable large corporate structures are significant elements of economic system's infrastructure, and therefore, determine the level of switching costs for all users of this infrastructure. The evolutionary model should be considered the optimal model of development, because market mechanisms (due to informational asymmetry and "market failures") do sometimes (and in recent times - quite often) fail to satisfy the actual needs of economic systems, competing in geopolitical space.

Modern corporations use large-scale analytical systems to formulate their financial strategy, but one should realize that at developing such financial strategy senior managers have to deal with causal non-transparency, because currently existing methods of analysis let us structure our knowledge about consequences, but do not touch upon the initial cause of the processes in development, which makes this data useful for making management decisions in the sphere of financing only within a short period of time.

5. Estimating the type of stability of Russian companies in the corporate sector in modern geoeconomic environment

In Russian economic system one can observe the occurrences of paradoxes of modern financial theory with increasing frequency. Although the theory of portfolio investments calls upon investors to diversify their portfolio, as they are trying to implement this idea, it doesn't yield enough practical results. In our opinion the reasons for that lie in more active emergence of the trends, described in section 1 of this research, although these factors are not considered by investors and financial experts during decision making process in the course of configuring the system of financial instruments. In order to make estimations and even slightly reliable prognoses (i.e. - localization of uncertainty, which is a critical factor for any financial decision) one must possess a large-scale theoretical and methodological basis, which today is characteristic more of scientists than of application specialists.

External debt financing in uncertainty conditions is very risky for financial managers of standard qualification, because before one makes the decision to incur debt burden, one must build the prognoses of key sales market's dynamics, price index, currency exchange rate fluctuations, liquidity level in the banking system, level of overdue indebtedness at corporate sector and banks, inflation rate, possibilities of key interest rates' fluctuations, geoeconomic actions of counter-agents and even climatic force-majeure situations (previous 2 years have provided an abundance of examples to confirm the importance of this factor). Modern methods of financial diagnostics demand that all the above-mentioned factors are taken into account as early as the stress-testing of budget stage, let alone the necessity of a factor analysis at planning debt burden. Analysis is further complicated by the fact that there is no (and cannot be any) universal algorithm for all corporate structures, because the vector of a factor's influence can change, depending on specific characteristics of a particular industry.

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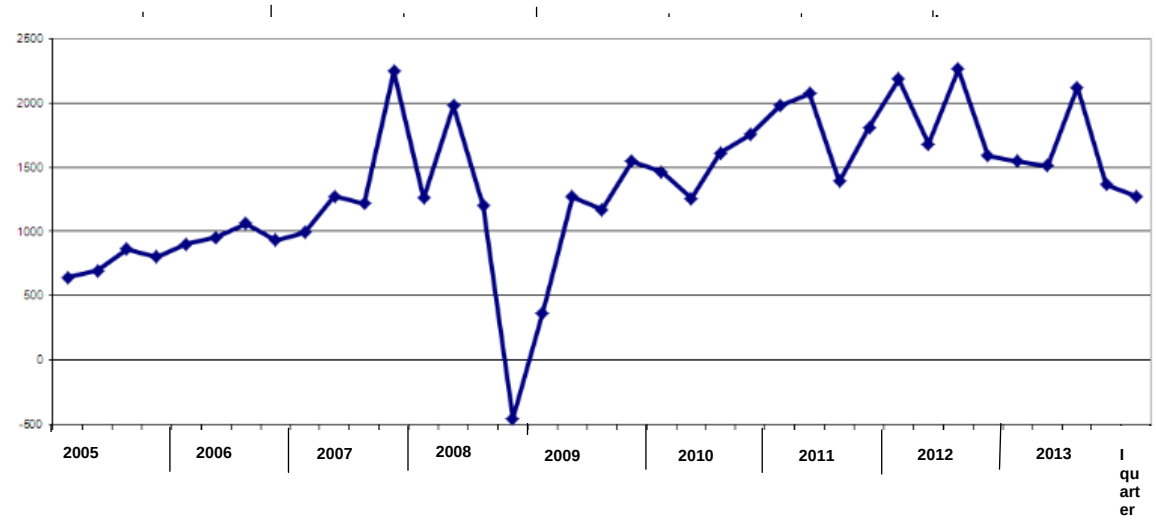


Fig. 1 – Balance of profit and loss of organizations
(excluding small and medium-sized enterprises) in the Russian Federation, 2006-2014, billion rub. [14]

In such conditions, from the point of view of rational economic behaviour, [15] which is expected from senior financial managers, it is perfectly logical to choose the strategy of minimizing external debt financing and looking for internal reserves to cover the need for financial capital.

At first is should be realized in the attempt to replace part of bank credits which refill the working capital with the use of the balance of accounts receivable and accounts payable as the cheapest variant of credit in the form of goods.

In practice that means building up overdue accounts payable and intensely collecting accounts receivable. However Russian corporate sector is building up accounts receivable (Fig. 2).

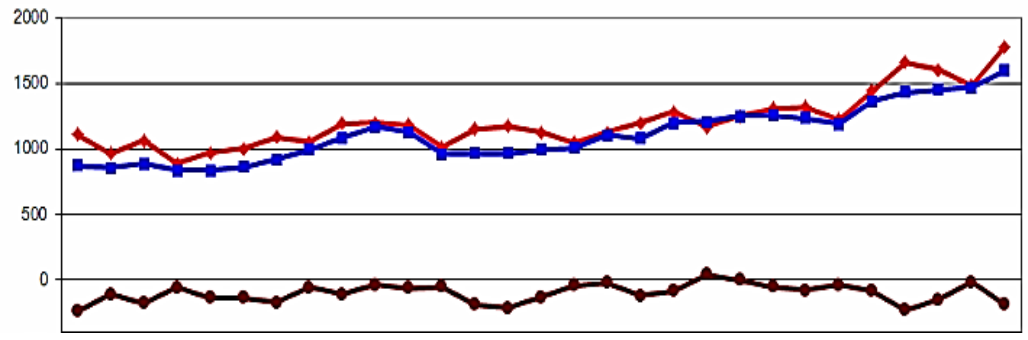


Fig. 2. – Correlation between accounts receivable and overdue accounts payable of organizations at the end of accounting period (excluding small and medium-sized enterprises) in the Russian Federation, billion rub. [16]

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In large corporations, which are natural monopolies, management of accounts receivable also doesn't require any urgent correction: amount of paid products in the amount of shipped products shows the decreasing trend from 2011 (Fig. 3).

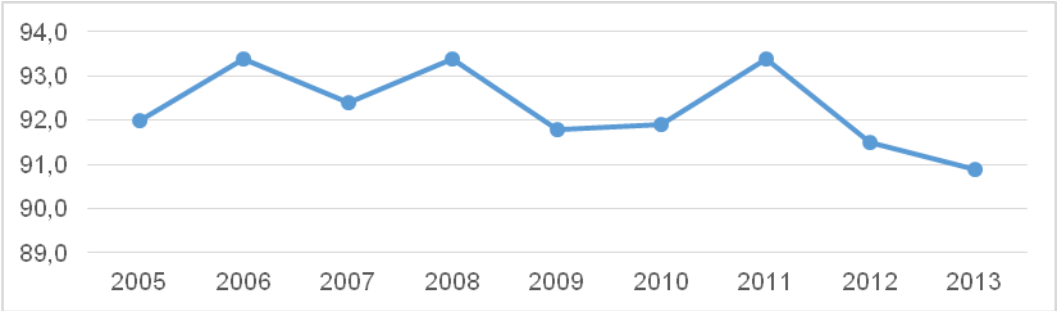


Fig. 3. – Relative amount of paid products in the amount of shipped products in entities of natural monopolies and organizations, manufacturing industrial products in the Russian Federation in 2005-2013, %[17]

At the same time, the percentage of innovative goods, works, services by the end of 2013 amounted to 9.1% from overall production volume, predominantly due to industrial manufacturing (8.9%). That said, one should keep in mind the fact that the utilization rate for production facilities exceeds 80% in 6 industries. That means that there is a visible demand for innovations, both in manufacturing and financial aspects, but the implementation is coming late. We think that the main reason for that is the low culture of innovations and low susceptibility to innovations, coupled with low financial competence of senior managers.

6. Essential elements of the mechanism of provision of financial and technological sovereignty of the Russian Federation

Considering the above-mentioned factors, corporate sector needs the institutionalization of a new model of financial behaviour, necessary for realization of the strategy of neoindustrial growth (including import substitution) and characterized by the following essential characteristics:

- lower propensity to build up debt liabilities with consideration of compensation of missing sources of debt financing with own sources, formed as the result of innovation-targeted optimization of costs.
- releasing financial resources for filling in working capital by increasing the productivity of labour and returns on capital resources;
- lowering the appetite for risk, which neutralizes the negative effect from internalization of risks of external environment disturbances due to the impact of moderated uncertainty;
- lowering propensity to choose short-term strategies with high marginality due to the high probability of their non-realization;
- forming a new standard of decision making, realized with implementation of multi-factor analysis with obligatory inclusion of such factors as reserve requirement and financial provision for transaction risks with the use of transparent mechanisms as an alternative to securitization and hedging, because these two instruments have become too dependable on global trends and therefore are rather increasing the risks of counter-agents instead of lowering them due to the forced realization of matrices of financial strategies;

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- setting the presumption of cost-based approach, in which the key parameters are not "catching up" the speculative market trends, but the provision of increment of added value on the territory of the Russian Federation with orientation on modifying strategies of customer behaviour in long-term period.

To aggregate this, we can state that the security factor for provision of financial sovereignty of the Russian economy should be based on forming a new productive model of economic activity, aimed at finding internal resources, which is a necessary requirement for forcing the process of innovations. Besides that, we should discuss the need for provision of *financial flexibility* of corporate structures, because in the conditions of rapidly changing environment financial sovereignty is impossible without this feature, which must become an immanent feature of modern Russian corporate structures. Apart from the mobilizing function of financial flexibility, it can also solve the problem or reducing debt burden in the situation of reduction of business activity in an economic system, which can be caused by various factors. [18] For example, Volberda H. states that provision of financial flexibility depends not only on the type of strategy of accumulation of financial resources, but also on the ability to react to occurrences in external and internal environments rapidly and to full extent. [19] At the same time, according to S.Byoun, it is possible to determine such criterion as minimal amount of expenses per reaction, which can be considered a sign of financial flexibility. [20]The most exact definition of financial flexibility is the definition of Priyanka K., in which financial flexibility is understood as the ability to provide a fast reaction to imply certain changes within a limited amount of time with minimal efforts and expenses, while maintaining performance parameters at normal level. [21]

Technological sovereignty as a feature in modern global economic system is as important as financial sovereignty, which is necessary for establishing the political subjectivity of the Russian Federation in long-term period.

Artificial implementation of innovations, as we can see from experience, doesn't yield the desired results (boosting the scientific and technical progress), because artificial implication of innovations is a delicate and unstable process, which demands constant regulation, which means, constant expenses to support the sustainment of innovative strategies themselves. Actual innovations, which are necessary for corporate sector companies, should save resources and the current economic dynamics is, despite all its negative trends, the best environment for the development of innovative resource-saving technologies, which aid the institutionalization of innovative culture, strengthening of the model of conscious economics instead of rent-oriented economics model and, as a result, should allow the formation of a reliable basis for growing up innovative infrastructure and centers of production of breakthrough innovations.

Only when the level of innovative culture of economic system meets the level of susceptibility to breakthrough innovations the formation of a stable innovation-targeted manufacturing system becomes possible, this system being capable of self-adjustment and self-replication even after the most severe shocks. Realization of this model also demands the development of innovative culture as a necessary element of corporate ethics, which allows to minimize the risk of the negative effect of "innovations for the sake of innovations".

The concept of adaptive stability as the main crucial parameter of development strategies must be translated both on micro- and macro-level. In this case there is an objective opportunity to form political and economic subjectivity in global economic system without the risk of decreasing the level of integration into the global economy. What's important is the fact that in this case the type of foreign economy strategy is changing, because moderated uncertainty stops being a threat to national security, if the financial and technological sovereignty have been provided for, Russian economic system could be characterized as

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adaptively-stable, which means its capability to form different types of reactions to external disturbances due to finding out and developing internal potentials instead of depending on external support.

There is no doubt that the concept of provision of financial and technological sovereignty requires the appropriate resource-saving and intellectually-intensive approach. The bureaucratization of this process is unacceptable, therefore, the mechanism of financial behaviour model modification should be built into the currently existing infrastructure with minimal costs (resource-saving), in this connection for this installation we must choose the infrastructure, which could be considered the most advanced both by in-country and international estimations.

7. Conclusions

In our opinion, we can consider prospective the infrastructure of integrated informational interaction of the market's actors, realized in cooperation by the Federal Tax Service, the Central Bank of the Russian Federation and the SPARK Interfax information system. This infrastructure should be expanded by connection to the system of interaction with higher education institutions, however, this interaction must be realized within the information system and non-contact methods of interaction. Intellectually-intensive technologies of estimation of effectiveness of decisions, made in the sphere of designing a system of sources of financing of practicality of implementing particular innovative technologies (their donors being the fundamental science and scientific-applied schools) must be adapted for use in analytic centers by specialists, working with pre-check analysis of companies. As a result, concise applied step-by-step recommendations must be formulated for corporate sector companies, either in the form of recommendations, or directives, depending on the form of ownership of a company and its level of relevance for local and macroeconomic systems.

Practicality and zone of implication of innovative technologies into corporate structure must be carried out within the concept of prospective financial diagnostics, performed at competence centers, formed on the basis of the interactive informational infrastructure of the Federal Tax System and higher educational institutions. Companies that have demonstrated their adaptive stability can later qualify for obtaining instruments of project financing and crediting and also for tax preferences.

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