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ОЦЕНКА РИСКА ЛИКВИДНОСТИ С ПОМОЩЬЮ МОДЕЛИ ДИНАМИЧЕСКОГО ИНДИКАТОРА НА ПРИМЕРЕ АО «СБЕРБАНК РОССИИ»

Аннотация

Проведена оценка состояния ликвидности АО «Сбербанк России» на основе динамической модели. С помощью моделирования риска проведен анализ величин иризику ликвидности по результатам деятельности банка в 2012-2013 гг. На основе расчетов даны рекомендации по снижению риска ликвидности.

Ключевые слова: ликвидность, динамический индикатор, кредитный портфель, высоколиквидные активы, риск ликвидности.

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EVALUATION OF LIQUIDITY RISK BY THE MODEL DYNAMIC INDICATOR THE EXAMPLE OF JSC «SBERBANK OF RUSSIA»

Summary

The assessment of the liquidity of JSC «Sberbank of Russia» based on a dynamic model. Using simulation conducted risk analysis variables yryzky liquidity on the results of the Bank in 2012-2013. Based on calculations provided recommendations to reduce liquidity risk.

Keywords: liquidity, dynamic parameter, the loan portfolio, highly liquid assets, liquidity risk.

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THE ANALYSIS OF THE CURRENT STATE AND FEATURES OF THE FORMATION OF THE PERSONNEL COMPONENT OF THE SCIENTIFIC AND TECHNICAL POTENTIAL OF UKRAINE

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Essence and structure of scientific and technical potential were characterized. Personnel subsystem of scientific and technical potential of Ukraine was studied in details. Also its basic components were determined. Qualitative and quantitative indexes of this subsystem functioning were analyzed. As well the author suggested possible directions for improving the management system of the formation and development of scientific staff and, in particular, young scientists.

Keywords: potential, scientific and technical potential, personnel component of scientific and technical potential of Ukraine.

General problem statement and its connection with important scientific or practical tasks.

Scientific and technical potential is a significant developmental indicator of economic system of the country, implementation of innovative and scientific and technical solutions in all economic spheres that, in its turn, will provide its strength and competitiveness on the world market and attractiveness for foreign investors. Scientific and technical potential is grounded on scientific and technical progress that is defined as a ongoing and continuous process of fundamental qualitative and quantitative changes in all directions of human labour activity. It is based on science and technique development, expansion of scientific research scales and application of their results in national economic practice.

Analysis of the recent researches and publications. In scientific sphere this range of problems was reflected in works of both native and foreign scientists, in particular, Yu. Bazhal, I. Yehorov, V. Heitz, O. Zhylynska [2], O. Kuzmina; P. Druker, B. Twis,

Yu. Yakovets etc. Many scientists devoted their researches to the problems of formation and current development of scientific and technical potential of Ukraine. Thus, problems of activation of innovative and scientific and technical processes in the industry of Ukraine were considered in works of S. Dorohuntsov, Yu. Shkvorets etc.

Previously unsolved parts of general problem. Anyway, nowadays scientists pay insufficient attention to the issues of formation and current development of scientific and technical potential of Ukraine. The issue of system management of its separate structure components and the issue of scientific manpower preparation and development as a basic insuring element of formation of powerful base of scientific researches and carrying out scientific activity have been left unattended. Clear mechanism analysis of interaction and mutual influence between subsystem components of scientific and technical potential of Ukraine is absent.

Formation of article objectives (task setting). Objective of the article consists in characteristics of scientific and technical potential of Ukraine, analysis of its personnel components and specification of its functioning peculiarities.

Presentation of basic research material. Formation and development of scientific and technical potential play a significant role in development of the country's economic system, its economic might, competitiveness and attractiveness for foreign investments on the global stage.

Potential (from Lat. potentia – strength, power) is available means, stock, sources and opportunities that can be used in achieving specific goal, solving certain task and also capability of separate person, society and state in general; it is a complex of the necessary for system functioning or development of different resource kinds [5].

Scientific and technical potential is a complex of human, material, organizational, financial and information resources, which even and interdependent development provides opportunities and creates pre-conditions for performing its basic functions by science: social and cultural, cognitive and economic. As scientific term «a scientific potential» (later «scientific and technical potential») was used for the first time at the end of 1960s in works of scientists of Kyiv science of science school, representatives of which defined it as a complex of parameters characterizing ability of scientific system to solve the current and future problems of scientific and technical development [5].

Scientific and technical potential includes [2]:

- Material and technical resources: a total of means of scientific and research work, including scientific organizations, scientific equipment and devices, experimental plants, laboratories etc;

- Scientific manpower of: scientists, researchers, designers, inventors, experimenters, scientific and technical personnel, i.e. national scientific and technical intelligence;

- Information subsystem: provides creation and continuous improvement of scientific knowledge bank;

- Organizational and administrative subsystem: system of administration and planning of research and development (R&D), structures of scientific institutions and their subdivisions;

- Financial constituent.

At the present stage there are objective conditions for development and implementation of active state scientific and technical policy in Ukraine: powerful personnel potential of academic, institutional and sectoral science, technical and manufacturing potential of many leading enterprises, in particular, science-based productions in industrial complex allowing to manufacture and output competitive products owing to conversion, are functioning.

Native statistical data proves high level of development and efficient functioning of personnel constituent. Thus, during 2013 scientific and scientific and technical works were carried out in 1143 enterprises and they were done by almost 123.2 th. of workers (without taking into account ones holding several employments) that is, however 5.2% less in comparison with 2012 [1]. Number of direct executors of scientific and scientific and technical works (researches, technicians and supporting personnel) also 5.1% decreased and amounted

to 100.5 th. of persons (table 1). Such, although insignificant but anyway index decrease proves a range of certain problems present in science sector which we will further try to define within our research [3, 4].

Table 1
Employee distribution of scientific organizations by personnel categories*

	2012		2013		
	Total, persons	in% to general amount	Total, persons	in% to general amount	in% to previous year
Total	129945	100,0	123219	100,0	0,95
researches	68599	52,8	65641	53,3	0,96
technicians	13433	10,3	12212	9,9	0,90
supporting personnel	23866	18,4	22649	18,4	0,95
others	24047	18,5	22717	18,4	0,95
<i>including</i>					
Doctors of Science	4489	3,5	4533	3,7	1,01
Candidates of Science	15963	12,3	15919	12,9	0,99

*the author built it on the basis of data of the State Statistics Service of Ukraine

In comparison with 2012 the number of Doctors of Science who performed scientific and scientific and technical works 1.0% increased, Candidates of Science – 0.2% decreased [3]. Herewith, their share in total number of executors of scientific and scientific and technical works increased and amounted to 20.3% (Fig.1).

In the process of researchers' gender correlation analysis, women were found to be almost their half

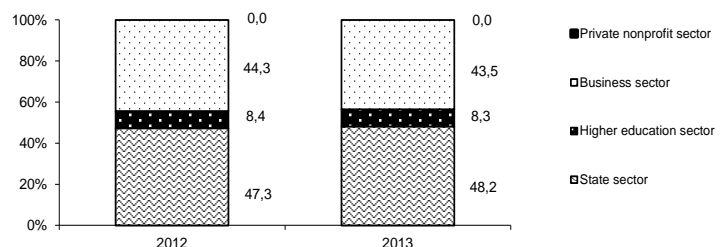


Fig. 1. Distribution of number of executors of scientific and scientific and technical works by sectors of economic activity, % [3]

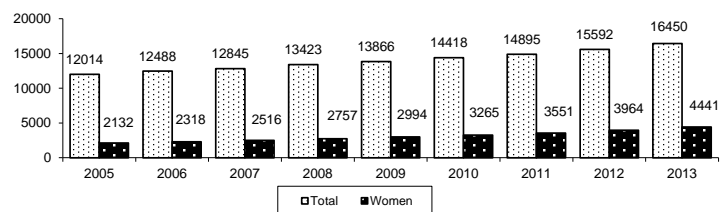


Fig. 2. Quantity dynamics of Doctors of Science, who are working in economy of Ukraine, persons [3]

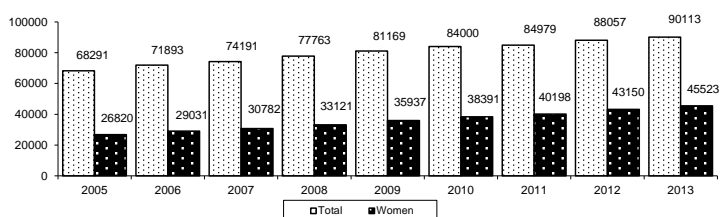


Fig. 3. Dynamics of number of the Candidates of Science, who are engaged in the economy of Ukraine, persons [3]

(45.8%) in 2013. In comparison with 2012 number of female researchers 4.3% decreased, part of Doctors and Candidates of Science among them increased and amounted to 26.4% [1]. Thus, the highest relative weight of women (73.9%) was in the sphere of psychological sciences, 58.3% of which was Doctors and Candidates of Science, philological (73.8% and 49%) and pedagogical (71.4% and 48.1%) sciences [3, 4].

Basic executers of fundamental researches in 2013 remained organizations of state sector (88.9% of scope of these works); applied researches – organizations of state (62.8%), business (23%) sectors and higher education sectors (14.2%); scientific and technical developments and scientific and technical services – business sector organizations (91.8% and 72.2% accordingly) [1, 4]. Thus, we can state that fundamental researches still remain a business of state sector institutions. Basic explanation for this is high cost of such kind of researches and because of it these business sector institutions are often not able to cover expenses for these researches financially or are not interested in their implementation.

Concerning work of such personnel subsystem constituent of both postgraduate training programme and doctoral training 518 institutions prepared post-graduates in 2013 that is 3 units (0.6%) less in comparison with the previous year. Number of doctoral trainings 5 units or 1.8% increased. 276 institutions prepared candidates for a doctor's degree, whereof 172 higher educational establishments and 104 scientific and research institutes [1, 3].

In 2013 8320 postgraduates were prepared that was 179 persons or 2.1% less than in the previous year and 578 candidates for a doctor's degree that was 154 persons or 36.3% more than in 2012 [3,4]. Thus, we see that tendency to increasing of number of Doctors of Science, that is to say, experienced scientists who make a basis of scientific and technical potential of the country and form basic tendencies and directions of its development.

Analysis of quantity dynamics of Doctors and Candidates of science are considered to be a significant indicator of personnel component development of scientific and technical potential within this research as it is the very constituent that forms potential researches and future scientists who provide scientific and technical and innovative development of the country.

As of the end of 2013 16450 Doctors of Science worked in economy of Ukraine that is 5.5% more than at the end of 2012 [3]. Herewith, number of men 3.3% increased and women – 12% (Fig. 2)

In 2013 Diploma of Doctor of Science was received by 1105 persons, of which 33.9% were heads of enterprises, institutions, organizations, manufacturing or functional subdivisions; 24.2% – professors of chairs, 25.8 – associate professors, 12.3% – research associates [4]. Average age of male Doctors of Science at the moment of diploma receiving was 49 years old, female – 45 years old, average time of work for thesis – 8 and 7 years accordingly [1,4]. Average age of Doctors of Science in 2013 for men amounted to – 61.7 years old; female – 54.9 years old (table 2).

According to the results of scientific work 48.2% Doctors of Science had scientific papers published in specialized publications, and 8.6% were authors (co-authors) in applications for receiving document of title for intellectual property. The most of such Doctors of Science worked in establishments of the Ministry of Education and Science (3371 persons), the National Academy of Science (1267) and the Ministry of Health (814) [3,4]. In 2013 the majority of Doctors

of Science worked in the area of technical, liberal and medical sciences.

Table 2
Distribution of Doctors of Science by age, %*

	2000	2005	2010	2012	2013	2013/ 2012
under 40 years old	2,3	1,8	3,7	5,2	6,3	+1,1
41-50	16,4	14,3	13,7	13,8	14,6	+0,8
51-55	16,0	14,1	13,4	12,9	12,3	- 0,6
56-60	15,9	17,3	15,9	15,7	15,6	-0,1
61-70	36,5	35,5	28,4	26,8	26,8	-
over 70 years old	12,9	17,0	24,9	25,6	24,4	-1,2

*the author built it on the basis of data of the State Statistics Service of Ukraine

At present somewhat different situation concerns a number of the Candidates of Science. In 2013, 90113 Candidates of Science were engaged in the economy of Ukraine, which is 2.3% more than in the previous year [3]. Herewith the number of women was up by 5.5%, the number of men was down by 0.7% (fig. 3). The tendency of increase of Candidates of Science number gives evidence of upward trend of development of personnel component of scientific and technical potential of Ukraine, considering that they make a new composition of future scientists and researchers, who will work for the benefit of national science [1, 3].

In 2013, 4633 people obtained Candidate of Science Diploma, of which 29.7% are the teachers of the higher, secondary (vocational) educational institutions and other teachers. The average age of male Candidates of Science at the time of Diploma obtaining amounted to 35 years, of female – 34, the average time of working on Candidate's dissertation amounted to 6 years [1, 3].

The number of Candidates of Science under the age of 50 years inc. was up by 5.8%, comparing with 2012, aged 50 and older was down by 2.1%, as a result of which the average age of the Candidates decreased a little and amounted to 47.7 years (versus 48.2), which includes male Candidates of Science – 51.3 years (51.7), female – 44.3 years (44.5) [4]. We observe the tendency towards expansion in the number of young Candidates of Science under the age of 40, and reduction in the number of Candidates of Science, aged 50 and older (table 3).

The majority of Candidates of Science were engaged in institutions of the Ministry of Education and Science of Ukraine (16.1% of the total number of Candidates of Science), the National Academy of Sciences of Ukraine (3.2%), the Ministry of Health of Ukraine (3.5%), the Ministry of Agrarian Policy and Food of Ukraine (1.9%) [1,3]. In 2013 the majority of Candidates of Science worked in the area of technical, liberal and medical sciences.

Over the past year, 7024 persons withdrew from Candidates of Science, engaged in economy, for various reasons, of which 27 moved abroad. It should be mentioned that the number of Candidates of Science, who moved abroad for permanent residence over the last five years, amounted to 182 persons, of which 22.0% moved to the USA, 16.5% – to Russia, 14.8% – to Germany, 6.0% – to Canada, 3.8% – to Poland [1, 3].

Having analyzed the foregoing data, it may be concluded that one of the most important problems of provision of the personnel potential of scientific and technical potential in Ukraine is moving of young

scientists abroad, disinterest in scientific work among youth. These problems are connected with the low level of financing of the region of science, high level of its bureaucratization and information asymmetry in the branch concerning scientific and technical works and elaborations, their duplication, low social status of research worker and scientist in the country, which makes it unattractive for young people.

Table 3
Distribution of Candidates of Science according to the age, %*

	2000	2005	2010	2012	2013	2013/ 2012
under the age of 30	3,1	5,7	7,0	7,1	7,4	+0,3
31-40	15,8	17,9	25,9	29,3	30,3	+1
41-50	28,4	24,4	20,2	19,9	20,4	+0,5
51-55	15,9	13,3	11,8	10,9	10,4	-0,5
56-60	12,6	13,1	10,8	10,2	9,8	-0,4
61-70	20,8	20,7	15,5	13,8	13,5	-0,3
70 and older	3,4	4,9	8,8	8,8	8,1	-0,7

*the author built it on the basis of data of the State Statistics Service of Ukraine

As for specific ways to solve this problem, the National Academy of Science of Ukraine, which is the leading institution in the sphere of science and technology development and formation of scientific and technical potential, is deeply involved in search of the ways to solve existing problems. One of the specific steps on this way can be the Council of young scientists, created at the National Academy of Sciences of Ukraine. Such decision was adopted, keeping in mind the necessity of enhancement of the role of young scientists in formation of the scientific policy, restoration of scientific potential of the state, multiplying of work with scientific youth for the solution of issues of social and professional development and involving of young scientific staff in the scientific institutions of the National Academy of Sciences of Ukraine.

According to exposure draft «On the Council of Young Scientists of the National Academy of Sciences of Ukraine» young scientists are research assistants, engineers, candidates and postdoctoral students of scientific institutions of the National Academy of Sciences of Ukraine under the age of 35 [1].

Key tasks of the Council are [1]: association of young scientists, coordination of their activity and protection of their interests; promotion of scientific activities, career advancement, fulfillment of creative potential, in-

formational and administrative support of young scientists of institutions of the National Academy of Sciences of Ukraine; activity coordination and support of young scientists of scientific institutions of the National Academy of Sciences of Ukraine in carrying out of common scientific and administrative events.

The most important areas of activity of the Council are [1]: representation of young scientists in the meetings of Presidium of the National Academy of Sciences of Ukraine, in state authorities, social organizations and messaging of the attitude of young people to their professional activity and promotion in solution of other problems of scientific youth, closer cooperation with scientific institutions of the National Academy of Sciences of Ukraine and higher educational institutions in Ukraine and abroad; information interchange among scientific youth, distribution of scientific and other information; supplying information on job opportunities, bonuses, scholarship, grants, funds, conferences, schools and other measures, concerning scientific youth support, organization of meetings with representatives of foreign scientific institutions for more intensive scientific cooperation, etc.

Summary and prospects for the research in this regard. Personnel component of scientific and technical potential of Ukraine plays very important role in its formation, since it is its basis, its foundation, which provides its effective accumulation and application in order to assure scientific and technical and innovative development of the country. Scientific work in academies and higher educational institutions develops rapidly, within which the training of candidates and postdoctoral students is performed, the representatives of business sector of the economy carry out successfully R&Ds and implement their results in practice, putting up their own funds, number of scientists of young and average age increases.

However, the current business and administrative gear and low level of state financing and state support of scientific institutions slow down essentially their development and formation of personnel potential of science and technology development on their basis. There is no clear strategy for science and technology administration. At this stage, the most important task is to find the balance between centralization and decentralization in scientific and technical potential administration, between state control and market system self-organization, since the primary task is not to create new, but to support and develop the existing sources and to find opportunities for secure future of the science and technology prosperity.

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АНАЛІЗ СУЧАСНОГО СТАНУ ТА ОСОБЛИВОСТЕЙ ФОРМУВАННЯ КАДРОВОЇ СКЛАДОВОЇ НАУКОВО-ТЕХНІЧНОГО ПОТЕНЦІАЛУ УКРАЇНИ

Анотація

Охарактеризовано сутність та структуру науково-технічного потенціалу. Детально досліджено кадрову підсистему науково-технічного потенціалу України. Визначено основні складові кадрової підсистеми, проаналізовано якісні та кількісні показники функціонування даної підсистеми. Також обґрунтовано можливі напрями удосконалення управління формуванням та розвитком наукових кадрів та, зокрема, молодих вчених.

Ключові слова: потенціал, науково-технічний потенціал, кадрова складова науково-технічного потенціалу України.

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АНАЛИЗ СОВРЕМЕННОГО СОСТОЯНИЯ И ОСОБЕННОСТЕЙ ФОРМИРОВАНИЯ КАДРОВОЙ СОСТАВЛЯЮЩЕЙ НАУЧНО-ТЕХНИЧЕСКОГО ПОТЕНЦИАЛА УКРАИНЫ

Аннотация

Охарактеризованы сущность и структуру научно-технического потенциала. Подробно исследована кадровую подсистему научно-технического потенциала Украины. Определены основные составляющие кадровой подсистемы, проанализированы качественные и количественные показатели функционирования данной подсистемы. Также обоснованы возможные направления совершенствования управления формированием и развитием научных кадров и, в частности, молодых ученых.

Ключевые слова: потенциал, научно-технический потенциал, кадровая составляющая научно-технического потенциала Украины.

УДК 658.7

СТРАТЕГІЧНІ НАПРЯМИ ВДОСКОНАЛЕННЯ УПРАВЛІННЯ МАТЕРІАЛЬНО-ТЕХНІЧНОЮ БАЗОЮ ПІДПРИЄМСТВА

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У статті наведено заходи щодо підвищення ефективності управління матеріально-технічною базою (МТБ) підприємства. Розглянуто основні напрями формування стратегії розвитку підприємства. Досліджено складові елементи формування стратегії та вагомі фактори, що впливають на її вибір. Представлено завдання планування МТБ на підприємстві. Запропоновано створювати стратегію розвитку МТБ на підприємстві у вигляді планів.

Ключові слова: матеріально-технічна база підприємства, стратегія, ефективність управління, елементи матеріально-технічної бази, план матеріально-технічного забезпечення.

Постановка проблеми. В сучасних умовах здійснення економічної діяльності, матеріально-технічна база (МТБ) підприємства складає досить вагомий складовий потенціал будь-якого суб'єкта господарювання. Підвищення ефективності використання основних виробничих фондів на підприємстві, на сьогодні, є важливим резервом підвищення ефективності діяльності самого виробництва, що полягає в досягненні найбільших результатів при відповідному рівні розвитку продуктивних сил, порівняно з витратами праці, використаними на створення суспільного продукту.

Аналіз останніх досліджень і публікацій. Проблематика використання матеріально-технічної бази та стратегічне управління нею досліджувались в працях багатьох вітчизняних та зарубіжних науковців, таких як: О. Бондаренко, М. Гарасемчук, А. Літвіненка, А. Мазаракі, Л. Омельченко, В. Про-

топова, С. Покропивного, М. Хохлова, М. Чумаченко, Л. Шваб, В. Шаповал, І. Швець та ін.

Виділення не вирішених раніше частин загальної проблеми. Стратегічне управління розвитком МТБ підприємства посідає одне з найважливіших місць в діяльності підприємства. Формування ефективної стратегії розвитку МТБ підприємства надасть можливість запровадити якісно нові форми управління, що дозволять підвищити загальну ефективність діяльності підприємства.

Мета статті. Метою статті є визначення стратегічних напрямів удосконалення сучасних моделей управління розвитком МТБ підприємства в напрямку їх адаптації до процесу формування відповідного механізму управління.

Виклад основного матеріалу. Якщо розглянути стан матеріально-технічної бази національних під-