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VENTURE FINANCING OF INNOVATIVE ACTIVITY IN UKRAINE

This article deals with the process of venture funding as a stimulating factor for innovation development of Ukraine. The main problems that accompany progress of venture capital in Ukraine and their impact on implementation of innovations, are described. The level of venture infrastructure development is also analyzed.

Keywords: *venture financing, venture infrastructure, innovations.*

Problem statment. Ukraine's transition to a market economy rationally leads changing raw material orientation of the economy to high technology. Building innovative economy is the only way of Ukraine's development in modern conditions. Despite the great human, scientific, technical potential, innovative vector of our state is not completely implemented.

With the purpose of commercialization of innovations, which is an objective criterion for the knowledge economy, it is necessary to stimulate venture financing which is the risk capital investments in companies involved in innovation and have great growth potential. Especially effective source of financing innovation venture financing serves as such which provides high risks, but the fee for them is considered potentially high profits. Venture financing is able to act accelerator of innovation processes and act as a good alternative to the limited possibilities of state for financial support of innovation, which is especially important in Ukraine. That is why the lack of its volume leads to explore the causes this situation.

The last investigations and publication analysis. The issue of venture financing of innovation have been addressed a lot of domestic and foreign scientists. In particular, studying the process of venture financing of innovation in Ukraine are engaged such scientists as A. Vdovychenko, N. Halan, O. Dyuhovanets, B. Kulya, I. Lytvyn, N. Lysa, S. Onyshko, O. Petruk, B. Pylypenko, A. Prysyzhnyuk, L. Fedulova, V. Chaban, T. Shotik and others.

Determine target. Develop practical directions of intensification of venture financing based on its assessment of Ukraine today, identifying incentives and destructive factors for its implementation.

The basic material. The dynamic development of society requires the active development of all economy sectors and especially of innovative one. The process of venture financing of innovations is essential for the success of their commercialization. There are a lot of financing options, such as the state budget, local budgets, expenses of individuals and entities. Venture financing has growth importance in terms of high competition, conducted by venture capital, often at an early stage of the development of enterprise.

The economic category «venture investments» appears for the special kind of direct private investments attachment of which provides the combination of probability of getting super high profits with an increased risk of loss all invested capital. This economic category has the extreme nature. Donors, acceptors and

mediators (that perform the function of transaction) of venture capital are the subject of venture investments [2, p. 566].

Very often, venture capital denominate «intelligent diversification» because except for financial services it performs services related to the management, marketing, information support, etc.

There is a correlation between the volume of venture financing and transform ideas into commercially successful innovations. That is why many countries are spending public money for promoting venture capital and encourage intensification of its use.

Venture capital market is characterized by relatively independent existence with specific subjects, infrastructure, operation and features of the mechanism of competition. This market has two types of asymmetry. The first one is the asymmetry of information found in the uneven distribution of information among market players, and serves a critical factor in making decisions. The essence of the second one is that the asymmetrical position of subjects of the market of venture capital, that can not be local discussing. Under these conditions, supply and demand keep balance by market intermediaries – companies of venture capital that identify the financial and professional support of innovative project or foundation of company [8].

The mechanism of venture capital financing includes the following items: sources of venture capital, mechanism of accumulation of resources, distribution mechanism of accumulated resources, control mechanism and return of investments.

The process of venture financing and activity of its realization in the country depends on various particularities (social, economic, political, cultural).

Venture financing of business has a number of advantages. In particular, venture capital provides flexibility, mobility, ability to quickly reorientation of business, commercialization of the results. It is characterized by high motivation, economically reasonable forms of cooperation.

Also characteristic feature of the process of venture financing is that the venture capital that is invested in innovations has significant lag from the time of investment funds to the receiving of the commercial return from them. In addition, to the advantages of venture capital financing should include the complex nature of its influence.

Innovation activity financed by own funds of enterprises, the state budget, funds of foreign investors and other sources in Ukraine. The largest total cost of financing innovations was spent in 2008 – 11994,2 million hryvnias, which is almost 1,5 times more than in 2010. Companies actively sponsored innovations by its own funds in 2007 and, starting from 2008, interest in it began to fade. The financing of innovation activities by the state budget grew until 2008 (336,9 million hryvnias), but it decreased to 2,7 times in 2009, and even half in 2010. Foreign investors with more confidence refer to the financing of innovative activity in Ukraine each year and the share of their funds amounted 30 % in 2010, as shown in Table 1. Arithmetical mean of own funds of enterprises surveyed in 11 years was 73,9 %, state budget funds – 1,7 %, funds of foreign investors – 7,7 %, and funds from other sources – 16,7 %. It is the reflecting of prevailing value of enterprises in financing innovation, because they have necessary financial potential and act as direct beneficiaries in this process.

Table 1**Sources of financing of innovative activity**

Year	The total cost	Including the expense of				Share of funds			
		Own money of enterprises	State budget	Foreign investors	Other sources	Own money of enterprises	State budget	Foreign investors	Other sources
		million hryvnias				in total costs, %			
2000	1757,1	1399,3	7,7	133,1	217,0	79,6	0,4	7,6	12,3
2001	1971,4	1654,0	55,8	58,5	203,1	83,9	2,8	3,0	10,3
2002	3013,8	2141,8	45,5	264,1	562,4	71,1	1,5	8,8	18,7
2003	3059,8	2148,4	93,0	130,0	688,4	70,2	3,0	4,2	22,5
2004	4534,6	3501,5	63,4	112,4	857,3	77,2	1,4	2,5	18,9
2005	5751,6	5045,4	28,1	157,9	520,2	87,7	0,5	2,7	9,0
2006	6160,0	5211,4	114,4	176,2	658,0	84,6	1,9	2,9	10,7
2007	10850,9	7999,6	144,8	321,8	2384,7	73,7	1,3	3,0	22,0
2008	11994,2	7264,0	336,9	115,4	4277,9	60,6	2,8	1,0	35,7
2009	7949,9	5169,4	127,0	1512,9	1140,6	65,0	1,6	19,0	14,3
2010	8045,5	4775,2	87,0	2411,4	771,9	59,4	1,1	30,0	9,6

Source: developed by authors using [1].

The share of funds from the state budget for financing innovations is very small and amounted to 1,1 % of the total volume in 2010. It is connected with a complicated situation of filling the budget, presence of lacks its planning, and lack of clear understanding of the effectiveness of rapid and directed policy of innovative development.

Moreover, the growth of external debt of Ukraine, increasing the sum of state budget for debt service and cover the public deficit decrease the amount of money that could be directed to stimulating innovative development.

The share of sales of innovative products in total sales was 9,4 % in 2000, and in 10 years it decreased to 3,8 %. Such reduction of more than 2 times contradicts global trends of development. Ukraine does not cover import by export of high technology products, and today our country is technologically depended on old technologies, which in advanced economies go to turnover. As the result, highly developed countries receive additional financial resources for further rapid modernization and constant retardation of our country [1]. Exceeding of imports over export its high-tech products is a consequence of policies stimulation of innovations, which had not the complex character.

The development of venture capital investments in Ukraine can be divided into two stages: the dominance of foreign capital and the dominance of domestic capital. The first stage began in 1992 with the creation of venture fund «Ukraine». The second started with adoption of the Law of Ukraine «On collective investment institutes» [2, p. 594–595].

In Ukraine, the first steps of implementing the principles of venture business were started not to finance the initiative of entrepreneurial projects. It was made to

overcome the crisis and increase the efficiency of privatized enterprises, however, may be one of the areas of venture capital.

It was invested approximately 50 million dollars in Ukrainian internet projects during the period of 2005–2011. It is very small in comparison with other countries and spite of great potential of Ukraine in this field. In Russia, for example, there was invested in Internet technology almost 500 million dollars in 2010. It is invested in high-tech direction about 5 billion dollars annually in Europe. And nearly 24 billion dollars – in the United States of America. Nowadays only seven venture funds are considering investments in Ukrainian internet projects in the early stages of development: «TA Venture», «ABRT», «Decarta Capital», «Eventure Capital Partners», «Mangrove», «Runa Capital», «Almaz Capital» [11].

Investment declarations of asset management companies indicate that the main areas of investment include construction, trade, hotel and tourism business, insurance, informatization. So, Ukrainian venture capital is not focused on innovative projects, industrial parks and technopolises. Moreover, domestic venture funds are characterized by large-scale optimization of taxation [7].

According to official estimates of the Ministry of Economy of Ukraine, the market of venture capital is approximately 400 million dollars. At the same time the potential amount of venture financing is determined at 800 billion dollars [10]. Other words is possible of its growth in 2000 times.

Venture infrastructure should be defined as aggregate mechanisms that contribute to optimization movement of financial, material, labor and other resources, and provide the effective implementation of the process of venture financing [5].

Domestic venture infrastructure emerged with the support of international financial organizations, including the European Bank for Reconstruction and Development, which created a regional venture funds and private equity financing in some countries, in particular Ukraine and Russia, where acted as a co-investor (for instance, «Evroventures Ukraine»).

World experience shows importance prevailing technology parks, business incubators and venture funds to encourage innovation. But there is no relation to Ukraine. Thus, according to the survey of the Ministry of Education and Science in Ukraine in 2009, the role of technology parks reduced to an absolute minimum: in 2000 there were 108 current projects technology parks, and in 2009 – only 17 [3].

This negative trend only distances Ukraine from the perspectives of innovation. Comparing the venture infrastructure of Ukraine and Israel, the state, which is several times smaller in population and territory, we can see that Israel has made great breakthrough in the way of effective development and commercialization of innovations in recent years. Thus, Israel has the center incubators for technology initiatives and 23 incubators, and 26 high-tech industrial parks [13].

Stock market plays an important role for effective implementation of venture financing, which should provide an opportunity initial public offering of innovation active firms. Besides, the state of the stock market is a unique indicator of favorable investment climate in the country.

It is current to create electronic exchange startup projects for effective venture financing in domestic startups. This could lead to a new level cooperation between investors and owners of perspective startups.

So, venture infrastructure, which is a combination of technology parks, business incubators, centers of technology transfer, venture funds in Ukraine only start development. It is not enough extended support infrastructure such as conducting venture capital fairs, competitions of innovation projects, scientific conferences etc.

In building an innovative state taxation plays prevailing role. According to the 9-States of OECD, 10 % tax privilege leads to increased investment in research and development to 1 % in the short and 10 % in the long term [6].

According to rankings by ease of paying taxes for economies around the world Ukraine sets 181 place from 183 countries. Ukraine has such rankings: ease of pay taxes – 181th, tax payments – 183th, time to comply – 174th and total tax rate – 149th. The total amount of tax payments is 135, time to comply all taxes is equal 657 hours, total tax rate is 55,5 % [12].

The restrictive thing to build an innovative economy of Ukraine is a large tax burden on capital and human resources. This situation represents destructive impact on business development in general, and especially the development of innovative business areas, as the most vulnerable and sensitive.

The new paradigm of world business, which starts developing in 1980–1990, is characterized by global sourcing and distributing, extensive direct foreign investment, and the development of technology and industry clusters. There old and new globalism exist. Old globalism based on the search for low factor costs. Money is invested in regions with low-cost land and labor to serve as export platforms to produce high-volume commodity products. New globalism has some differencies. It is based on the search for the best locations to host high-value, specialized, and innovation-related activities. In this case, businesses invest in regions to gain access to specialized workforces, research and development, commercialization capacity. Very important is the unique business infrastructure [15]. Towards building the innovative economy in Ukraine is very important to engage with the new globalism.

In the context of dynamic growth of innovations revealing the most effective is the experience of the United States of America, because that state uses scorer of methods of research and development, funding the system of grants and contracts for research projects. This approach enables you to include the most difficult theoretical problems of hundreds of thousands of its own and foreign scientists. Thus, the institute was appropriated 14,9 billion dollars to give 37700 grants to research projects in 2005. At the same time increased the average amount of subsidies under the research project. The United States of America encourages development of venture businesses, small innovative firms of scientific achievements, the development of biotechnology and technology transfer in many industries, encourages participation in inter-university programs, especially in conjunction with the ministries of defense, energy, national security [9].

The mechanism systemic development of knowledge-intensive industries is to replace budget allocations for additional financing mechanism of applications and to

finance private venture funds. The effectiveness of this method has shawed by the experience of the United States of America, Finland, Israel.

Performance incentives for the development of innovations in Israel, USA and Japan confirmed their position in the Global innovations Index, which calculated for 125 countries. Ukraine occupys only 60 rank (Table 2).

Table 2

Comparing of rang results of Ukraine, Israel, United States of America, Japan on innovation development

	Israel	Japan	United States of America	Ukraine
Global Innovation Index	14	20	7	60
Institutions	46	20	15	103
Human capital and research	2	20	13	40
Infrastructure	25	13	14	101
Market Sophistication	17	19	4	64
Business Sophistication	13	14	15	45
Scientific Outputs	4	13	5	40
Creative Outputs	37	65	24	70

Source: [14].

Close cooperation of science and business is key to technology transfer. This should be carried out simultaneously with the rapid growth of the role of human capital in production processes. This leads to a direct dependence of economic progress and social development.

The negative stands weak intellectual capital using, competitive advantages and resources integration of small innovative firms with large businesses in high-tech industries. According to the Organization for Economic Cooperation and Development on the part of small earch and development, 20 % of all innovations created more than 50 % of all innovative enterprises in highly developed countries account for 30 % of the respatents, despite the fact that the share of expenditure on innovation approximately 4–5 % [4].

The financial crisis has demonstrated the vulnerability of the economy of Ukraine by the dominance of «raw» areas, significant dependence on the price on external markets, energy inefficient production, obsolescence of fixed production funds, undeveloped internal market. To avoid such shocks in the future should the most improved institutional environment and promote the growth of competitiveness of domestic enterprises not only in national, but also in foreign markets, including by increasing their innovation with the use of venture financing.

Conclusions. Venture financing is the process of venture capital's using (the sum of financial, human and intellectual resources), which has risky nature and often invests in securities of emerging companies. The cause is the inability of traditional financial mechanisms to ensure effective implementation of high-risk projects. In most cases, companies that attracted venture capital provide output 5th and 6th technology waves. Foreign experience shows that venture financing stands high-quality tool for development and implementation of innovations, also provides their commercialization. Besides, ensures a diversification of intellectual resources. One of the biggest advantages is its complexity impact.

In Ukraine, decreasing trend of determinants for innovation development, such as funding fundamental researches from the budget, reduction number of scientists, and others are prevailed. Venture financing of innovative activity in Ukraine is in the making. Activities of venture funds in Ukraine has no crucial role in the development of innovations. This is due to the fact that domestic venture funds do not have the priority of investing in highly risky projects, because at the present state of the Ukrainian economy has a number of traditional industries, which can provide enormous profits. Foreign venture funds are not very active as the venture infrastructure is undeveloped.

Nowadays it is not enough effectively operate as separate elements of innovation infrastructure in Ukraine as venture ones. This leads to an even greater gap from world leaders – the United States of America, Japan and Israel.

Venture funding could develop into immature institutional environments and provided a minimum level of protection of intellectual property. However, its active application requires a number of incentives, including tax. Taxation prevailing values to stimulate innovations in general and of venture capital as a means of innovation. This confirms the U.S. experience, where developed a complex system privileged taxation of corporate income tax, the use of accelerated amortization and other methods.

In order to promote innovation, foreign direct investment, close interaction between science and industry should establish industrial parks in Ukraine, which is the most common type of special economic zones in the world. Also need to use the positive world experience of technological incubators, innovation consortiums and innovation clusters. Because more often absorbents of venture capital is the small technology firms so stimulate their activity should be one of the areas of public policy. Small technological firms have several advantages: flexibility, competitiveness and innovation. Their activities can provide a quick breakthrough technologies. In addition, they are able to provide technology transfer and to cooperate with research institutions.

In promoting the development of venture financing it is important to take into account the regional aspect. There have already formed the complex infrastructure for commercialization of innovations through venture financing in some regions.

Institutional priorities towards the activation of using of venture capital should be creating the National Venture Capital Association in Ukraine and the National Venture Fund, which carry out organizational and information functions, creating a nationwide electronic exchange startup projects.

List of sources used

1. Державний комітет статистики України.– [Електронний ресурс]. – Режим доступу: www.ukrstat.gov.ua.
2. Корпоративні структури в національній інноваційній системі України / За ред. д-ра екон. наук Л.І. Федулової. – К.: вид-во УкрІНТЕІ, 2007. – 812 с.
3. Курило Л.І. Проблеми функціонування технопарків в Україні інститутів / [Електронний ресурс]. – Режим доступу: http://www.nbu.gov.ua/portal/Soc_Gum/inek/2010_4/13.pdf
4. Леденев В.В. Интеграция малых наукоемких фирм и крупных корпораций в рамках национальной инновационной системы / [Електронний ресурс]. – Режим доступу: <http://koet.syktsu.ru/vestnik/2011/2011-1/17/17.htm>.
5. Литвин І.В. Венчурна інфраструктура та її роль у розвитку малих інноваційних підприємств / [Електронний ресурс]. – Режим доступу: http://www.nbu.gov.ua/portal/natural/Vnulp/Management/2009_657/62.pdf.
6. Онишко С.В., Паєнтко Т.В., Швабій К.І. Фінансове забезпечення інноваційної діяльності: Навчальний посібник. – Київ. – 2008. – 252 с.
7. Охріменко О.О. Геофінансові технології як механізм інноваційного прориву / [Електронний ресурс]. – Режим доступу: http://www.nbu.gov.ua/portal/soc_gum/prvs/2010_2/tom2/544.pdf.
8. Пилипенко Б.Г. Проблеми та особливості ринку венчурного капіталу [Текст] / Б.Г. Пилипенко // Вісник Університету банківської справи Національного банку України. – 2010. – № 3 (9). – С. 153–156.
9. Федулова Л.І. Тенденції розвитку інноваційної політики та її вплив на економічне зростання / [Електронний ресурс]. – Режим доступу: http://www.nbu.gov.ua/portal/soc_gum/ep/2011_2/5_Fedulova.pdf.
10. Хома І.Б. Венчурне інвестування як спосіб реалізації інноваційно-інвестиційного потенціалу держави [Текст] / І.Б. Хома ,О.В. Войтків, Г.В. Чепіль, Х.Б. Демчук // Науковий вісник НЛТУ України. – 2011. – Вип. 21.3 – С. 292–298.
11. Чернявская И. Доходное место [Текст] / И. Чернявская // Инвест-Газета. – 2011. – № 40. – С. 4–5.
12. Paying Taxes 2011. The Global picture / [Електронний ресурс]. – Режим доступу: <http://www.pwc.com/gx/en/paying-taxes/data-tables.jhtml>.
13. Israel Science and Technology Homepage / [Електронний ресурс]. – Режим доступу: <http://www.science.co.il>.
14. The Global Innovative Index 2011 / [Електронний ресурс]. – Режим доступу: <http://www.globalinnovationindex.org/gii/main/fullreport/index.html>.
15. The Innovation Driven Economic Development Model. A Practical Guide For The Regional Innovation Broker / [Електронний ресурс]. – Режим доступу: <http://www.bayeconfor.org/media/files/pdf/InnovationDrivenEconomicDevelopmentModel-final.pdf>.

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Венчурне фінансування інноваційної діяльності в Україні

У статті досліджено процес венчурного фінансування як стимулюючий фактор інноваційного розвитку України. Визначено основні проблеми, що супроводжують венчурне фінансування в Україні та їх вплив на впровадження інновацій. Також здійснено аналіз рівня розвитку венчурної інфраструктури.

Ключові слова: *венчурне фінансування, венчурна інфраструктура, інновації.*

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Венчурное финансирование инновационной деятельности в Украине

В статье исследован процесс венчурного финансирования как стимулирующий фактор инновационного развития Украины. Определены основные проблемы, которые сопровождают венчурное финансирование в Украине и их влияние на внедрение инноваций. Также проведен анализ уровня развития венчурной инфраструктуры.

Ключевые слова: *венчурное финансирование, венчурная инфраструктура, инновации.*

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