

VENTURE CAPITAL INVESTMENTS – CURRENT TRENDS AND DEVELOPMENT FACTORS

Inwestycje venture capital – bieżące trendy i czynniki rozwoju

*Ph.D. in Economics, Assoc. Prof., WSEI University in Lublin, Lesya Ukrainka Volyn National University in Lutsk, ORCID: 0000-0003-2950-0474

Streszczenie

W artykule przeanalizowano specyfikę inwestycji venture capital w Ukrainie na obecnym etapie, biorąc pod uwagę doświadczenia światowe, a mianowicie: rozważono istotę i specyfikę venture capital; przedstawiono główne czynniki wpływające na rozwój branży venture capital; przeanalizowano główne trendy wzrostu skali i kierunków finansowania venture capital. Na podstawie ram regulacyjnych zidentyfikowano główne przyczyny, które utrudniają intensyfikację inwestycji venture capital w Ukrainie.

Słowa kluczowe: *venture capital, finansowanie venture, inwestycje, innowacje, polityka inwestycyjna państwa*

Summary

The article examines the peculiarities of venture capital investment in Ukraine at the present stage, taking into account the world experience, namely: the essence and specifics of venture capital are considered; the main factors influencing the development of the venture capital industry are presented; the main trends in the growth of the scale and directions of venture capital financing are analyzed. Based on the regulatory framework, the main reasons that impede the intensification of venture capital investment in Ukraine are identified.

Key words *venture capital, venture financing, investment, innovation, state investment policy*

Introduction

Global experience shows that ensuring a strategy for sustainable socio-economic development of Ukraine is impossible without creating an effective system of

interaction between science, education, production, and the financial and credit sectors in the development of innovation, an optimal combination of state regulation of this process with market mechanisms, and deepening international cooperation. The country's economic growth is primarily associated with technological advantages and the ability to create and implement innovations. In the current environment of intensified competition in the international market, the main source of economic growth and the key to success are the ability to implement risky and innovative ideas and open support for new projects. The experience of economically developed countries shows that the use and improvement of non-traditional sources of investment is becoming an effective mechanism for creating new and modernizing existing production facilities based on the achievements of the scientific and technological progress. One of these areas is venture capital investment, which helps to solve the problem of lack of financial resources in the high-tech sector and to expand the promising areas of activity¹.

The purpose of the article is to analyze the global experience in the field of venture capital investment and to outline the prospects for its use in Ukraine.

Prerequisites for the development of venture capital investment

Innovations are realized through investments. Enterprises can use the following methods of investment financing of innovations:

- state budget;
- local budgets;
- extra-budgetary funds: Pension Fund, Social Insurance Fund, State Employment Fund, etc.;
- state insurance system;
- government loans: government loans, external borrowing, international loans, etc.;
- own investment resources of organizations;
- sale of shares, additional issue of shares;
- funds of innovation funds, technology parks, technopolises;
- investment resources of resident investment companies, including mutual investment funds;
- investment resources of resident insurance companies;
- investment resources of resident non-state pension funds;
- bank and commercial loans;
- budget and targeted loans;
- tax credit;

¹ V. L. Osetskyi, *Investments and Innovations: Problems of Theory and Practice*, Institute of Agrarian Economics of the Ukrainian Academy of Sciences, 2003.

- financial leasing;
- investment resources of foreign investors, including commercial banks, international financial institutions, institutional investors, and organizations².

The experience of the developed countries who employed venture capital to create a competitive economy, convincingly testifies to a significant increase in their manufacturing competitiveness, rapid use of the latest technology in all industries, and employment growth.

Besides, the successful activity of the venture capital has positively influenced such economic factors as:

- orientation of industrial development of the economy to innovative;
- stimulation of production of large structures to implement and use the latest technologies;
- active development of the stock market.

The economic development of the world's leading countries has resulted in a notable shift in the landscape of innovation. Over the past decade, nearly half of all industrial innovations have been founded by small businesses. Numerous problems of enterprises with the granting of bank credit lead them to seek alternative forms of financing their activities.

The essence of venture capital

According to the definition “venture capital (a.k.a. venture capital) is capital invested in new productive risky ventures undertaken by persons other than the owners. Capital invested in a risky venture is provided by banker-buyer institutions, but mainly by institutions specialized in providing it”. Another definition defines “venture capital” as medium – to long-term capital contributed by outside investors to small and medium-sized enterprises characterized by a high degree of innovation. These companies usually operate based on modern solutions, have a new product or service³.

Venture capital financing started in the United States in the early sixties of the twentieth century, and in the 1980s its volume reached one billion dollars. This largely began the economy of information technology and biotechnology. In the late nineties, the United States and Europe experienced a boom in venture capital investment. In the United States, from 1990 to 1995, venture capitalists invested an average of \$3-5 billion a year in about a thousand companies. In 1996, 2,000 companies were already invested in, with the amount of investments amounting to more than \$11 billion. In 1998, venture capitalists invested in 3,153 companies worth \$21.7 billion, and in 1999 – in 3,962 companies worth \$59,5 billion. The situation was similar in Europe. The volume of venture capital financing has increased several times since

² O. M. Petruk, S. Z. Moshenskyi, *Theory and practice of venture capital financing*, Ruta 2008.

³ I. Cooke, P. Mayers, *Introduction to Innovation and Technology Transfer*, Artech House Inc., Boston 1996.

1996. However, after the bursting of the high-tech financial bubble and the fall of the relevant stock indices in 2000-2002, venture capital funding in the United States declined significantly, and the government launched many direct funding programs (in the form of grants) to somehow compensate for the financial drying up in the innovative areas. Nowadays, venture capital funding is growing again, but not as fast as it was, for example, in 2000. In 2006, venture capital funds invested \$25,5 billion in 3,416 deals in the United States. Venture capital investments in European companies reached EUR 4,12 billion in 2006. The venture capital market of China continues to grow – in 2004 it amounted to \$7 billion, India (\$2,5 billion in 2006), and Israel (\$1,5 billion in 2005)⁴⁵.

The difficulty of finding one proper definition of venture capital makes it easier to present the phenomenon through the analysis of its characteristics, which include the following:

- venture capital is a form of financing for small and medium-sized enterprises with a promising product or innovative idea, which have difficulty obtaining a bank loan due to the high risk of investment failure;
- in general, capital is contributed to the company through the acquisition of shares or stocks;
- the acquired shares or stocks may not be publicly traded on any regulated securities market;
- the investor, by contributing capital, acquires certain property rights and also gains the opportunity to participate in management, which can take various forms, ranging from consulting to full assumption of management of the enterprise;
- the investment is temporary, but medium- and long-term, because much is needed to put the enterprise on the path of development;
- the focus of investors not on current profits, but on increasing the value of the company through reinvestment of profits and achieving future profits from the sale of shares⁶.

The main groups of capital donors are private investors, individuals, large companies, pension funds, insurance companies, banks, and public institutions. Venture capital funds can be classified in various ways using different criteria. Examples of divisions are shown in the table below.

⁴ Venture capital: foreign experience and problems of formation in Ukraine, KNEU, Kyiv 2000.

⁵ V. G. Gerasymchuk, O. V. Shkolna, Risk management in foreign venture capital financing of innovative projects, "Bulletin of the National University of Lviv Polytechnic. Problems of Economics and Management" 2008; 628: 424-429.

⁶ H.W. Chesbrough, Making sense of corporate venture capital, "Harvard business review" 2002; 80(3): 90-99.

Table 1. Division of venture capital

Criteria	Divided	Description
Objective	commercial	goal – maximization of profit from shares or stocks
	support	purpose – any assistance from, for example, developed countries to enterprises of developing countries
Method of establishment	independent	created on the basis of the capital of private individuals or profit-oriented financial institutions
	dependent	created by public institutions, companies, banks, and other entities
Scope of activity	universal	deals with almost all forms of investment in the equity of SMEs
	specialized	aimed at a specific industry or area, specializes in a certain type of financial instruments
Method of raising capital	open	raises capital by selling units on the financial market
	closed	capital is predetermined, the number of shares is fixed

Source: compiled by the author

The phases of development of innovative business financed under venture capital are presented in table 2.

Table 2. The phases of innovative business development financed by venture capital

Development phase of an innovative venture	Description of the development phase	Role of VC
Seed	The earliest phase of business development, including its conceptualization, preparation of a business plan, preparatory activities for launching the business.	Venture capital is for finalizing activities related to the implementation of the idea itself.
Start-up	The company has been on the market for a short time (usually no more than a year), operates on a small scale and stands at the threshold of marketization of innovation.	Venture capital is most often used to finance final work/activities related to launching production, promoting a new service or technology.
Early development	The company operates on the market, has a market-verified product, but lacks the resources to build internal structures and further expansion.	Venture capital is intended for building a strong organizational structure of the company and leading it to the growth and expansion phase.
Growth and expansion	The company is already operating on the market, has a defined position, and usually has an established, but often niche, brand.	Venture capital is aimed at investing in the company's operations, entering new markets, increasing the volume of orders.

Source: compiled by the author

In Ukraine, venture capital financing institutions were formalized in 2001 with the adoption of the Law of Ukraine “On Joint Investment Institutions (Mutual and Corporate Investment Funds)”⁷. According to Article 4 of this Law, a venture fund is a non-diversified collective investment institution (CII) of a closed-end type that carries out exclusively private (closed) placement of CII securities among legal entities and individuals. An individual may be a member of a venture fund only if he or she purchases securities of such fund for the amount of not less than 1500 minimum wages.

The assets of a venture fund may include debt obligations. Such obligations may be formalized by promissory notes, pledges, loan agreements and in any other way

⁷ On Venture Capital Investment Companies: Draft Law of Ukraine. Online: <http://www.in.gov.ua/index.php?get=118&id=1495>.

not prohibited by the legislation of Ukraine. Loans at the expense of a venture fund may be granted only to the legal entities in which such venture fund is a member. The assets of a venture fund may consist entirely of real estate, corporate rights and securities that are not admitted to trading on a stock exchange, or securities that have not received a rating in accordance with the law. In order to form their own assets, CII may purchase foreign currency through banking institutions that have the appropriate license. The value of securities of foreign issuers may not exceed 20 percent of the total value of CII's assets (Article 44 of the Law of Ukraine "On Joint Investment Institutions (Mutual and Corporate Investment Funds)"⁸).

Current global trends in venture capital financing

Venture capital investment in Europe falls 61%, startups downsize and refuse to expand. Thousands of European start-ups are struggling to raise funds, and many have to scale back their expansion plans as venture capital funding has fallen sharply due to sluggish economic growth and rising interest rates, according to "The Wall Street Journal".

Venture capital funding has also dropped significantly in the United States, but the slowdown in Europe is particularly deep. According to PitchBook Data, the volume of venture capital funds invested in Europe fell 61% in the first half of this year compared to the same period in 2022, a worse performance than in the US.

The European Bank for Reconstruction and Development, the European Investment Bank and the five members of the bloc are trying to close the funding gap, and earlier this year the pledged €3,75 billion in funding for the European technology companies.

⁸ S. Archiereiev, O. Popadynets, The role of state support for the development of venture capital business to increase the output of high-tech and innovative products. Online: <http://www.niss.gov.ua/Monitor/May08/08.htm>.

Free Fall

Venture-capital investing in Europe in 2023 is on pace to be far below the last two years.

VC deal activity



Note: 2023 data is through June 30.

Figure 1. Dynamics of venture capital investments in Europe

Source: PitchBook Data

Without easy access to funding, startups are cutting costs and scaling back their growth plans. GoStudent, an Austrian digital education company, has cut more than 10% of its workforce and has withdrawn from the US market. Glovo, a Spanish food delivery company, laid off 250 people this year, or about 7% of its workforce. According to Otta's platform, there are half as many tech job openings in Germany as there were a year ago.

PitchBook reports that the amount of money raised by the funds that sell their assets in startups through IPOs or other means, such as selling to private equity firms, is expected to fall by about 80% this year.

The global venture capital investment in the second quarter of 2023 fell to \$77,4 billion in 7,783 deals, down from \$86,2 billion in the previous quarter.

According to the KPMG’s Venture Pulse report for the second quarter of 2023, investments in artificial intelligence and generative AI remained strong.

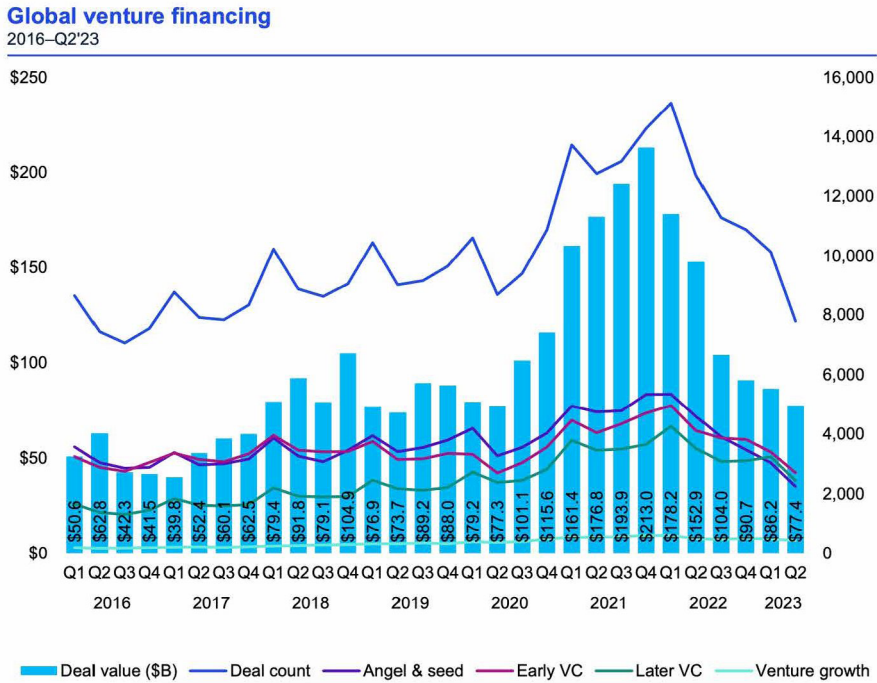


Figure 2. Global venture financing

Source: <https://assets.kpmg.com/content/dam/kpmg/xx/pdf/2022/10/venture-pulse-q3-2022.pdf>

Venture capitalists have focused on artificial intelligence as one of the few sustainable areas of investment in the current market, and startups around the world have sought to highlight their capabilities in this area.

Corporate investors have shown the most interest in the generative AI field, especially global technology giants with the large data sets required to support robust generative AI solutions.

Both Microsoft and Google have already taken significant steps in this area, with Microsoft investing \$10 billion in OpenAI in the first quarter of 2023, along with Chinese tech giants Alibaba, Baidu and Tencent.

In the second quarter of 2023, Alibaba said it had received a significant number of requests for trial access to its Tongyi Qianwen artificial intelligence generation tool, and Baidu announced it had submitted its own Ernie bot artificial intelligence generation tool for regulatory approval, the report said.

Regulatory authorities around the world have also focused on artificial intelligence and are increasingly examining how best to regulate this sector. In the second quarter of 2023, the EU passed the Artificial Intelligence Act, which sets rules for the

use of AI in the region. In particular, the new regulations require that any generative AI systems be tested before being put into commercial use, the report says.

Many global tech giants are developing their own artificial intelligence models following the success of ChatGPT, a chatbot launched by OpenAI a year ago.

ByteDance has many small teams working on various generative artificial intelligence products, including a chatbot codenamed *Grace*. ByteDance has already raised at least 10,000 Nvidia GPUs to support its ambitions. The company has ordered nearly 70,000 A800 chips to be delivered next year, worth about \$700 million.

Alibaba plans to connect all of its products to the artificial intelligence model, including online shopping platform *Taobao* and the mapping tool *Gaode Map*.

Meanwhile, Baidu is developing its own ChatGPT-like project, a generative AI chatbot called Ernie Bot

Trends in the Ukrainian venture capital market

The development of venture capital funds in Ukraine can be divided into two stages according to the formation of venture capital funds of Ukrainian origin. The first stage covers the years 1992-2001, characterized by the creation and operation of seven venture capital funds in Ukraine, at the expense of foreign investment. For the period since 2004, the total investment of these funds amounted to more than \$127,5 million in more than 106 enterprises. However, the directions of investment differ from the traditional venture capital funds towards less risky and traditional industries.

The second stage of the development of the venture capital funds in Ukraine commenced in 2001, after the adoption of the Ukrainian Law “On Joint Investment Institutions (Funds and Company Funds, Investment Funds)”, which continues to the present day. Its main feature is the creation of the venture capital funds by the residents of Ukraine. Thus, according to the data from the Ukrainian Association of Investment Activity, between 2004 and 2010, the number of venture capital funds has increased in 13,9 times, and the net asset value in 63,1 times, the biggest slowdown occurred during the 2008 year of the global financial crisis.

In 2022, the venture capital investment fell 74% compared to 2021, a decline partly due to the global economic slowdown: between 2021 and 2022, the venture capital investment in the EU and the US fell by 20-30%.

3 companies with Ukrainian roots raised 58% of 2021 funding

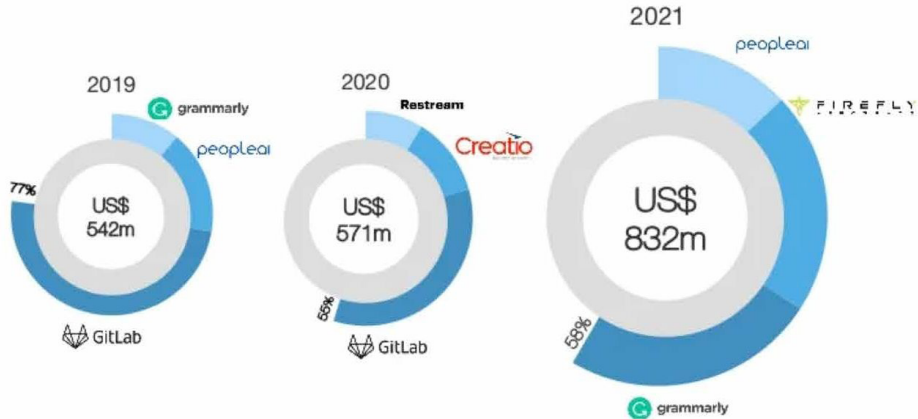


Figure 3. Ukrainian companies with the largest venture capital funding

Source: <https://uaspectr.com/2022/04/27/investytsiyi-v-ukrayini-2021-roku-ta-vidbytok-vijny-hto-skilky-ta-koly-investuvav-v-ukrayinski-startapy/>

Most Ukrainian technology companies which focus on the global or US market continued to increase their revenues despite a 74% drop in new investments. Ukrainian investors are most inclined to provide capital to early-stage startups, with investments typically \$1 million. Series A investments, which represent a higher level of capital, are often sought by foreign funds, which tend to focus on Series A startups.

Among the most active Ukrainian investors are: Flyer One Ventures, U.Ventures, Adventures Lab, TAVentures and others. As for foreign investors, they are: AlmazCapital, TMT and Hype Ventures. The full list can be found below in figure4.

Fund landscape: most active investors



Figure 4. Ukrainian venture capital market representatives

Source: <https://dia.dp.gov.ua/venchurni-investicii-v-ukraini-znizilisya-na-74-u-2022-roci/>

Four Ukrainian startups have already joined the list of unicorns: Grammarly, GitLab, Bitfure and people.ai. Eight more are already approaching that status. They include product companies such as Ajax, Genesis, Creatio, Preply, Restream, airSiate and software developers such as Ciklum and SoftServe.

Thus, according to the official data of the Ministry of Economy, the venture capital market in Ukraine before the war was about 400 million dollars (potential volume reaches 800 billion dollars) and included more than 50 formally registered companies, although no more than ten actually worked, including: the Ukraine Private Equity Fund (22,5 million dollars), SigmaBlazer (100 million dollars) and the most powerful Western NIS Enterprise Fund (150 million dollars), allocated by the U.S. government for investments in the food industry, agriculture, construction materials, and the financial sector of Ukraine. Over the past ten years, Western NIS Enterprise Fund has completed 31 investment transactions totaling \$126 million. The fund financed small and medium-sized enterprises in the form of contributions to the authorized capital. The amount of the contribution ranged from USD 1 to 7,5 million.

As for the Ukrainian startup market after 60 days of war, there was a slowdown in development in the first weeks. Nevertheless, export-oriented enterprises are exhibiting indications of revenue growth. The valuations of Ukrainian food companies focused on Western markets remain high. However, companies with a focus

on Ukraine, including those operating in the e-commerce sector, are encountering significant challenges. In response to the challenging economic circumstances, many companies are resorting to layoffs, cost-cutting measures, and wage reductions.

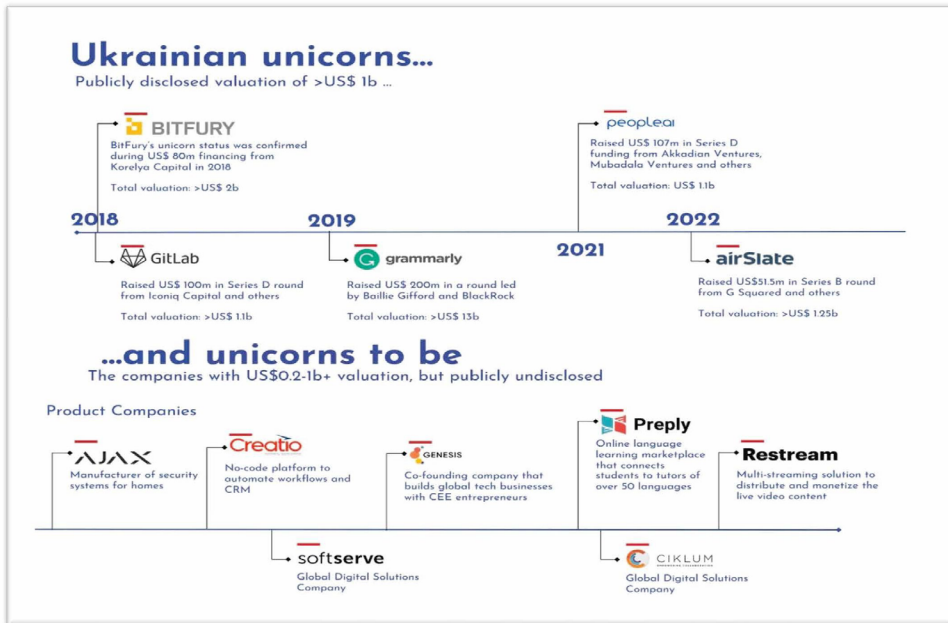


Figure 5. Ukrainian unicorns

Source: <https://uaspectr.com/2022/04/27/investytsiyi-v-ukrayini-2021-roku-ta-vidbytok-vijny-hto-skilky-ta-koly-investuvav-v-ukrayinski-startapy/>

It is also worth noting that since 2005, venture capital schemes have become very popular in the construction industry. Many investment companies began to create venture capital funds specifically for the purpose of investing in real estate. They were attracted by the dynamic growth of real estate prices, the projected high return on investment in square meters, and the low risks inherent to this business. According to the Ukrainian Association of Investment Business, as of the beginning of 2005, 15% of funds raised by CII were invested in construction and real estate operations⁹.

The growth of venture capital funds can be attributed to a number of factors, with several key influences taking a significant place in their development in recent years:

1. Technological innovation – the rapid development of technology, especially in areas such as artificial intelligence, biotechnology, blockchain and the Internet of Things, is attracting investors to support innovative ideas and start-ups.
2. Easier access to information – thanks to the Internet and the global access to information, investors can assess the potential of new ventures swiftly, which encourages an increase in VC investment.

⁹ On venture capital funds for innovative development: Draft Law of Ukraine. Online: <http://www.in.gov.ua/index.php?get=118&id=1499>.

3. Changing consumer trends – increasing demand for new products and services tailored to changing consumer preferences and needs creates space for innovative startups and VC funds.
4. Government support – some governments offer tax and other incentives to VC investors, helping to increase investment in startups.
5. Flexible business models – new trends in business management, such as the subscription model, digital platforms and the sharing economy, are attracting the attention of VC investors who are looking for the innovative ways to generate profits.
6. Importance of the startup ecosystem – the development of startup ecosystems, such as incubators, accelerators, and mentorship for entrepreneurs, helps create a healthier business environment for startups, which also attracts VC funds¹⁰.

These factors, both individually and collectively, are influencing the development and dynamics of venture capital funds, contributing to their growth and evolution.

Conclusions

This, venture capital funds represent a powerful tool for Ukraine's innovative development and stand out among other investment institutions for their extensive investment opportunities. However, venture capital institutions in the Ukrainian market operate on different principles than those used in global practice. The draft laws "On Venture Capital Investment Companies" and "On Venture Capital Funds for Innovative Development" developed by the State Agency of Ukraine for Investment and Innovation are intended to solve this problem, taking into account to some extent the recommendations of the European Venture Capital Association and the EU directives on collective and venture capital investment. However, this requires significant costs and generally raises doubts regarding the advisability of separating the rules aimed at regulating the specifics of the creation and operation of venture (innovation) investment funds into a distinct legislative act. Therefore, in light of the current economic crisis, our view is that it is sufficient for the state to identify priority innovation projects and ensure transparent and fair implementation of existing laws.

Bibliography

Archiereiev S., Popadynets O., The role of state support for the development of venture capital business to increase the output of high-tech and innovative products. Online: <http://www.niss.gov.ua/Monitor/May08/08.htm>.

¹⁰ I.V. Lytvyn, Planning of financial support and implementation of innovative projects of venture capital enterprises, "Bulletin of Lviv Polytechnic National University. Management and Entrepreneurship in Ukraine: Stages of Formation and Problems of Solution" 2008; 624: 191-199.

Cooke I., Mayers P., Introduction to Innovation and Technology Transfer, Artech House Inc., Boston 1996.

Chesbrough H.W., Making sense of corporate venture capital, "Harvard business review" 2002; 80(3): 90-99.

Gerasymchuk V. G., Shkolna O. V., Risk management in foreign venture capital financing of innovative projects, "Bulletin of the National University of Lviv Polytechnic. Problems of Economics and Management" 2008; 628: 424-429.

Lytvyn I.V., Planning of financial support and implementation of innovative projects of venture capital enterprises, "Bulletin of Lviv Polytechnic National University. Management and Entrepreneurship in Ukraine: Stages of Formation and Problems of Solution" 2008; 624: 191-199.

On Venture Capital Investment Companies: Draft Law of Ukraine. Online: <http://www.in.gov.ua/index.php?get=118&id=1495>.

On venture capital funds for innovative development: Draft Law of Ukraine. Online: <http://www.in.gov.ua/index.php?get=118&id=1499>.

Osetskyi V. L., Investments and Innovations: Problems of Theory and Practice, Institute of Agrarian Economics of the Ukrainian Academy of Sciences, 2003.

Petruk O. M., Moshenskyi S. Z., Theory and practice of venture capital financing, Ruta 2008.

Venture capital: foreign experience and problems of formation in Ukraine, KNEU, Kyiv 2000.