

METHODOLOGICAL APPROACHES TO THE BUDGET FINANCING OF PROJECTS UNDER CONDITIONS OF SUSTAINABLE DEVELOPMENT BASED ON THE PRINCIPLES OF PUBLIC-PRIVATE PARTNERSHIP

© 2015 KARPENKO I. V., SHYSHOVA I. G.

UDC 334.7:504.062.4

Karpenko I. V., Shyshova I. G.

Methodological Approaches to the Budget Financing of Projects under Conditions of Sustainable Development Based on the Principles of Public-Private Partnership

The aim of the article is to improve the theoretical and methodological basis of the financial provision for eco-friendly activities (projects) under the conditions of sustainable development based on public-private partnership. The article analyzes the characteristic features of the current financial and economic mechanism of the environmental policy in Ukraine. The study also substantiates the use of the public-private partnership as the most effective way of providing funding for environmental projects in regions with different levels of environmental pressure and financial capacity for self-financing its development. The authors proved the necessity of forming the state financial policy aimed at realization of eco-friendly projects based on the principles of potential ability and ecological and economic adaptability. Arguments were provided to substantiate the reasonability of taking into account the environmental risk by investors along with other risks while evaluating the effectiveness of eco-friendly projects. The study allowed proposing an approach to calculation of the net present value of an investment project taking into account the environmental risk premium. It is proposed to take into account the level of ecological and economic adaptability of the region while determining the value of the risk premium. The approach was practically tested using the example of a treatment facilities reconstruction project.

Keywords: financial provision, environmentally friendly development, public-private partnership, potential ability, ecological and economic adaptability, project value

Рис.: 1. **Табл.:** 2. **Formulae:** 2. **Bibl.:** 18.

Karpenko Inna V. – Candidate of Sciences (Economics), Assistant, Department of Finance and Credit, Sumy State University (vul. Rymyskogo-Korsakova, 2, Sumy, 40007, Ukraine)

Email: i.karpenko@omu.sumdu.edu.ua

Shyshova Iuliia G. – Candidate of Sciences (Economics), Assistant, Department of Finance and Credit, Sumy State University (vul. Rymyskogo-Korsakova, 2, Sumy, 40007, Ukraine)

Email: y.shyshova@finance.sumdu.edu.ua

УДК 334.7:504.062.4

УДК 334.7:504.062.4

Карпенко И. В., Шишова Ю. Г. Методические основы бюджетного финансирования проектов в условиях устойчивого развития на принципах государственно-частного партнерства

Целью статьи является совершенствование теоретико-методических основ финансового обеспечения эколого-ориентированных мероприятий (проектов) в условиях устойчивого развития на принципах государственно-частного партнерства. В статье проанализированы особенности существующего финансово-экономического механизма экологической политики в Украине. Доказана целесообразность применения механизма государственно-частного партнерства как наиболее эффективного способа финансирования реализации экологических проектов в регионах с разным объемом экологической нагрузки и финансовыми возможностями самофинансирования своего развития. Доказана необходимость формирования государственной финансовой политики, направленной на реализацию эколого-ориентированных проектов на принципах потенциальной способности и эколого-экономической адаптивности. Обоснована целесообразность учета инвесторами экологического риска наряду с другими при оценке эффективности эколого-ориентированных проектов. Предложен подход к расчету чистой текущей стоимости инвестиционного проекта с учетом премии за экологический риск. При определении величины премии предложено учитывать уровень эколого-экономической адаптивности региона. Практическая апробация подхода проведена на примере проекта по реконструкции очистных сооружений.

Ключевые слова: финансовое обеспечение, эколого-ориентированное развитие, государственно-частное партнерство, потенциальная способность, эколого-экономическая адаптивность, стоимость проекта

Карпенко I. V., Shyshova I. G. Методичні засади бюджетного фінансування проектів в умовах сталого розвитку на принципах державно-приватного партнерства

Метою статті є удосконалення теоретико-методичних засад фінансового забезпечення еколого-орієнтованих заходів (проектів) в умовах сталого розвитку на принципах державно-приватного партнерства. У статті проаналізовано особливості існуючого фінансово-економічного механізму екологічної політики в Україні. Доведено доцільність застосування механізму державно-приватного партнерства як найбільш ефективного способу фінансування реалізації екологічних проектів у регіонах з різним обсягом екологічного навантаження та фінансовими можливостями самофінансування свого розвитку. Доведено необхідність формування державної фінансової політики, спрямованої на реалізацію еколого-орієнтованих проектів на принципах потенціальної спроможності та еколого-економічної адаптивності. Обґрунтовано доцільність урахування інвесторами екологічного ризику поряд з іншими при оцінці ефективності еколого-орієнтованих проектів. Запропоновано підхід до розрахунку чистої поточної вартості інвестиційного проекту з урахуванням премії за екологічний ризик. При визначенні величини премії запропоновано враховувати рівень еколого-економічної адаптивності регіону. Практичну апробацію підходу проведено на прикладі проекту з реконструкції очисних споруд.

Ключові слова: фінансове забезпечення, еколого-орієнтований розвиток, державно-приватне партнерство, потенціальна спроможність, еколого-економічна адаптивність, вартість проекту

Рис.: 1. **Табл.:** 2. **Формул.:** 2. **Бібл.:** 18.

Рис.: 1. Табл.: 2. Формул.: 2. Библ.: 18.

Карпенко Інна Володимирівна – кандидат економічних наук, асистент, кафедра фінансів і кредиту, Сумської державної університет (ул. Римського-Корсакова, 2, Суми, 40007, Україна)

Email: i.karpenko@otm.sumdu.edu.ua

Шишова Юлія Григорівна – кандидат економічних наук, асистент, кафедра фінансів і кредиту, Сумської державної університет (ул. Римського-Корсакова, 2, Суми, 40007, Україна)

Email: y.shyshova@finance.sumdu.edu.ua

Карпенко Інна Володимирівна – кандидат економічних наук, асистент, кафедра фінансів і кредиту, Сумський державний університет (вул. Римського-Корсакова, 2, Суми, 40007, Україна)

Email: i.karpenko@otm.sumdu.edu.ua

Шишова Юлія Григорівна – кандидат економічних наук, асистент, кафедра фінансів і кредиту, Сумський державний університет (вул. Римського-Корсакова, 2, Суми, 40007, Україна)

Email: y.shyshova@finance.sumdu.edu.ua

Problem statement. Under the condition of significant exacerbation of the environmental situation in the world and Ukraine, in particular, the role and importance of the financing eco-friendly activity and projects have been increased. Analysis of peculiarities financing environmental activities shows the growing share of costs in GDP: in the 2013 year – 1.5% compared with 1, 21% – in 2010 year. [3]. At the same time, the analysis of the structure of funding sources showed significantly reduced budget expenditures in eco-friendly activity: from 21.4% in 2010 year to 7% in 2013 year [3]. Thus, in the market economy the issues related to the effective financial regulation and financing of eco-friendly activities both at the regional and national levels are now becoming ever more relevant. In turn, it requires the implementation of financial and economic mechanism of environmental regulation, which will provide timely, complete and reliable financing of eco-friendly activity. In European practice public-private partnership is widely known as the effective way of such financing.

The issues of financing and economic regulation have been investigated by domestic and foreign scientists: L. Abalkin, A. Baranowsky, V. Boronos, T. Doronin, V. Heyets, S. Zenchenko, R. Prokopenko, O. Fedonin, S. Frolov, S. Harichkov and others. Mechanisms and instruments for the implementation of public-private partnership have been analyzed and investigated in the works of N. Bezbakha, V. Varnavskoho, E. Bondarenko, V. Yakuninoho, A. Tofanyuka, I. Chaloho, A. Pavluka, A. Golovinova, N. Dutko, I. Zapatrinoin, L. Fedulova, P. Shylepnytskoho and others. However, the issues concerning effective funding of environmental activities based on the principles of public-private partnership remain unsettled.

The object of the article is to improve the theoretical and methodical base of financing of eco-friendly activities (projects) under the conditions of sustainable development based on public-private partnership.

Main material. Despite the branchy system of financial resources at the local level financing of environmental activities nowadays is carried mainly through the following components: own capital of enterprises, institutions and organizations; expenses from local budgets.

The reasons for this, in our opinion, are:

- regular qualitative and quantitative changes in the mechanism and instruments of financial regulation of regional environmental activity;
- imperfection of the legislation regarding national security. The current legal framework does not regulate the responsibilities, competencies and powers of local governments on the formation of regional and national policies for sustainable development in Ukraine;

- small sum of taxes and duties for using natural resources and environmental pollution;
- absence of the general unified approach for selection of financing instruments of the regional development;
- unreasonable policy of subsidizing and transfer;
- ignoring historical, demographic, climatic and resource features in financing the budgetary programs.

The conducted analysis [3, 7 – 9] showed that current mechanism of state regulation of environmental policy does not comply with the principles and criteria of financial stimulation of environmental development. That way, the main disadvantage of the mechanism is focus mainly on direct financial impact methods through direct budget funding or subsidies from the budget to specific business entities. It discord with the principles which, in our view, should be the basis of effective financing of ecologically oriented region. They are: the principle of potential ability and the principle of environmental and economic adaptability.

The principle of potential ability assumes differential approach to the financing of environmental development depending on region' potential for self-financing its development. We assume, in the regions with high potential compared with other regions of Ukraine, the main sources of environmental activity financing should be investments and own funds of the enterprises. On the contrary, eco-friendly actions in regions with the low eco-friendly potential should be financed with the inter-budgetary transfers and money from the fund of environmental protection.

In our opinion, this principle is considered to be the basis of the inter-budgetary equalization. It is explained by the reason that taking account of region potential will promote:

- increasing the transparency of distribution of budgetary funds;
- ensuring the correspondence between region's capabilities for self-financing its development and attracted funds.

The principle of environmental and economic adaptability of the region provides a dynamic reaction of public and local authorities, business activity on changes in the external and internal environment of the region and effective process of strategic management of financial security of environmentally-oriented development of the region.

The process of environmental and economic components' balancing at the regional level, in our opinion, should be based on the approval of the two main aspects of regional development. They are: financial capacity to attract and use funds, implemented in the principle of potential ability, and the level of environmental pressure on the region, reflected in the prin-

ciple of environmental and economic adaptability. They should serve the basis for determining the level of inter-budgetary transfers as one of the main financial instruments for financial equalization and stable functioning.

Taking into account the above mentioned and considering the limited budget, it is important to analyze foreign experience in financing of environmental protection in order to use it afterwards under domestic conditions. As the international experience shows, the public authorities do not act as the main initiator and investor of funding the environmentally activities. They only create a favorable environment for the successful implementation of such activities, while providing support to the private sector [4]. Such interaction between public authorities and the private sector takes place in the form of public-private partnership (PPP) [2; 4; 6; 17; 13; 14; 16], and can be successfully implemented both at the national and regional level. It is related to the redistribution of financial flows for specific areas, as well as the feasibility of expanding the range of people and organizations interested in implementing programs. Moreover, it is the regional level that under modern conditions mainly ensures the successful implementation of the national strategy for social and economic development. PPP can greatly contribute to overcome the crisis, in particular providing the sustainable development of major industries.

The feasibility of further analysis of the meaning of public-private partnership related to the novelty of this concept, its social and economic value for society and further implementation in national practice of financing environmental activities and projects.

In the Public-Private Partnership Act of Ukraine public-private partnership is defined as «cooperation between the state Ukraine, Crimea, local communities represented by the relevant public authorities and local governments (public

partners) and entities other than government and public utility companies or individuals - entrepreneurs (private partners), which is based on the contract in the manner according to the Law and other laws [1].

There is a legal framework for the development of certain forms of PPP in Ukraine. It includes the Constitution of Ukraine, the Civil and Commercial Code of Ukraine, legislative and regulatory acts.

Mentioned above regulatory acts define features of using various mechanisms of cooperation between the authorities and private businesses. They vary depending on: the object that is passed to the private partner, property power, obligations of the participant, principle of shared risk between the partners, responsibility for various types of work.

In practice the main goal of public authorities while doing PPP is considered to be an effective transfer of risks to the private partner. The risks are related with the planning, construction, financing and management of the current activity of the enterprise. PPP gives the public and private sectors possibility to distribute risks while implementation the joint project. It provides mutual support in order to ensure the benefits and advantages of the project for both sides.

As the numerous studies show [18; 10-12; 5; 15], the majority of scientists, while assessing the effectiveness of investment projects based on principles of public-private partnership, focus on the following types of risks: technical risks, default risks, financial risks, demand risks, political and legal risks, - leaving aside quite significant, in our view, component - environmental risk (figure 1).

Existence of this type of risk can lead to the following consequences:

- on the one hand, an environmental risk, took place in region, will lead to the essential reduction of net

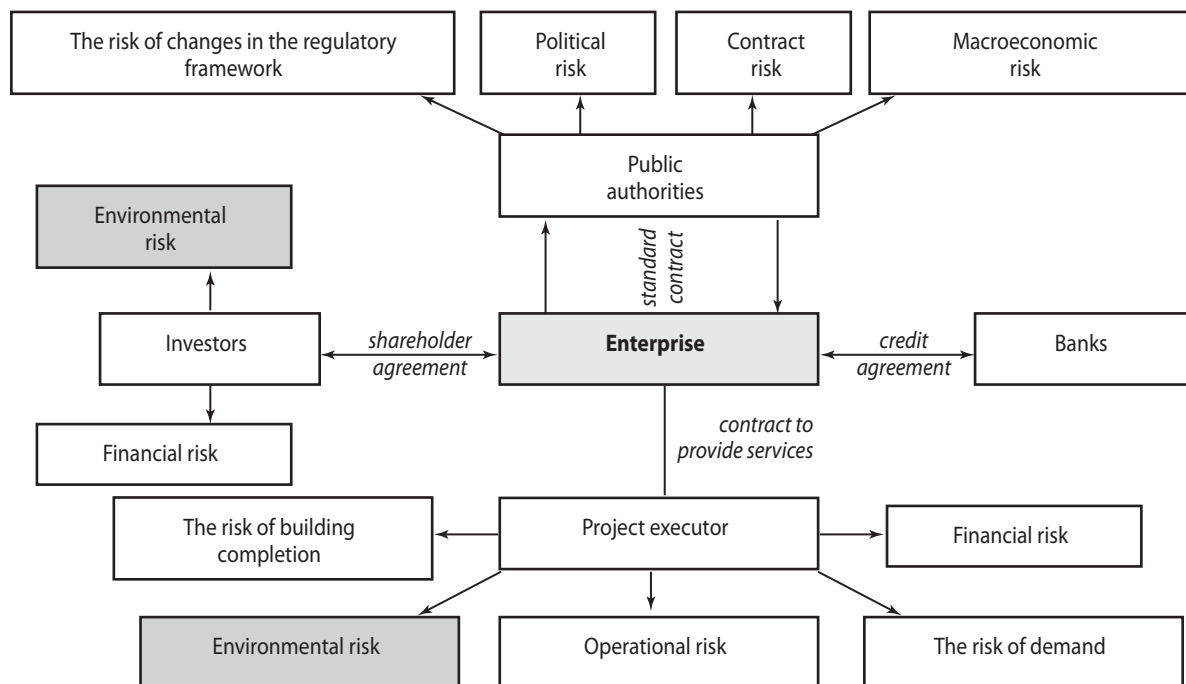


Figure 1. Scheme of environmentally friendly activity (project) of the enterprise with distribution of project risks based on public-private partnership

present value of projects and deter investors to make additional investments in such objects;

- on the other hand, non-accounted environmental risks will lead to the subjective assessment of the project effectiveness and the overestimation of future revenues in future.

Taking into account plenty risks faced by investors during the implementation of eco-friendly projects it is important to make comprehensive risk assessment and its incorporation in methods of evaluating investment projects.

Considering close relationship between the environment and the project effect, the evaluation of its effectiveness should be based on the indicator of ecological and economic adaptability of the region (EEAR). This indicator is the resulting characteristic of the strategic management of regional financing taking into account the environmental component.

The ability of the region to respond timely on the environmental degradation through the application of preventive measures is proposed to evaluate using the EEAR - indicator. We define it as the ability of the region to attract budgetary funds, funds of business entities and households in order to finance environmental activity (projects) on condition that rate of their financing will exceed the growth rate of environmental pressure.

The degree of adaptability we understand as the rate that reflects actual level of compatibility, coordination of environmental and economic policy in a given space-time interval (formula 1).

$$EAP = \sqrt[3]{\frac{I_{E-PURkm}}{I_{E-STAKm} + I_{E-MOBkm}} \cdot \frac{I_{WAT-PURkm}}{I_{WATkm}} \cdot \frac{I_{WST-RECKm}}{I_{WSTkm}}}, \quad (1)$$

where $I_{E-PURkm}$ – the reduction of pollutant emissions from stationary and mobile sources of pollution due to the introduction of air security actions in a region, t/km²;

$I_{E-STAKm}$ – the amount of pollutant emissions by stationary sources of pollution, t/km²;

$I_{E-MOBkm}$ – the amount of pollutant emissions by mobile sources of pollution, t/km²;

$I_{WAT-PURkm}$ – the reduction of pollutant emissions due to the introduction of treatment facilities in a region, t/km²;

I_{WATkm} – the amount of pollutant emissions in water objects, t/km²;

$I_{WST-RECKm}$ – the reduction of wastes due to their utilization, burying and disposal, t/km²;

I_{WSTkm} – the amount of generated waste of first-third hazard class t/km².

The methodical approach to the applying of public-private partnership in funding of environmentally friendly development will be based on the following assumptions:

1. The minimum share of budgetary financing based on the public-private partnership is offered to define as the sum of money necessary to cover potential investor's loss that occurs due to low environmental and economic regional adaptability.
2. The discount rate for a particular region should include two components: risk-free asset rate and risk premium. The last one is expressed through the EEAR - indicator.

Risk premium will be differentiated depending on the effectiveness of the strategic management of regional financing taking into account the environmental component.

3. The low level of EEAR characterizes low quality of regional financing and high level of investment risk. Thus, share of state funding should be greater.
4. The high level of EEAR characterizes the effective financial management, low level of regional investment risk. These regions do not require significant public funding.

In general, the discount rate (r) for the investment projects, which takes into account premium for environmental risk due to the low levels of EEAR, is determined in such form:

$$r_d = r_{rf} + \beta \cdot \lambda_m \cdot (1 + e^{-r_{adt}}), \quad (2)$$

where r_d – discount rate, %;

r_{rf} – risk-free asset rate, %;

β – coefficient, that defines the sensitivity of profitability of company equity to market fluctuations;

λ_m – the average market risk premium;

t – the time when the calculation is carried out;

r_{adt} – premium for ecological risk related with investing in a project in a particular region.

The assessment of economic parameters for project financing based on public-private partnership will be conducted on the example of the project on reconstruction of treatment facilities. Initial information for calculations are presented in Table 1.

According to the project it is considered to increase capacity of wastewater treatment facilities by 8.6 thousand cubic meters based on:

- reconstruction of buildings which are in operation at present;
- reconstruction of 2-nd stage objects that had been built, but were not in operation;
- construction of individual objects, which are lacking (foster cameras, grids, secondary clarifiers);
- installation of equipment in buildings of pumping station for pumping dust and compressor stations.

Total investment is 838 thousand UAH. According to the project conditions there is the following investment schedule: the first year it is invested 325 thousand UAH., second – 279 thousand UAH, third – 130 thousand UAH, fourth – 65 thousand UAH, fifth – 39 thousand UAH.

Current project costs include: cost of materials, energy, salary for production, support and administrative staff of the company, depreciation, other expenses.

Cost analysis of the project showed that the largest cost share belong to the materials purchasing cost. The rest of the money cover other expenses.

It is expected to get income at the third year of project implementation. Through the years the income of the project gradually increases and reaches its maximum at the 9-th year of project's implementation. We assume discount rate of the project at the level of 36%. The net present value of the project is calculated according to the discount rate, excluding the level of environmental region development.

Table 1

Initial data for calculation minimum share of state funding of the project based on public-private partnership, th. UAH

Expenses:	325	279	240,46	202,8	205,05	220,7	237,3	218,9	195,1	143	2267,31
A. Investments	325	279	130	65	39						838
B. Direct costs, including:											
materials			50,56	60,2	73,5	111,4	127,4	117	91,1	66,3	697,46
energy			9,5	12,3	13,6	13,7	14,8	15,2	15,8	16,2	111,1
salary of production staff			12,6	19,8	23,6	35,7	39,9	42,6	45,5	47,8	267,5
C. Total expenditures, including:											
repairs of fixed assets			4,2	4,5	5,1	3,3	1,2	1,3	1,1	1,2	21,9
salary of support staff			1,5	1,7	1,85	2,2	2,3	2,5	2,5	2,9	17,45
amortization			27,4	34	42,7	48	45	33	31	0	261,1
other expenses			1,1	1,3	1,2	1,6	1,7	1,8	2,2	1,9	12,8
D. Total economic costs, including:											
salary of administrative staff			2,3	2,5	2,8	2,9	3,1	3,3	3,5	4,2	24,6
other expenses			1,3	1,5	1,7	1,9	1,9	2,2	2,4	2,5	15,4
Income			37,86	56,8	76,23	123,7	202,3	231,9	249,7	217,8	1196,29
Total	-325	-279	-202,6	-146	-128,8	-97	-35	13	54,6	74,8	-1071,02

The minimum share of budgetary financing based on the public-private partnership is considered to define as the difference between the net present value of the project, excluding premium for the environmental risk caused by low levels of EEAR, and the net present value of the project based on this indicator.

The calculations show that the greatest impact of environmental risks take place in Zhytomyr, Ternopil, Chernivtsi oblasts. In these regions the share of budget financing should be higher in comparison with the rest of the regions. The results are presented in Table 2.

Table 2

The results of the calculation of the minimum share of budgetary financing of the project on reconstruction of treatment facilities in the regions of Ukraine based on public-private partnership, th. UAH

Oblasts	NPV without taking into account EEAR	NPV taking into account EEAR	Deviation
1	2	3	4
Vinnitsya	670,26	550,22	120,04
Volyn	688,01	550,22	137,79
Dnipropetrovsk	638,83	550,22	88,60
Donetsk	648,63	550,22	98,40
Zhytomyr	710,99	550,22	160,76
Zakarpattia	655,05	550,22	104,82
Zaporizhzhya	643,65	550,22	93,43
Ivano-Frankivsk	651,35	550,22	101,13
Kyiv	646,31	550,22	96,09
Kirovohrad	642,72	550,22	92,50
Luhansk	639,53	550,22	89,31
Lviv	641,59	550,22	91,37
Mikolayiv	638,95	550,22	88,72
Odesa	635,44	550,22	85,21
Poltava	642,00	550,22	91,77
Rivne	671,67	550,22	121,45

Table 2

1	2	3	4
Sumy	680,14	550,22	129,91
Ternopil	676,51	550,22	126,29
Kharkiv	643,31	550,22	93,08
Kherson	691,78	550,22	141,56
Khmelnytskyi	657,43	550,22	107,21
Cherkasy	641,18	550,22	90,96
Chernivtsi	680,03	550,22	129,80
Chernihiv	646,68	550,22	96,46

Conclusions. Under the conditions of limited financial resources and insufficient revenue base of local budgets for implementation delegated power by local authorities, funding of environmental policy become one of the most important regulators of social and economic development. Effective functioning of such regulators is a prerequisite for sustainable development of regions and the country as well.

The public-private partnership as the most effective way of financing the eco-friendly activity has been grounded in the research. It is assumed to finance in such manner regions with a high level of economic development, where economic agents have sufficient funding for environmental activity implementation. EEAR has been proved the basis while defining risk premium for a particular region. It will increase the efficiency of decision-making during the implementation of the eco-friendly projects based on public-private partnership.

ЛІТЕРАТУРА

1. Безбах Н. В. Правові особливості здійснення державно-приватного партнерства в Україні / Н. В. Безбах // Інвестиції: практика та досвід. – 2011. – № 18. – С. 117 – 120.
2. Варнавский В. Г. Управление государственно-частными партнерствами за рубежом / В. Г. Варнавский // Вопросы государственного и муниципального управления. – 2012. – № 2. – С. 134 – 147.
3. Головінов О. М. Проблеми розвитку державно-приватного партнерства в Україні / О. М. Головінов // Прометей. – 2012. – № 1 (37). – С. 166 – 169.
4. Дутко Н. Г. Європейський досвід державно-приватного партнерства / Н. Г. Дутко // Вісник академії державного управління. – 2010. – № 1. – С. 30 – 36.
5. Про державно-приватне партнерство : Закон України від 01.07.2010 р. № 2404-VI [Електронний ресурс]. – Режим доступу : <http://zakon4.rada.gov.ua/laws/show/2404-17>
6. Запатріна І. В. Публічно-приватне партнерство в Україні: перспективи застосування для реалізації інфраструктурних проектів із надання публічних послуг / І. В. Запатріна // Економіка і прогнозування. – 2010. – № 4. – С. 62 – 86.
7. Карпенко І. В. Матричний підхід в системі стратегічного управління фінансовим забезпеченням регіона / І. В. Карпенко // Молодой ученый. – 2014. – № 1. – С. 366 – 369.
8. Карпенко І. В. Бюджетно-податкові інструменти управління фінансово-стратегічною адаптивністю регіонального розвитку / І. В. Карпенко // Механізм регулювання економіки. – 2013. – № 4. – С. 119 – 123.
9. Карпенко І. В. Удосконалення механізму фінансового забезпечення екологоорієнтованого регіонального розвитку / І. В. Карпенко // Ефективна економіка. – 2013. – № 11 [Електронний ресурс]. – Режим доступу : <http://www.economy.nayka.com.ua>
10. Карпенко І. В. Фінансові інструменти регулювання процесу реалізації екологічної політики розвитку регіону / В. Г. Боронос, І. В. Карпенко // Механізм регулювання економіки. – 2012. – № 4. – С. 139 – 146.
11. Методика виявлення ризиків, пов'язаних з державно-приватним партнерством, їх оцінки та визначення форми управління ними : Затверджена Постановою КМУ від 16.02.2011 р. № 232 // Офіційний вісник України. – 2011. – № 18. – С. 769.
12. Павлюк А. П. Державно-приватне партнерство як механізм активізації інвестиційної діяльності в Україні / А. П. Павлюк, Д. В. Ляпін // Стратегічні пріоритети. – 2012. – № 3 (24). – С. 38 – 45.
13. Підготовка та реалізація проектів публічно-приватного партнерства : практичний посібник [для органів місцевої влади та бізнесу] / Упоряд. С. Грищенко. – К. : ФОП Москаленко О. М., 2011. – 140 с.
14. Рассадникова С. І. Державно-приватне партнерство у розбудові екологічної інфраструктури: становлення, особливості, інвестиції / С. І. Рассадникова // Економіка. – 2012. – № 1 (2). – С. 133 – 142.
15. Рожко О. Д. Фінансово-економічна ефективність впровадження державно-приватного партнерства в Україні / О. Д. Рожко // Теоретичні та прикладні питання економіки. – 2012. – Випуск 27. – С. 138 – 147.
16. Тофанюк О. В. Застосування механізмів державно-приватного партнерства у бюджетному регулюванні регіонального розвитку / О. В. Тофанюк, І. Г. Чалий // Економіка та управління підприємствами машинобудівної галузі: теорія та практика. – 2011. – № 4 (16). – С. 41 – 53.
17. Федулова Л. І. Організаційний ресурс державно-приватного партнерства в умовах подолання наслідків кризи / Л. І. Федулова, І. Г. Яненко // Наукові праці. Економіка. – 2009. – Т. 109, вип. 96. – С. 57 – 60.
18. Шилепницький П. І. Державно-приватне партнерство: теорія і практика / П. І. Шилепницький ; Нац. акад. наук України, Ін-т регіон. дослідж. – Чернівці : Ін-т регіональних досліджень, 2011. – 454 с.

REFERENCES

- Bezback, N. V. "Pravovi osoblyvosti zdiisnennia derzhavno-privatnoho partnerstva v Ukraini" [Legal peculiarities of public-private partnership in Ukraine]. *Investytsii: praktyka ta dosvid*, no. 18 (2011): 117-120.
- Boronos, V. H., and Karpenko, I. V. "Finansovi instrumenty rehulivannia protsesu realizatsii ekolohichnoi polityky rozvytku rehionu" [Financial instruments regulating the implementation of environmental policy development]. *Mekhanizm rehulivannia ekonomiky*, no. 4 (2012): 139-146.
- Dutko, N. H. "Yevropeyskyi dosvid derzhavno-privatnoho partnerstva" [The European experience of public-private partnerships]. *Visnyk akademii derzhavnogo upravlinnia*, no. 1 (2010): 30-36.
- Fedulova, L. I., and Yanenkova, I. H. "Orhanizatsiinyi resurs derzhavno-privatnoho partnerstva v umovakh podolannia naslidkiv kryzy" [Organizational resource PPP in terms of overcoming the crisis]. *Naukovi pratsi. Ekonomika* vol. 109, no. 96 (2009): 57-60.
- Holovinov, O. M. "Problemy rozvytku derzhavno-privatnoho partnerstva v Ukraini" [Problems of Public-Private Partnership in Ukraine]. *Prometei*, no. 1 (37) (2012): 166-169.
- Karpenko, I. V. "Matrichnyy podkhod v sisteme stratezhicheskogo upravleniia finansovym obespecheniem regiona" [Matrix approach to strategic management of financial security in the region]. *Molodoy uchenyy*, no. 1 (2014): 366-369.
- Karpenko, I. V. "Biudzhethno-podatkovyi instrumenty upravlinnia finansovo-stratezhichnoiu adaptyvniosti rehionalnoho rozvytku" [Budget and tax management tools of financial and strategic adaptability regional development]. *Mekhanizm rehulivannia ekonomiky*, no. 4 (2013): 119-123.
- Karpenko, I. V. "Udoskonalennia mekhanizmu finansovoho zabezpechennia ekolohoorientovanoho rehionalnoho rozvytku" [The mechanism of financial security ecologically regional development]. *Efektivna ekonomika*. <http://www.economy.nayka.com.ua/>
- [Legal Act of Ukraine] (2011).
- [Legal Act of Ukraine] (2010). <http://zakon4.rada.gov.ua/laws/show/2404-17>
- Pavliuk, A. P., and Liapin, D. V. "Derzhavno-privatne partnerstvo iak mekhanizm aktyvizatsii investytsiinoi diialnosti v Ukraini" [Public-private partnerships as a mechanism to stimulate investment in Ukraine]. *Stratehichni priorityety*, no. 3 (24) (2012): 38-45.
- Pidhotovka ta realizatsiia proektiv publichno-privatnoho partnerstva [Preparation and implementation of public-private partnership]. Kyiv: FOP Moskalenko O. M., 2011.
- Rassadnykova, S. I. "Derzhavno-privatne partnerstvo u rozbudovi ekolohichnoi infrastruktury: stanovlennia, osoblyvosti, investytsii" [Public-private partnerships in the development of environmental infrastructure development, features, and investments]. *Ekonomika*, no. 1 (2) (2012): 133-142.
- Rozhko, O. D. "Finansovo-ekonomichna efektyvnist vprovadzhennia derzhavno-privatnoho partnerstva v Ukraini" [Financial and economic efficiency of the implementation of public-private partnership in Ukraine]. *Teoretychni ta prykladni pytannia ekonomiky*, no. 27 (2012): 138-147.
- Shylepnytskyi, P. I. *Derzhavno-privatne partnerstvo: teoriia i praktyka* [Public-private partnerships: Theory and Practice]. Chernivtsi: Instytut rehionalnykh doslidzhen, 2011.
- Tofaniuk, O. V., and Chalyi, I. H. "Zastosuvannia mekhanizmiv derzhavno-privatnoho partnerstva u biudzhethnomu rehulivanni rehionalnoho rozvytku" [The use of Public-Private Partnership in the budget management of regional development]. *Ekonomika ta upravlinnia pidpriemstvamy mashynobudivnoi haluzi: teoriia ta praktyka*, no. 4 (16) (2011): 41-53.
- Varnavskiy, V. G. "Upravlenie gosudarstvenno-chastnymi partnerstvami za rubezhom" [Management of public-private partnerships abroad]. *Voprosy gosudarstvennogo i munitsipalnogo upravleniia*, no. 2 (2012): 134-147.
- Zapatriina, I. V. "Publichno-privatne partnerstvo v Ukraini: perspektyvy zastosuvannia dlia realizatsii infrastrukturykh proektiv iz nadannia publichnykh posluh" [Public-private partnership in Ukraine: prospects of implementation of infrastructure projects for the provision of public services]. *Ekonomika i prohnozuvannia*, no. 4 (2010): 62-86.