

# Economic Prospects for Public-Private Partnership in Russia and European Union

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## Abstract

Today, public and private partnership (PPP) is defined as an institutional and organizational union between state and business aimed at implementing national and international, global and local, but always socially-relevant projects in a wide range of economic sectors: from strategically important industries and scientific and research engineering to providing public services. The paper proves that public-private partnership is beneficial for each participant. Its major advantages include: positive social and economic effect; budget funds economy due to private sector funding; managerial and intellectual capital flow from the private sector. However, to secure further successful development of this institute, a number of important issues must be solved.

This research offers a systematic approach to implementing projects that provide economic effect from public-private partnership for the EU. Moreover, by analyzing the best foreign PPP practice, major ways of solving complex issues in the Russian Federation were defined.

The paper concludes that recommendations for further improvement of PPP implementation and development in Russia should include:

- detailed consideration and analysis of all possible collaboration models between state and business at the very project beginning based on constant monitoring;
- optimization and increasing supervision over PPP projects' time limits and costs by establishing independent expertise centers;
- creating a single information centre that would accumulate experience and knowledge concerning PPP project implementation, which would attract foreign investors;
- improving legislation aimed at increasing legislation quality at federal and regional levels, considering international law standards.

**Keywords:** public-private partnership, infrastructure projects, Russian Federation, EU countries, state, business, society, economy

## 1. Introduction

Public-private partnership is a major trend in economic development of most countries in the world and is related to globalization processes. Public-private partnership is a main tool in today's state regulation of the national economy.

Developing public-private partnership as an institute is one of the priority directions of strategic development. However, for this mechanism to develop, it needs detailed study of accumulated international experience and environment for mutually beneficial integrated collaboration between business and state in socially-relevant infrastructure projects.

A major problem faced by countries developing public-private partnership, is the need for designing a management system for processes that secure public-private partnership effectiveness-from stimulation and

constant monitoring to state and public expertise of project effectiveness.

## 2. Literature Review

In international documents, "public-private partnership is understood as a contractual agreement formed between public and private sector partners, which allows private sector to participate in state ownership and perform functions that traditionally are a prerogative of the state. Major ownership rights are preserved unchanged, and after transferring an object to the private company, the government agency remains its owner. "(Report to Congress on Public-Private Partnerships. US Department of Transportation, 2004).

It is further emphasized that this is "partnership between public and state sectors aimed at implementing a project or providing a service that is traditionally performed by the public sector." (Guidelines for Successful Public-Private Partnerships//European Commission Directorate-General Regional Policy. March, 2003).

Positive economic effect from developing public-private partnership institute is confirmed by the fact that it is considered "a key element of government strategy for providing advanced high-quality service and increasing country's competitiveness that can be implemented as a wide range of business structures and partnership forms." (Public-Private Partnership for Innovation: Policy Rationale, Trends and Issues. Organization for Economic Cooperation and Development, 2003).

In Russia, the role of public-private partnership is defined by the need for infrastructure development in order to organize funding, planning, implementation and exploitation of objects and industries, as well as to provide public services. State is defined as "integrating object of public authority that includes all management levels-federal, regional and local, and implements authority." (Varnavsky, Klymenko, & Korolev. Theoretical principles of public-private partnership//Public-private partnership: Theory and Practice. M: State University-Higher School of Economics, 2010).

Thus, specific features of public-private partnership include: 1) long-term agreement with business structure and state representatives on implementation of socially-relevant infrastructure projects; 2) some functional tasks traditionally implemented by government agencies are transferred to private businesses; 3) private sector investments are attracted to fund infrastructure projects; 4) risk-sharing between public-private partnership participants.

## 3. Materials and Methods

According to Deloitte and Touche's rating of countries that develop public-private partnership, Russia occupies the lowest level (1st development stage). Majority of the EU members, including Germany, France, Greece, and Italy- are at the 2nd development stage. The highest 3rd stage is represented by Great Britain and Australia. (Varnavsky, Klymenko, & Korolev. Theoretical principles of public-private partnership//Public-private partnership: Theory and Practice. M: State University-Higher School of Economics, 2010).

During 1990-2010, in the European Union 1452 public-private partnership projects worth €272 bln. were implemented. Year 2010 alone saw 112 projects worth €18.3 bln, with €6.5 bln being spent on education and health care.

Great Britain is Europe's obvious leader by the amount of PPP agreements. In 2010, 44 of the total 112 agreements were concluded in that country (Figure 1):

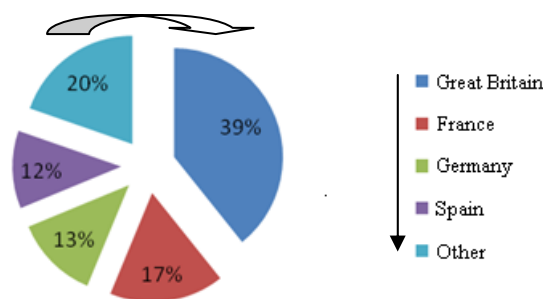


Figure 1. Amount of PPP agreements in the European Union

In 1990-2010, Great Britain's share in Europe's total amount of PPP agreements equaled to 67.1%, which is 52.5% of their all-European value. The second and third places are occupied by Spain (10.1 and 14.4%) and

France (5.4 and 5.3%). In 2010, France demonstrated 19 projects worth €1.8 bln. (PPP Experience in Great Britain, 2010).

However, in 2011-2012 leadership hierarchy started to change.

Estimation of aggregated value of PPP projects implemented in the EU countries in 2005-2012 is illustrated in Table 1 (Kazakhstan Centre for Public-private Partnership).

Table 1. Estimation of aggregated value of PPP projects implemented in the EU countries in 2005-2012

Project value	Amount of implemented projects (HY1 and HY2)								Note
	2005	2006	2007	2008	2009	2010	2011	2012	
€50-100 bln	45/-	-	-	-	-	-	-	30/55	Aggregated value of PPP projects amounted to <b>€6 bln.</b>
€100-200 bln	-	75/-	70/-	70/-	50/65	55/85	60/85	-	
€200-400 bln	-/120	-/125	-/130	-/110	-	-	-	-	

52% of total amount of PPP projects in the European market are agreements implemented in the Netherlands and France:  
 - Rotterdam World Gateway port expansion in the Netherlands (€720 mln);  
 - Court buildings in Paris, Paris Tribunal de Grande Instance in France (€563 mln)

Average project value amounted to €146 mln, which is less than in 2011 and 2010.

According to estimation of infrastructure PPP project implementation in the EU, France demonstrates the most active collaboration between business and state aimed at infrastructure development (Table 2).

Table 2. Infrastructure project analysis by their amount and value in the EU countries

Analysis parameters	France	Great Britain	Netherlands	Spain	Germany	Belgium	Portugal
Total value, € mln.	<b>3000</b>	<b>1800</b>	800	250	200	100	40
Amount of agreements	<b>11</b>	<b>16</b>	2	3	6	2	1

France and Great Britain account for 76% of all PPP projects in the European market

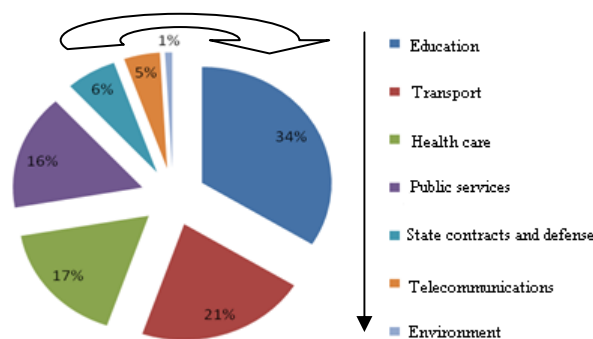


Figure 2. Amount of PPP agreements by industries in the EU

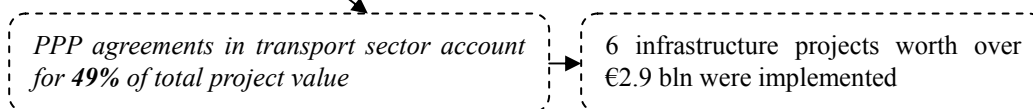
Industry breakdown in European PPP projects is worth analyzing as well (Figure 2).

In 2010, education (34%) became Europe's leader by the amount of PPP agreements and left a transport sector-which is traditionally considered a leader-with its 21% far behind. A significant share is represented by health care (17%). The total share of education and health care increased up to 35% by value and 51% by amount of agreements (Figure 3).

Europe demonstrates growing interest in environmental projects that successfully attract private sector investments. Three of such projects worth more than €60 mln were implemented in Great Britain. As of 2012, transport and education were the two industries that demonstrated the largest amount of PPP projects (Figure 3).

Table 3. Industry analysis of infrastructure projects by their amount and value in the EU countries

Analysis parameters	Transport	Education	Public security	Public utilities	Tourism	Health care	Public services
Total project value, € mln	<b>2800</b>	<b>1000</b>	600	250	100	50	20
Amount of agreements	<b>6</b>	<b>10</b>	2	5	7	5	2



Russia's leaders in infrastructure project implementation are Saint-Petersburg, the Republic of Tatarstan, and Novosibirsk Oblast.

In 2013, 131 PPP projects were signed in the Russian Federation. Like in Europe, PPP projects in Russia differ by industries and result in significant economic effect in some but not in all economic sectors.

Industry sector breakdown of PPP projects implemented in the Russian Federation is illustrated in Table 4.

Table 4. Industry sector breakdown of PPP projects in Russian Federation

PPP projects implemented in Russian Federation	Public utilities	Education	Transport	Power	Total amount
Amount	<b>23</b>	<b>56</b>	<b>30</b>	<b>22</b>	<b>131</b>

The legal form taken by over 70% of all PPP projects is concession agreements.

Total value of PPP projects implemented in Russia amounts to 1.044 trln rubles.

Considering successful experience of foreign countries, the most promising sectors for developing public-private partnership include transport, public utilities, and-to a lesser extent-social infrastructure.

Due to world-wide impact of the shale revolution, Ministry of Natural Resources and the Environment of the Russian Federation is planning to establish polygons for studying potential of non-traditional hydrocarbon sources based on public-private partnership.

At the present time, Russia is actively creating legislative and regulatory framework for public-private partnership. Regions pass laws on their participation in public-private partnership. Out of 85 regions of the Russian Federation, 65 already have relevant laws.

#### 4. Experimental Methods

Need for studying economic prospects of PPP development is explained by the fact that both in the EU and in Russia this institute faced with a number of problems: 1)lack of an effective mechanism for integrating businesses' commercial goals and public organizations' needs; 2) unsolved issues concerning rational risk sharing among PPP participants, considering possibilities and interests of every participant; 3) due to their long-term nature, concession agreements do not consider the factor of environment change; 4) lack of a unified and clear methodology for estimating economic effectiveness of PPP projects that are due in 20 years or more

(Kolesnikova K.I. Public-private partnership: European experience and prospects for Russia).

Despite the above-mentioned problems, business model based on PPP principles allows to release huge funds and accelerate social and economic development. It provides costly infrastructure of higher quality, uses private sector's funds and management expertise in investment management, and transfers a part of risk to private businesses.

Businesses get access to sectors that used to be completely public, which means new investment opportunities and direct dialogue with the government. Society, in its turn, benefits from optimal value for money, accelerated infrastructure development, and higher quality of public services.

This model is expected to play an important role in innovation field as well. This is especially relevant for Russia, as Program for social and economic development until 2020 includes the task of drastic economy modernization and creating new knowledge-intensive and technology-intensive industries.

Therefore, the major task in PPP development includes establishing institutes and effective models designed to strengthen public sector's managerial potential.

This research emphasizes advantages of a complex approach to studying PPP prospects. The author thinks that PPP infrastructure projects should consider benefits both for state and businesses. Based on a complex approach, the article contains key principles for PPP implementation that secure economic benefits for every participant.

PPP participants (state and businesses) should decide how to make the project:

-beneficial;

-competitive, i.e. more attractive compared to competitors' offers.

This task is suggested to be solved by using a game theory-based model.

Further, the research suggests a system of basic activities designed to deliver predicted economic effect from PPP projects. Suggested methods and technologies were defined in the course of analyzing existing systems of public management of PPP projects in European countries. Those systems were described by Jf. Delmon in his guide for policy makers. (Jf. Delmon. Public-private partnership in infrastructure: an essential guide for policy makers, 2010).

Successful development of public-private partnership in Russia requires applying foreign countries' experience in this field. This research considers examples of successful PPP project implementation and provides recommendations that can be used in the Russian context.

## 5. Results

Basic principles of public-private partnership and its functional mechanisms should create such environment, where every agreement concluded between business and state representatives brings them benefits  $\mathcal{O}_1$  and  $\mathcal{O}_2$  and is defined by a pair of numbers  $(\mathcal{O}_1, \mathcal{O}_2)$ .

Such an agreement can be presented as a point on the plane. The point  $\mathcal{O}_0 = (\mathcal{O}_1^0; \mathcal{O}_2^0)$  is called status quo and defines the benefits received by the parties if they refuse to sign the agreement.

Therefore, effectiveness of PPP agreement can be calculated via the following formula:

$$R = \frac{\max}{\mathcal{O} = (\mathcal{O}_1, \mathcal{O}_2) \in n} (\mathcal{O}_1 - \mathcal{O}_1^0) * (\mathcal{O}_2 - \mathcal{O}_2^0) \quad (1)$$

where R is PPP agreement effectiveness; n is a multitude of points that define all possible agreements;  $\mathcal{O}_1$  is a benefit for business 1, if the agreement is concluded;  $\mathcal{O}_2$  is a benefit for state 2, if the agreement is concluded;  $\mathcal{O}_1^0$  is a benefit for business 1 at status quo;  $\mathcal{O}_2^0$  is a benefit for state 2 at status quo.

The most effective agreement is the one that offers maximum benefit increments for PPP participants in comparison to status quo.

The estimation is performed in the following order:

- 1) make a list of potential schemes for PPP project implementation;
- 2) estimate each participant's result in points (benefit increments) by using the estimation scale;
- 3) choose optimal schemes that offer equal benefits for both participants;
- 4) choose n scheme with a maximum result for each participant.

Benefit offered at status quo  $\mathcal{O}^0$  is considered PPP project's significance for its participants. On the estimation

scale {1,5}, estimates are arranged as follows:

1-low significance; 2-significance below average; 3-average significance; 4-significance above average; 4-high significance.

$\vartheta^0$  can be also considered as opportunity costs {1,5} for the parties of this agreement.

Businesses evaluate the importance of a PPP agreement compared to alternative managerial decisions.

$\vartheta^1$  is a benefit received by the participants if they conclude the agreement:

1-low; 2-below average; 3-average; 4-above average; 5-high.

Precision of estimation depends on full consideration of objective factors measured by indices of economic effectiveness and subjective factors in the form of internal and external risks.

To estimate effectiveness of PPP mechanisms designed to develop infrastructure in countries and regions, the following recommendations prove useful:

-design alternative decisions  $P_0, P_1, P_2, P_3, P_4, P_i \dots P_n$ , where  $i$  is a decision number,  $n$ -number of alternatives,  $B_0$  -decision for inaction.

For every alternative decision, the following parameters are calculated: profitability index, net present value, and internal rate of return. For decision for inaction ( $P_0$ ), profitability index is 1, net present value is 0, and internal rate of return equals to return on investments, i.e. discount rate (Table 5).

Table 5. Scenarios of PPP project effectiveness

Alternative project	Profitability index		
	Pessimistic	Moderate	Optimistic
$P_0$	1.00	1.00	1.00
$P_1$	0.45	1.55	1.22
$P_2$	0.50	0.90	1.10
$P_3$	1.20	1.50	1.90
$P_4$	0.90	1.30	2.00

-calculate Hurwitz criterion (G):

$$G = \max_j \left\{ k \cdot \min_i a_{ij} + (1-k) \cdot \max_i a_{ij} \right\} \quad (2)$$

where  $a_{ij}$  is the benefit received when the participant makes decision  $i$  in situation  $j$ ;

$k$  is a coefficient ranging from 0 to 1;

if  $k=1$ , the participant acts expecting the worse.

Calculation results are presented in the form of a table for different  $k$  coefficients (Table 6). If the amount of risk  $k \in [0,5;0,75]$ , then  $P_3$  decision is considered the optimal one, according to Hurwitz criterion.

Table 6. Business's profit for different levels of risk

Alternative project	k				
	0.00	0.25	0.50	0.75	1.00
$P_0$	1	1	1	1	1
$P_1$	1.22	1.03	<b>0.835</b>	<b>0.64</b>	0.45
$P_2$	1.1	0.83	<b>0.8</b>	<b>0.65</b>	0.5
$P_3$	1.9	1.73	<u><b>1.55</b></u>	<b>1.37</b>	1.2
$P_4$	2	1.73	<b>1.45</b>	<b>1.17</b>	0.9

To estimate effectiveness of the decision made, we need to define its comparative effectiveness compared to the most effective, optimal decision by using the following formula:

$$C\Theta = P\phi / P\Theta \quad (3)$$

where  $C\Theta$  is comparative effectiveness of the decision made;

$P\phi$  is a maximum parameter (e.g. profitability index) of the optimal decision

$P\Theta$  is a maximum parameter (profitability index) of the decision made.

The closer comparative effectiveness  $C\Theta$  to 1, the more effective is the decision made.

Achieving maximum economic effect from public-private partnership requires taking the following systematic measures (Figure 3):

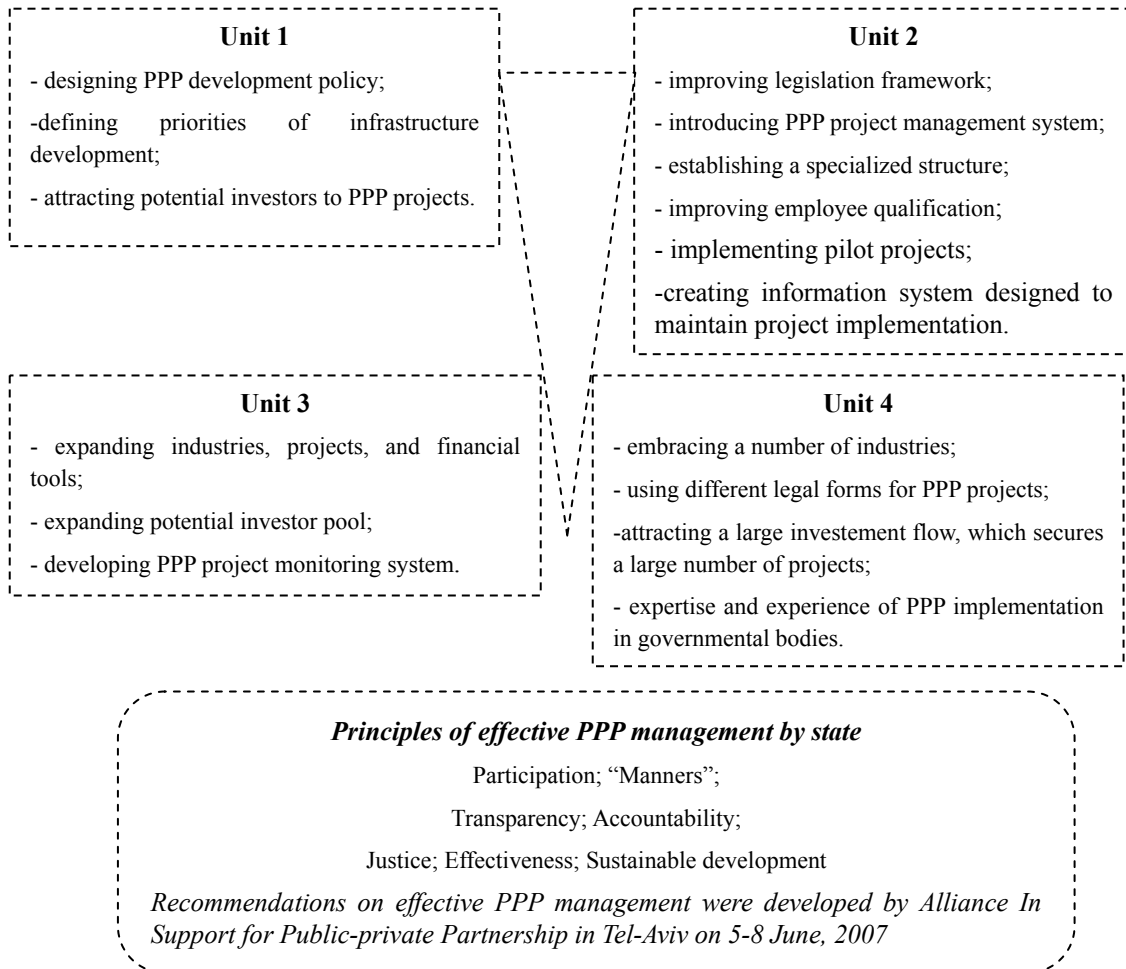


Figure 3. PPP state management system

Suggested measures can be successfully implemented within a complex system of PPP management by state.

Based on deep analysis of this system's elements, we designed five units of activities designed to develop PPP by using effective state management system.

**Institutional unit** within PPP management system includes the following activities: designing Concept For Public-private partnership development; designing a development plan for public-private partnership and a program for infrastructure project implementation; structural development of PPP management system.

**Project unit** within PPP management system includes the following activities: defining pilot directions for infrastructure development; initiating pilot projects; preparing and coordinating key parameters of PPP project implementation; organizing tenders; monitoring project implementation.

**Legislation unit** within PPP management system includes the following activities: analyzing legislation framework in subjects of the Russian Federation; developing legislation for PPP development and implementation.

**Educational unit** within PPP management system includes the following activities: raising level of proficiency and organizing educational workshops on PPP management at federal and local levels.

**Information unit** within PPP management system includes the following activities: analyzing information environment and creating information map of PPP projects; organizing effective information positioning of PPP projects at federal and regional levels.

Russia should consider Great Britain's experience, where public-private partnership is based on above-mentioned principles required for effective PPP management.

Further, Great Britain implements personnel training programs for public-private partnership, which also contributes to its development.

An important requirement for successful PPP development in Russia consists in attracting foreign experts. A qualified expert can provide support in a wide range of areas, including technical, legal, and financial fields, as well as project implementation monitoring.

The EU experience can be also applied for developing legislation framework for PPP.

EU legislation in general, and PPP legislation of its members in particular, differentiates between such categories as "infrastructure projects" and "public services."

The first category is regulated as concessions, while the second one-as public contracts. Therefore, government agencies use different criteria when initiating these projects or organizing tenders to find the best partner among private companies. Concessions are regulated by EC Treaty, while public contracts -by directions on public procurement.

Special economic zones and concessions are the most widely used PPP forms that have been successfully introduced in Russia's economy recently. Nevertheless, both state and business are increasingly attracted by other PPP forms used in Europe and are constantly improving legislation framework. (Public-private partnership in Russia: Project Funding Under International Competition.-M:KMPG, 2010).

At present, Russia is actively developing a legislation framework to regulate relationships between state and businesses within public-private partnership. Dominant industries for PPP project implementation are being defined. These include construction industry, public utilities and complex territory development. Public-private partnership in health care is at an early stage of its development.

In May, 2013 the government of the Russian Federation divulgated the resolution №377 from 27 April, 2013 that simplifies foreign companies' participation in PPP road construction projects.

## 6. Conclusions

Public-private partnership is recognized all over the world as an effective and flexible mechanism of attracting private business investments to socially-relevant and costly projects considered to be economy's driving force.

In Russia, various PPP forms still have to go through a difficult process of economic and legal development. Therefore, from a legal point of view, it is important to regard the state not only as a key regulator, but also as a representative and protector of public interests and needs, i.e. of public law.

Key requirements for PPP development both in Europe and Russia are:

- 1) Legislative and political environment -regulation body and legislative framework, stable political environment reflected in a single development strategy of the country.
- 2) Organizational structure implies creating an expert group, having competent personnel for project implementation monitoring, balanced regulation, which results in personnel consolidation, independence from external and internal factors.
- 3) Detailed business plan includes mission, optimal cost of project implementation, risk sharing scheme, dispute settlement procedure, labor resources development; plan must include goals and quantities characteristics.
- 4) Guaranteed cash flow for business structures means receiving money for using an object owned by a third party and opportunity of using unloaded assets.
- 5) Interested parties support implies employment in public sector, consideration of business and end user interests, which is achieved by an open dialog between the parties.
- 6) Careful partner selection includes estimating production capabilities, efficiency and time limits, investment and risk profitability, as well as considering experience, financial stability, political and legal environment.



7) Special communication platforms and events for Russian PPP participants to communicate and share experience with their foreign counterparts.

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