

JOURNAL   
of Applied Economic Sciences



Volume XI  
Issue 7(45) Winter 2016

ISSN-L 1843 - 6110  
ISSN 2393 - 5162

## Editorial Board

### Editor in Chief

PhD Professor Laura GAVRILĂ (formerly ȘTEFĂNESCU)

### Managing Editor

PhD Associate Professor Mădălina CONSTANTINESCU

### Executive Editor

PhD Professor Ion Viorel MATEI

### International Relations Responsible

PhD Pompiliu CONSTANTINESCU

### Proof – readers

PhD Ana-Maria TRANTESCU – *English*

### Redactors

PhD Cristiana BOGDĂNOIU

PhD Sorin DINCĂ

PhD Loredana VĂCĂRESCU-HOBEANU



European Research Center of Managerial Studies in Business Administration

<http://www.cesmaa.eu>

Email: [jaes\\_secretary@yahoo.com](mailto:jaes_secretary@yahoo.com)

Web: <http://cesmaa.eu/journals/jaes/index.php>

## Editorial Advisory Board

Claudiu ALBULESCU, University of Poitiers, France, West University of Timișoara, Romania

Aleksander ARISTOVNIK, Faculty of Administration, University of Ljubljana, Slovenia

Muhammad AZAM, School of Economics, Finance & Banking, College of Business, Universiti Utara, Malaysia

Cristina BARBU, Spiru Haret University, Romania

Christoph BARMEYER, Universität Passau, Germany

Amelia BĂDICĂ, University of Craiova, Romania

Gheorghe BICĂ, Spiru Haret University, Romania

Ana BOBÎRCĂ, Academy of Economic Science, Romania

Anca Mădălina BOGDAN, Spiru Haret University, Romania

Giacomo di FOGGIA, University of Milano-Bicocca, Italy

Jean-Paul GAERTNER, l'Institut Européen d'Etudes Commerciales Supérieures, France

Shankar GARGH, Editor in Chief of Advanced in Management, India

Emil GHIȚĂ, Spiru Haret University, Romania

Dragoș ILIE, Spiru Haret University, Romania

Cornel IONESCU, Institute of National Economy, Romanian Academy

Elena DOVAL, Spiru Haret University, Romania

Camelia DRAGOMIR, Spiru Haret University, Romania

Arvi KUURA, Pärnu College, University of Tartu, Estonia

Rajmund MIRDALA, Faculty of Economics, Technical University of Košice, Slovakia

Piotr MISZTAL, Technical University of Radom, Economic Department, Poland

Simona MOISE, Spiru Haret University, Romania

Mihail Cristian NEGULESCU, Spiru Haret University, Romania

Marco NOVARESE, University of Piemonte Orientale, Italy

Rajesh PILLANIA, Management Development Institute, India

Russell PITTMAN, International Technical Assistance Economic Analysis Group Antitrust Division, USA

Kreitz RACHEL PRICE, l'Institut Européen d'Etudes Commerciales Supérieures, France

Mohammad TARIQ INTEZAR, College of Business Administration Prince Sattam bin Abdul Aziz University (PSAU), Saudi Arabia

Andy ȘTEFĂNESCU, University of Craiova, Romania

Laura UNGUREANU, Spiru Haret University, Romania

Hans-Jürgen WEIßBACH, University of Applied Sciences - Frankfurt am Main, Germany

# JOURNAL

of Applied Economic Sciences

## *Journal of Applied Economic Sciences*

Journal of Applied Economic Sciences is a young economics and interdisciplinary research journal, aimed to publish articles and papers that should contribute to the development of both the theory and practice in the field of Economic Sciences.

The journal seeks to promote the best papers and researches in management, finance, accounting, marketing, informatics, decision/making theory, mathematical modelling, expert systems, decision system support, and knowledge representation. This topic may include the fields indicated above but are not limited to these.

Journal of Applied Economic Sciences be appeals for experienced and junior researchers, who are interested in one or more of the diverse areas covered by the journal. It is currently published quarterly in Spring (March), Summer (June), Fall (September) and Winter (December).

Journal of Applied Economic Sciences is indexed in SCOPUS [www.scopus.com](http://www.scopus.com), CEEOL [www.ceeol.org](http://www.ceeol.org), EBSCO [www.ebsco.com](http://www.ebsco.com), and RePEc [www.repec.org](http://www.repec.org) databases.

The journal will be available on-line and will be also being distributed to several universities, research institutes and libraries in Romania and abroad. To subscribe to this journal and receive the on-line/printed version, please send a request directly to [jaes\\_secretary@yahoo.com](mailto:jaes_secretary@yahoo.com).

# *Journal of Applied Economic Sciences*

ISSN-L 1843 - 6110

ISSN 2393 – 5162

## Table of Contents



1	<b>Maria Fedorovna MIZINTSEVA, Anna Romanovna SARDARIAN, Tatiana Vitalievna KOMAROVA, Tatiana Nikolaevna YAKUBOVA, Estalin Jose VERGARA</b> Human Resources in the Russian Federation: Assessment and Forecast of Development	1253
2	<b>Sunghee CHOI</b> The Role of Money Market Liquidity in Dynamics of Crude Oil Prices	1265
3	<b>Pavel A. AKSENOV, L.F. LEBEDEVA</b> Problems and Prospects of Russian Pension System: A Comparison with Organisation for Economic Cooperation and Development Countries Countries	1272
4	<b>Anna A. FEDCHENKO, Olga A. KOLESNIKOVA, Ekaterina S. DASHKOVA, Natalya V. DOROKHOVA</b> Methodological Approaches to Study of Informal Employment	1281
5	<b>Alžbeta SUHÁNYIOVÁ, Ladislav SUHÁNYI, Jaroslav KOREČKO</b> Analysis of the Wage Level Development in Slovakia and the Wage Gaps in the European Union	1290
6	<b>Izabella Damdinovna ELYAKOVA, Alexander Alekseevich PAKHOMOV, Vasiliy Romanovich DARBASOV, Elena Evgenyevna NOEVA, Alexander Lvovich ELYAKOV</b> Efficient Mechanisms of Oil and Gas Industry Development in the Northern Regions	1300
7	<b>Frantisek JANKE</b> The Link Between Trust and Prosperity	1311
8	<b>Victor Makarovich ZAYERNYUK, Irina Viktorovna MUKHOMOROVA, Elena Nikolaevna EGOROVA</b> Methodological Approaches to Identifying Parameters of Optimum Business Locations in the Regions of the Russian Federation	1319
9	<b>Sorina BOTIŞ</b> Is It Possible to Develop Islamic Finance in Western European Countries?	1332
10	<b>Sergei Mikhailovich VDOVIN, Tatiana Anatolyevna SALIMOVA, Nadezda Dmitrievna GOUSKOVA, Ivan Alexandrovich GORIN, Yuliana Yurevna SLUSHKINA</b> Assessment of Global Competitiveness: Stocktaking and Methodical Approaches	1341



11	<b>Carolina GUEVARA</b> Growth Agglomeration Effects in Spatially Interdependent Latin American Regions	1350
12	<b>Alimzhan KALDIYAROV, Daniyar Altaevich KALDIYAROV, Dmitry Sergeevich NARDIN, Svetlana Aleksandrovna NARDINA</b> Process Approach to Managing Real Investment Projects Focused on Import Substitution of Products	1368
13	<b>Ega Burhanuddin AZIZ NASRUDIN</b> Estimation Threshold Inflation in Indonesia	1380
14	<b>Aleksandr Mikhaylovich BATKOVSKIY, Alena Vladimirovna FOMINA, Elena Georgievna SEMENOVA, Evgeniy Yuryevich KHRUSTALEV, Oleg Evgenyevich KHRUSTALEV</b> Models and Methods for Evaluating Operational and Financial Reliability of High-Tech Enterprises	1384
15	<b>Martin VEJAČKA</b> Citizen Adoption of e Government in Slovakia	1395
16	<b>Anatoly Vladimirovich LUBSKY, Roman Anatolyevich LUBSKY, Natalya Igorevna CHERNOBROVKINA</b> Mental Programs and Models of Economic Behavior in the Russian Society	1405
17	<b>Petra RŮČKOVÁ</b> Impact of Selected Determinants on Capital Structure Management in Areas of Manufacturing and Services in Companies of Visegrad Group Countries	1413
18	<b>Innara R. LYAPINA, Svetlana A. IZMALKOVA, Elena A. SOTNIKOVA, Lyubov A CHAYKOVSKAYA, Elena V. SIBIRSKAYA</b> Sustainable Development of Large Entrepreneurial Structures in Competitive Environment	1427
19	<b>Yulia Ashumovna VLASOVA</b> Peculiarities of Formation of Regional Finance in Russia	1434



20	<b>Nikita E DEVYATAYKIN</b> Oil as a Financial Asset	1442
21	<b>Kewalin MALI, Sumalee SANTIPOLVUT, Rewat T HAMMA-APIROAM</b> The Emergence and Characteristics of Social Enterprise in Thailand	1457
22	<b>Haider MAHMOOD</b> Determinants of Bilateral Foreign Direct Investment Investment in Pakistan from Major Investing Countries: A Dynamic Panel Approach	1471
23	<b>Tatiana Grigorievna BONDARENKO, Ekaterina Anatolievna ISAEVA, Olga Aleksandrovna ZHDANOVA, Margarita Vasilievna PASHKOVSKAJA</b> Model of Formation of the Bank Deposit Base as an Active Method of Control Over the Bank Deposit Policy	1477
24	<b>Nina Aleksandrovna ORLOVA, Tatyana Aleksandrovna SHINDINA</b> Pricing and Estimation Aspects in the Construction Industry of Russia	1490
25	<b>Iveta KORBANIČOVÁ</b> The Role of Human Capital in the Creative Economy in the Košice Region	1496



# Efficient Mechanisms of Oil and Gas Industry Development in the Northern Regions

Izabella Damdinovna ELYAKOVA  
Institute of Finances and Economics of North-East Federal  
University Named after M.K. Ammosov, Yakutsk, Russia  
[izabella.elyakova@mail.ru](mailto:izabella.elyakova@mail.ru)

Alexander Alekseevich PAKHOMOV  
Department of Economic and Social Regional Researches  
Scientific Center of the Siberian Branch of Russian Academy of Sciences, Yakutsk, Russia  
[a.a.pakhomov@prez.ysn.ru](mailto:a.a.pakhomov@prez.ysn.ru)

Vasilii Romanovich DARBASOV  
Department of Economic and Social Regional Researches  
Scientific Center of the Siberian Branch of Russian Academy of Sciences, Yakutsk, Russia  
[vrdarbasov@mail.ru](mailto:vrdarbasov@mail.ru)

Elena Evgenyevna NOEVA  
Institute of Finances and Economics of North-East Federal  
University Named after M.K. Ammosov, Yakutsk, Russia  
[noevga@mail.ru](mailto:noevga@mail.ru)

Alexander Lvovich ELYAKOV  
Institute of Finances and Economics of North-East Federal  
University Named after M.K. Ammosov, Yakutsk, Russia  
[elyakov96@mail.ru](mailto:elyakov96@mail.ru)

## Abstract:

*The article is devoted to scientific study and analysis of mechanisms of development of the oil and gas industry in the region and assessment of their social and economic efficiency. The authors identified common trends in the global oil and gas industry, highlighted the characteristics of the development of oil and gas sector of foreign countries, determined the usefulness of the approaches used in international practice, including regulation of the industry by the state, tough stance in defending national interests, experience in optimization of taxation of oil and gas industry, investment of oil and gas revenues in the national economy. The novelty of the study consists in the formulated and substantiated for the first time general principles of elaboration of efficient financial and economic mechanisms of development of the oil and gas industry in the region: regulatory, tax and investment mechanisms ensuring the further long-term development of the oil and gas industry of the Republic of Sakha (Yakutia). Developed mechanisms are universal and can be applied in other oil and gas regions.*

**Keywords:** oil and gas industry, development mechanisms.

**JEL Classification:** G12, E31, O13, P18.

## 1. Introduction

Identification and study of the major issues and trends in the development of oil and gas markets of foreign countries that are competitors of Russia in the global oil and gas market, as well as the development trends of the global oil and gas industry as a whole, are a necessary condition for the formation of scientific concepts regarding the basic directions of increase of efficiency of functioning of modern Russian oil and gas industry as an integral part of the world industry.

Russian oil and gas industry management practices significantly differ from those used in foreign countries. For example, in countries with a liberal approach, private companies can develop deposits by themselves; direct state participation in oil and gas exploitation is absent or inconsiderable. Thus, it is reasonable to study the effective foreign experience in management and development of oil and gas market in order to use it in the Russian practice.

## 2. Literature review

The oil and gas industry is one of the most monopolized sectors. The USA energy policy is based on accelerated shale oil and gas production. Due to wide and active use of energy innovation (horizontal drilling and multi-stage hydraulic fracturing, three-dimensional modeling, and others) the country's hydrocarbon domestic

production growth has become very active. In the period from 2008 to 2013, the volume of hydrocarbon production from shale resources increased more than 4 times, and its share in the national production increased from 1/10 to 1/3, as a result, in the structure of the US oil consumption, the import share decreased from 56% to 47%, and gas import decreased from 13% to 6% (Ivanov 2015).

American oil and gas industry taxation experience is based on the rental approach. The main taxes of oil and gas companies in the US are rent payments, royalties, income tax, tax on gas production, fees for licenses, permits for drilling, laying of pipes, etc. (EY Global oil and gas tax guide 2015). At the same time, there is no mineral extraction tax (MET), which eases the profitability achievement. The main task of US tax policy is to stimulate subsoil users to maximize the oil and gas extraction in strict compliance with antitrust law. Thus, for small oil and gas companies the minimum rates are set, and they have a number of tax incentives and rebates. The large number of small oil refineries completely eliminates the problem of selling of crude oil extracted. For example, in Russia there are only 50, and in the US, there are more than 8000 small and medium-sized businesses in the oil industry (Korodyuk 2015).

Canadian system of subsoil use taxation is flexible: tax rates are regulated and there is a system of "tax holidays" and discounts. Royalties depend on oil prices, well capacity, oil quality, deposit types, extraction and transport costs, opening time. This mechanism encourages the search and exploration of new deposits and areas, increases in a consistent manner the efficiency of oil extraction. The oil production tax burden in the country is relatively high. Income tax is 40.8-45.8%, including federal tax: 28%, contributions to the provincial budget: 12.6-17.8% (Pavlenko 2013). The cumulative share of the state income from crude oil extraction, according to expert estimates consists 45-52%. Another major focus of regulation is the promotion of the domestic and foreign investment attraction.

The major oil-producing countries, oil export revenues are smoothly digested and absorbed by national economies and reallocated among the large population. In the Arab monarchies, the situation is different. Huge oil revenues have been absorbed by a small population (Bazaleva 2015). In terms of oil reserves, the Middle East is second to none. In recent decades, countries in the region have been among the top ten leaders of the world oil and gas production. Oil and gas industry is fully nationalized and controlled by the state through the state-owned oil companies.

The largest Middle East countries-oil exporters are very successful in the field of investment in the Western economy through targeted investments in the structure of multinational corporations and major international financial institutions (including the IBRD and the IMF). Gain from foreign investment is becoming an increasingly significant source of foreign exchange earnings (Bazaleva 2015). Thus, one of the strategic directions of the oil policy is the creation of the infrastructure of crude oil refining and marketing of petroleum products abroad through the acquisition of assets of foreign oil companies, which allows for efficient control over the full cycle of production, processing and marketing.

The experience of Norway is of practical interest: in this country, the oil and gas industry occupies the largest share in the structure of GDP, and is fully controlled by the state. Revenues from oil and gas industry in Norway come to the State Pension Fund, and then are invested in foreign securities. Norwegian Experience in optimization of taxation of oil and gas industry is a good example of the transition from the classical system to a taxation of financial results.

A strong point of the oil and gas complex of Norway is the selected management model, the main element of which has become the state regulation (Bazaleva 2015). The state originally developed an efficient program for the development of oil and gas complex; the correct objectives were set: national control and participation in oil projects, resource management rationality, high level of technological competence, long-term potential. Among the methods for achieving these goals, the following have been chosen: active attraction of foreign industry leaders and the rapid use of financial and intellectual resources for investment in crude oil production. Allowing foreign companies to get close to their reserves, Norway has obliged them to share their best technological practices and train local specialists. Also, multinational oil companies were required to contribute to the financing of the project engineering programs that enabled the country to solve a lot of research tasks (Bazaleva 2015).

Azieva considered foreign oil complex management experience: the author considered the practice of the use of various mechanisms of the oil and gas industry in various countries over a long time period. The history of the development of individual countries since the 1970s has been considered. The paper provides an overview of the current state of the oil and gas industry, but there was a little attention paid to the development of financial mechanisms (Azieva 2013).

In his works Ivanov analyzed oil and gas sector of the leading economies of the world, including the analysis of estimates on known oil and gas reserves, as well as the analysis of the dynamics of their prices. In general, this work is focused on the assessment of the current state of the global hydrocarbon energy and describes only the investment financial mechanisms of development (Ivanov 2015).

The works of Bazaleva considered regulatory mechanisms of development of Arctic deposits, and analyzed not only Russian but also foreign legislation. The article showed that in various foreign countries, the mechanisms of development of Arctic zone deposits are enshrined in legislation: for example, in Norway the revenues from oil and gas industry stimulate the Government Pension Fund of Norway, which makes both the state and the private sector to focus on the development of Arctic fields (Bazaleva 2015). For the moment, there are no such regulatory incentive mechanisms in Russia, but the author has offered several solutions.

Burutin (2013) considered the problem of taxation of the oil industry and its state regulation. The work describes the current problems of the oil industry taxation, its characteristics and has proposed the main directions for industry reforming, which can increase the cost-effectiveness of taxation, taking into account the focus on an optimal balance of interests of the state and subsoil users.

Gryaznukhina (2011) and Stepanova (2012) described the development prospects of oil and gas companies, taking into account peculiarities of the Republic of Sakha (Yakutia). The study analyzed the condition of the raw materials base of the Republic of Sakha (Yakutia), as well as its main problems, including the insufficient funding of geological exploration works.

In foreign literature, this issue has been widely discussed in the works by Bems and Filho Carvalho (2009), Espinoza and Senhadji (2011), Behar and Fouejieu (2016). These authors generally examined the impact of fiscal policy and the oil and gas sector refinancing rate. Also, the legislation of various countries having programs to support the oil and gas sector was considered. These works mainly describe the standard methods for the development and protection of the oil sector, but do not take into account the specifics of development of the Arctic and remote areas, which require special development mechanisms.

Thus, the approaches mentioned above are important for the further improvement of the oil and gas industry development mechanisms. These include the regulation of the industry by the state, tough stance in defending national interests, good practice of optimization of the oil and gas industry taxation, use of oil and gas revenues for the investment in the national economy, focus on innovative technologies, etc. The study and rational use of foreign experience will improve the efficiency of oil and gas complex of Russia.

The oil and gas sector of the economy is a complex economic combination of industries, which includes subsectors of exploration, preparation of deposits, oil and gas extraction, transportation and processing. At all stages of oil and gas selling, huge investments are requiring. Therefore, the main problem is the financing of these projects and the formation of efficient investment programs, which will require the development of efficient financial and economic development mechanisms.

### **3. Materials and methods**

The most important condition for sustainable development and increase of the oil and gas industry efficiency is the development of efficient management mechanisms, as well as their improvement. The financial and economic mechanism is a combination of different methods, principles and tools.

Methods of construction of efficient financial and economic mechanism of oil and gas industry are the specific techniques and methods by which some elements of the mechanism are practically implemented, and the relationship and links between its subjects are identified. The classification of methods of construction of financial and economic mechanism is shown in Figure 1. In practice, to achieve the maximum efficiency of the mechanism, an optimal combination of methods is required. In terms of regulation of the financial and economic mechanism of the oil and gas industry, the state policy is determined by the peculiarities of the region in which it is implemented.

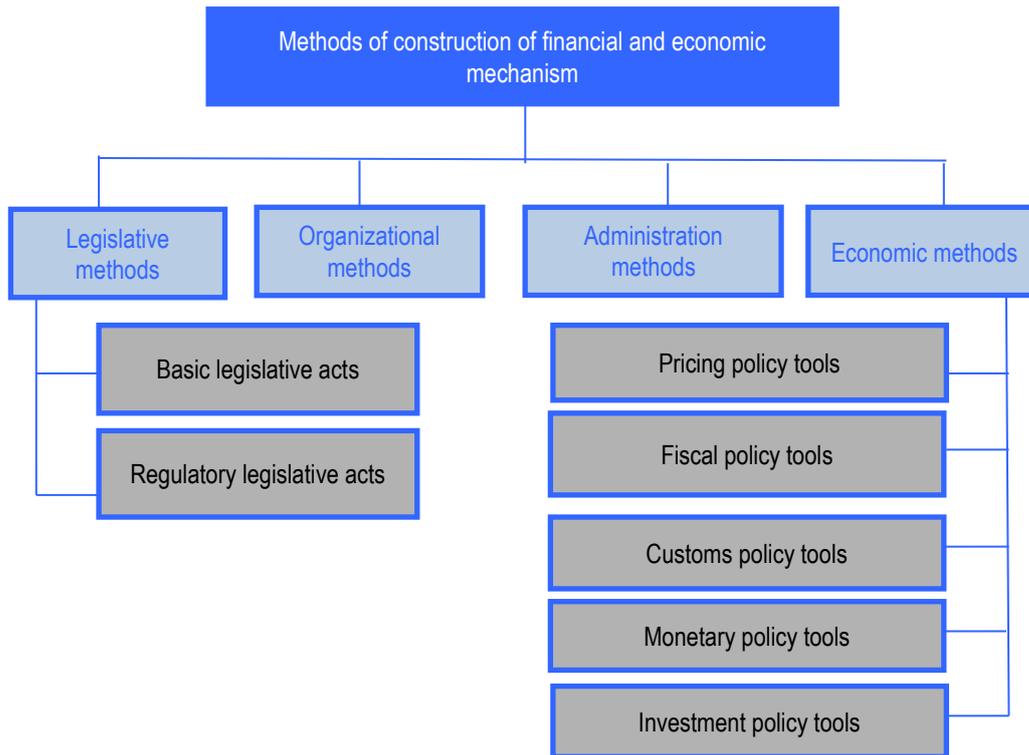


Figure 1 - Classification of methods of construction of financial and economic mechanism

Complex multi-level structure of the oil and gas sector, comprising the whole production and economic cycle from the geological exploration of oil and gas, development and production, transportation by pipeline networks to the end user, has identified a variety of different social relations that require complex legal regulation.

The legal framework of social relations in the oil and gas industry of the Russian Federation consists of the legislative acts general for all sectors of the economy, as well as of separate legal acts regulating specific aspects of relations. It should be noted that the gas industry is regulated by a special law containing uniform rules of legal regulation of the given sector: Federal Law "About gas supply in the Russian Federation", while there is no such laws in the oil industry.

Directions of development of oil and gas industry in the Republic of Sakha (Yakutia) have been defined till 2030 by the Energy Strategy of the Republic of Sakha (Yakutia) approved by the Resolution of the Government of the Republic of Sakha (Yakutia) on October 29, 2009 No.441. This strategic document is based on the strategic priorities of socio-economic development of the country, the provisions of the "Energy Strategy of Russia for the period till 2030"; it also takes into account the policy documents concerning the development of economy, fuel and energy complex of the Republic of Sakha (Yakutia), the Far East and Trans-Baikal area. The priorities include the creation of oil refining, gas processing and gas chemical industries and the implementation of the republican gasification program.

The main subsoil user's law that regulates organizational, legal, financial and economic aspects of subsoil use is the Law of the Russian Federation "On Mineral Wealth", adopted on February 21, 1992 that has been many times amended and modified since then.

Fiscal policy is a complex mechanism that is constantly changing for the state purposes. The complexity is also caused by and the fact that companies and individuals tend to seek a (legal) tax mitigation or (illegal) tax evasion. The Government has developed a wide range of mechanisms of acquisition of income from oil and gas sectors: from the nationalization of the oil and gas industry to the setting of tax rates (Kuzmin 2012). Taxation can be used as a mechanism to control the behavior of the market, companies, and influence the decision-making.

An important role in the system of financial and economic mechanism is played by investment. The main elements of the investment mechanism are: the market mechanism of regulation of investment activity of the enterprise; state legal regulation of investment activity; internal control mechanism, system of specific methods of investment activity control (Nikolaev 2014). There are many methods of construction of financial and economic mechanism implementing individual elements of mechanism, defining the relationship and links between its

subjects. In order to develop an efficient financial and economic mechanism, it is necessary to obtain the optimum combination of all methods and follow the principles stipulated and justified in this paragraph.

**4. Results and discussion**

The main results of the research are the development of financial and economic mechanisms: legal, tax, investment mechanisms, including the general principles of construction of financial and economic mechanisms formulated for the first time. Figure 2 represents the proposed general principles of construction of financial and economic mechanisms, distributed according to their importance and the degree of significance in relation to the financial and economic mechanisms. The proposed mechanisms are based on the alignment of the socio-economic interests of the population, economic entities, investors, consumers and the whole region. Problems identified in the field of legal regulation of the oil and gas industry require the improvement of legislation in the sphere of subsoil use and licensing system, that is, the oil and gas industry regulatory mechanism.

Table 1 of Appendix A shows the main deficiencies, regulatory mechanism for regulation of the oil and gas industry and the evaluation of the efficiency of the proposal regarding the modernization of the Law of the Russian Federation "On Subsurface Resources" of 21.02.1992 N 2395-1 (as revised on 13.07.2015 (as amended on 01.01.2016):

Thus, the proposed regulatory mechanism will ensure social and economic development of the region, increase the participation of the region in the development of oil and gas industry, and ensure environmental safety in the Republic of Sakha (Yakutia).

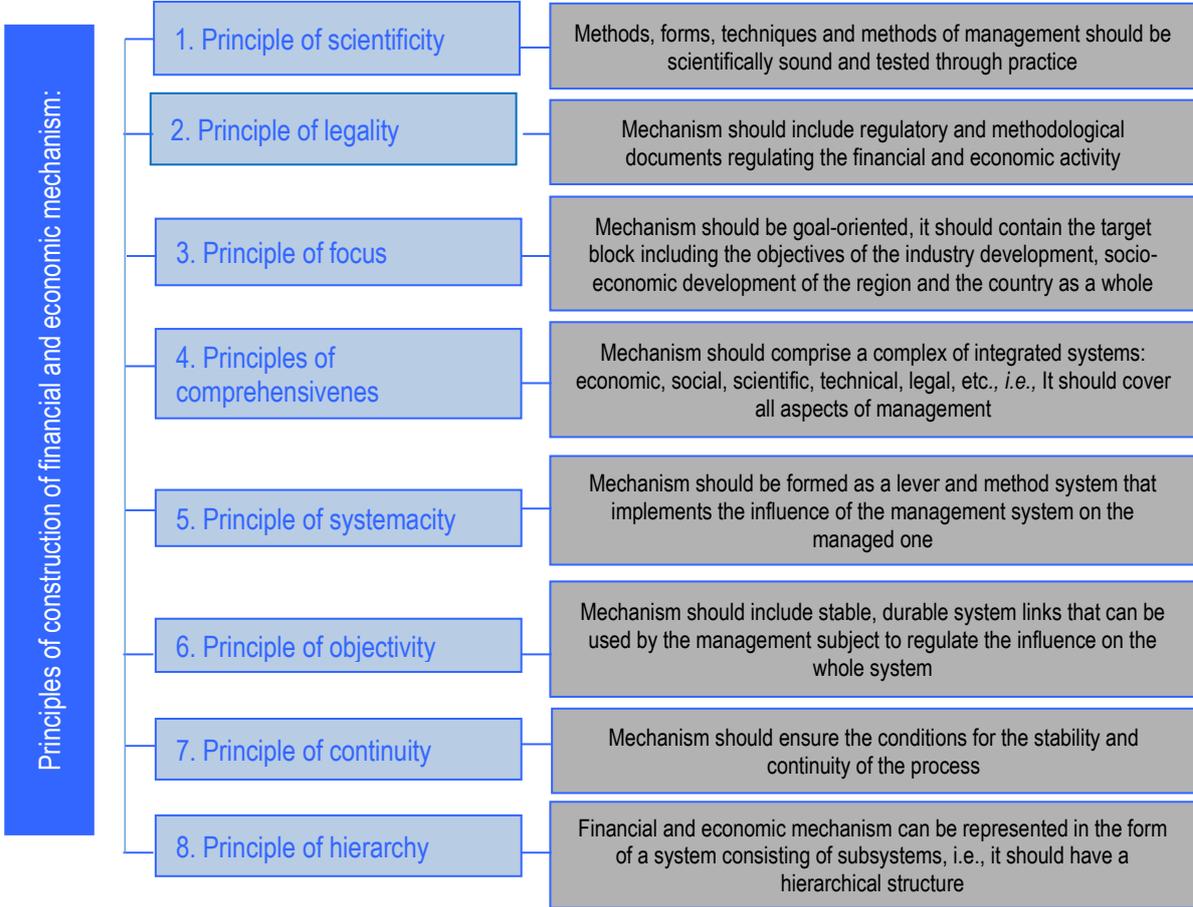


Figure 2 - General principles of construction of financial and economic mechanisms

Elaborated tax mechanism involves the transition from the MET to the tax system based on the financial result taxation (FRT), which will have a great influence on the entire oil and gas industry. Proposals on improvement of the tax mechanism are presented in Table 2 of Appendix A. We believe that when developing the oil and gas sector, attention should be given to the resolution of related issues, in particular, adjustment of the tax system so that it meets the interests of the specific regions. According to the results of the analysis of the existing tax system, most of the MET revenue goes to the federal budget and is returned in the form of grants or does not return at all.

At the same time, the tax on the extraction of oil and natural gas goes entirely to the federal budget, *i.e.* the Republic does not receive income from this tax.

Also, the analysis revealed significant problems in terms of the order of the MET calculation. Despite the modernization of the taxation legislation, the calculation of the MET on gas has become more complex and less transparent, and the calculation of the MET on oil is performed without account of a number of factors. Many experts believe that the MET has become obsolete and does not reflect the real situation on the market. MET is calculated from revenue, determined on the basis of the prices on raw materials, and, accordingly, the costs of the development and extraction of raw materials are taken into account. In addition to that, the movement of hydrocarbons to new regions, increased complexity of deposits and growing level of depletion of existing fields lead to a differentiation of costs of the development of different deposits, reduction of the profitability of investment projects and respectively to the augmentation of discounts. The fact that the current system has become obsolete is confirmed by almost annual review and the introduction of the lumped tax incentives for oil and gas producers.

In this case, it is important to study and adopt the foreign best practices. The experience of Norway and individual states in Canada is of interest, as they are widely using the financial result taxation in their fiscal systems. In addition, the Khanty-Mansiysk Autonomous Okrug came up with a proposal for transition to the taxation in the form of income tax from the crude oil sale.

Thus, this problem could be solved by the introduction of financial result tax (FRT), which would replace the MET. In contrast to the MET, which is calculated based on the volume and cost of the extracted raw materials, the FRT is calculated from the actual profits of the subsoil user from the sale of the extracted raw material. The essence of the FRT is that it will be imposed depending on the size of the company's profits with due account to the field development costs.

A significant part of funds of extractive industry companies is spent for exploration works requiring huge investments. By investing financial resources in the field exploration and development works, the companies shall pay the MET according to the volume of the extracted raw materials and as a result they are at a loss. Therefore, mining companies prefer not to take risks and get involved in proven reserve projects. Transition to the FRT-based taxation system will make it possible to take into account the dynamics of the world market conjuncture and field development economics, thereby will stimulate the development of both old and new fields. The FRT tax base is the difference between income from the sale of raw materials and the costs associated with their production, storage, delivery and capital costs. Tax rates for existing fields and new projects should be differentiated. For a new field, the progressive taxation can be applied depending on the project profitability.

Thus, the proposed tax mechanism will significantly reduce the tax burden on enterprises, since, unlike in the case with MET, it will take into account not only the volume of extracted raw materials, but also its production costs. Thus, it will stimulate the development of small and medium enterprises in the oil and gas industry, as in the initial stages of investment activities, they will not bear the tax burden and it will increase the level of competition and reduce the degree of monopolization in the industry.

Also, one of the main advantages of the introduction of this mechanism is the incoming of the tax revenue not only to the federal budget, as in the case of the current taxation system, but also to the regional one. Thus, the republic will receive funds for the development of the local oil and gas industry, the construction of the necessary infrastructure, the implementation of deposit development investment projects, the allocation of funds to the state gas infrastructure development program.

In order to form the Yakutia gas center, there is an increasing need to create in Yakutia a favorable investment climate in the oil and gas industry. To do this, it is important to create a self-sufficient and self-developing investment infrastructure. The assessment of the financial support of investment programs of the oil and gas industry of the Republic of Sakha (Yakutia) has shown that there are problems concerning both internal and external sources of finance.

Internal sources of financing, which are the main source of financial support, are generated by means of the tariffs for transportation of natural gas through long-distance gas distribution pipelines. Prescribed rates are subject to state regulation. Attraction of investment resources is complicated by the fact that the company carries out activities related to the socio-oriented ones: gasification of settlements in which the population and the amount of payments for supplied gas do not provide a lossless basis for local network services.

Thus, the need for an efficient mechanism of financial backing, in other words, the investment mechanism, which would ensure the flow of funds for investment projects, is quite justified. Designed investment mechanism of development of the oil and gas industry of the republic implies the creation of the investment fund of development

and modernization of the oil and gas industry of the Republic of Sakha (Yakutia), which would significantly expand the investment project financing.

The purpose of the creation of the oil and gas industry investment fund is to attract long-term extra-budgetary investments for realization of investment projects on development and modernization of the oil and gas industry in the republic. In order to attract long-term investments, it is necessary to use state guarantees of the Republic of Sakha (Yakutia), the collateral of the state property of the Republic of Sakha (Yakutia), the assets of oil and gas companies and long-term investment project objects.

Planning and control of the activities of the oil and gas industry investment fund of the Republic of Sakha (Yakutia) shall be carried out by the Government of the Russian Federation, the Ministry of Industry and Trade of the Russian Federation, the Government of the Republic of Sakha (Yakutia), the Ministry of Industry of the Republic of Sakha (Yakutia), the Ministry of Economy of the Republic of Sakha (Yakutia). Resources of the fund shall be used solely for investments in development and modernization of the oil and gas industry of the republic. That is, the creation of an investment fund of oil and gas industry of the Republic of Sakha (Yakutia) involves targeted use of funds.

Creation of an oil and gas industry investment fund will significantly expand the financing of investment projects in the industry. Potential sources of funding will be the following:

- Oil and gas companies own resources: depreciation allowances, net income, investment allowances, etc.
- Borrowed funds: bank loans, loans of financial institutions, foreign investors, etc., attraction of funds of individuals and legal entities on the terms of co-financing of investment projects; trade credit.
- Budget funds: public investments within the framework of the state program of gasification of settlements and gas supply securing in the Republic of Sakha (Yakutia).
- "RIC" JSC as an instrument of direct financing of investment projects.

The proposed scheme of financing sources and the modernization of the oil and gas industry of the Republic of Sakha (Yakutia) is shown in Figure 3.

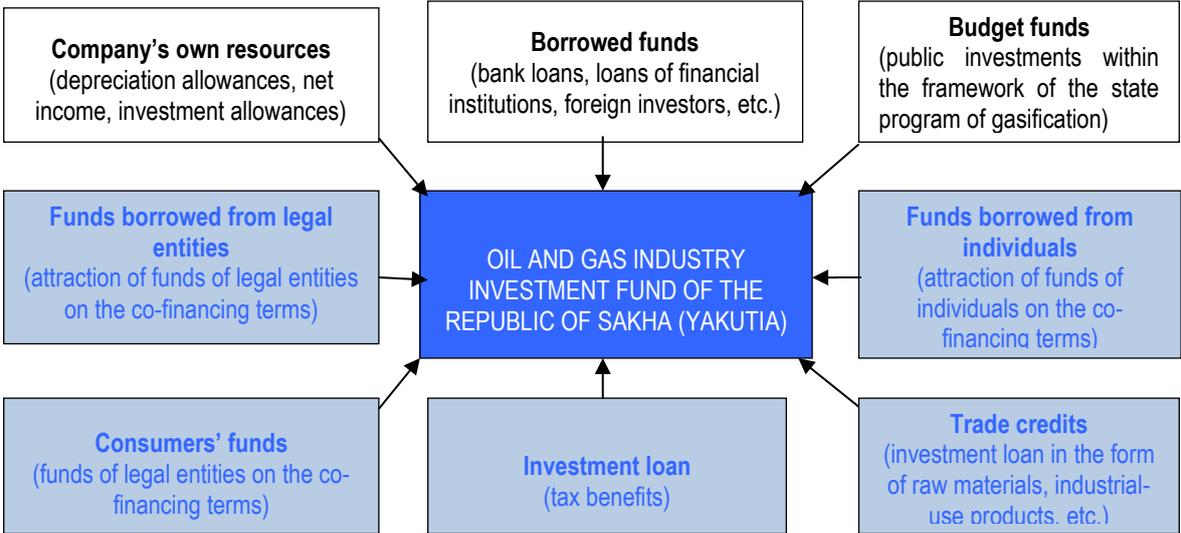


Figure 3 - The proposed scheme of sources of financing and modernization of the oil and gas industry of the Republic of Sakha (Yakutia)

Proposals regarding the development of efficient investment mechanism and the expected effect are shown in Table 3 of Appendix A.

Thus, the implementation of the developed investment mechanism will create a favorable investment climate in the oil and gas industry of the republic and increase the investment attractiveness of the industry. The performed gasification of settlements of the republic will increase the welfare of the population in rural areas and will improve working conditions, etc. In the longer term, the attraction of additional investment resources through the creation of the Investment Fund will make it possible to carry out projects on oil and gas processing plants construction.

By means of the proposed financial and economic mechanisms, the problems identified during the study of the problem will be eliminated and the long-term future development of the oil and gas industry of the Republic of Sakha (Yakutia) will be secured. The proposed financial and economic mechanisms of development of the oil and

gas industry of the Republic of Sakha (Yakutia) will contribute to the long-term and perspective development of the industry and the republic as a whole will create the conditions for the functioning of small and medium enterprises and will increase the level of competitiveness in the industry. At the same time, the proposed mechanisms take into account the socio-economic interests of the population, economic agents, investors and the whole region. Thus, the developed mechanisms will produce both economic and social positive effects.

In general, we can conclude that the developed mechanisms are efficacious. Their implementation will ensure the development of the industry, as well as socio-economic development of the republic as a whole. As shown by the analysis, the existing mechanisms are quite outdated and do not meet the requirements of the modern economy. We propose the financial and economic mechanisms, including the regulatory, tax and investment mechanisms that meet the requirements of the oil and gas industry existing in the country and the republic. These mechanisms are universal and can be applied in other oil and gas regions of the country.

## Conclusion

Thus, based on the result of the research we can formulate the following conclusions:

- The study of theoretical and methodological approaches of financial and economic mechanisms of development of oil and gas industry has shown that at the moment the problem of the development of efficient financial and economic mechanisms in the region's oil and gas industry is understudied.
- The study of foreign experience of development of oil and gas industry has identified common trends in the global oil and gas industry development, highlighted the characteristics of the development of oil and gas sector of foreign countries, determined the relevance of approaches used in international practice, including the regulation of the industry by the state, tough stance in defending national interests, experience in optimization of taxation of oil and gas industry, use of oil and gas revenues for investments in the national economy, etc.
- The authors have identified the deficiencies of the Russian legislation in the sphere of subsoil use and licensing system, the imperfection of the current tax system regarding the oil and gas industry, the lack of efficient investment mechanism. Within this framework, the necessity of the development of economic and financial mechanisms for the development of oil and gas industry in the Republic of Sakha (Yakutia) has been justified.
- On the basis of the theoretical approaches of financial and economic mechanisms of the oil and gas development, the authors have formulated and substantiated general principles of financial and economic mechanisms.
- The following financial and economic mechanisms of development of oil and gas industry have been developed: regulatory, tax, investment mechanisms by which the long-term further development of the oil and gas industry of the Republic of Sakha (Yakutia) will be secured. The assessment of the efficiency of the developed mechanisms has shown that they will produce positive economic and social effect. Developed mechanisms are universal and can be applied in other oil and gas regions.

## References

- [1] Alveberg, L.J. 2013. (Ed.) *Facts the Norwegian Petroleum Sector*. Norway: Norwegian Ministry of Petroleum and Energy, Norwegian Petroleum Directorate. Available at: [http://www.npd.no/Global/Engelsk/3-Publications/Facts/Facts2013/FACTS\\_2013.pdf](http://www.npd.no/Global/Engelsk/3-Publications/Facts/Facts2013/FACTS_2013.pdf)
- [2] Azieva, R.K. 2013. Foreign oil complex management experience. *Young Scientist*. 3: 189-195.
- [3] Bazaleva, R.V. 2015. Foreign and Russian regulatory framework of development of Arctic deposits. *Petroleum Engineering*, 4.
- [4] Behar, A. and Fouejieu, A. 2016. *External Adjustment in Oil Exporters: The Role of Fiscal Policy and the Exchange Rate*, IMF Working Paper WP/16/107.
- [5] Bems, R. and Carvalho, I. Filho. 2009. *Exchange Rate Assessments: Methodologies for Oil Exporting Countries*, IMF Working paper WP/09/281.
- [6] Burutin, V.V. 2013. Issues of taxation of the oil industry and state regulation of its development. *Bulletin of the Saratov State Socio-Economic University*, 3.
- [7] Espinoza, R. and Senhadji, A. 2011. *How Strong is Fiscal Multipliers in the GCC? An Empirical Investigation*, IMF Working Paper WP/11/61.

- [8] Gryaznukhina-Stepanova, V.R. 2011. Problems and features of subsurface use in the oil and gas sector of the Republic of Sakha (Yakutia). *Issues of the Modern Economy*, 3: 222-225.
- [9] Gryaznukhina-Stepanova, V.R. 2012. Analysis of the raw material base and prospects of development of oil and gas production industry in the Republic of Sakha (Yakutia). *Petroleum geology. Theory and Practice*, 7(3).
- [10] Ivanov, A.S. 2015. Global energetics at the turn of the year 2015 under the pressure of hardening factors. *Drilling and Oil*. 01: 8-17.
- [11] Korodyuk, I.S. 2015. Problems of application of foreign experience in state regulation of the oil and gas complex of Russia. *Bulletin of Irkutsk State Economic Academy*. 25 (1): 103-109.
- [12] Kuzmin, T.G. 2012. *The economy of the investment project in the oil and gas industry: tutorial*. Tomsk Polytechnic University. Tomsk: Tomsk Polytechnic University Press.
- [13] Nikolaev, M.A. 2014. Methodology of the construction of mechanism of control of investment activity in the region. *Bulletin of the Pskov State University. Series: Economic and Technical Sciences*, 4.
- [14] Pavlenko, V.I. 2013. Regulation of the sphere of subsoil use in the Arctic countries (USA, Canada, Norway). *Arctic: Ecology and Economy*, 3: 50-57.
- \*\*\* Act relating to petroleum activities: Act of 29 November 1996 No. 72, Section 3-3. Norwegian Petroleum Directorate. Available at URL: <http://www.npd.no/en/Regulations/Acts/Petroleum-activities-act/>.
- \*\*\* Circum-Arctic Resource Appraisal: Estimates of Undiscovered Oil and Gas North of the Arctic Circle. 2008. Menlo Park: U.S. Geological Survey. Available at: <https://pubs.usgs.gov/fs/2008/3049/fs2008-3049.pdf>.
- \*\*\* EY Global oil and gas tax guide 2015. [Electronic resource]. Accessed at: [http://www.ey.com/Publication/vwLUAssets/EY-2015-Global-oil-and-gas-tax-guide/\\$FILE/EY-2015-Global-oil-and-gas-tax-guide.pdf](http://www.ey.com/Publication/vwLUAssets/EY-2015-Global-oil-and-gas-tax-guide/$FILE/EY-2015-Global-oil-and-gas-tax-guide.pdf)
- \*\*\* Licensing rounds on the Norwegian Continental Shelf. Norwegian Petroleum Directorate. Available at: URL: <http://www.npd.no/en/Topics/Production-licences/Theme-articles/Licensing-rounds/>
- \*\*\* *Petroleum Resources on the Norwegian Continental Shelf*. 2013. Stavanger: Norwegian Petroleum Directorate.

## Appendix A

Table 1 - Regulatory mechanism of regulation of the oil and gas industry and the estimation of its efficiency

Problems	Proposed mechanism	Expected effect
The Law of the Russian Federation "On Subsurface Resources" of 21.02.1992 N 2395-1 (as revised on 13.07.2015 (as amended on 01.01.2016): - does not provide direct regulations requiring subsoil user to participate in socio-economic development of the areas in which the subsoil is developed	Amendment of article 12 of the Law of the Russian Federation "On Subsurface Resources", providing for the conclusion of an agreement between the subsoil user and the state authorities of the RF territorial entities and municipalities on participation in the socio-economic development of the territories, including the specification of the obligations of the subsoil user relating to his participation in socio-economic development of the territory	Ensuring the socio-economic development of the territory, in which the development of subsurface resources is carried out, including economic development, employment rate growth and human well-being improvement, development of social and transport infrastructure.
- does provide for tax revenues for the budget of the RF territorial entity, in which the activities are carried out, many enterprises are registered outside the Republic of Sakha (Yakutia)	Addition of the clause about transfer of the ownership of a part of federal property (the main oil pipelines) to regions in order to generate the financial resources of the Investment Fund	More active participation of the republic in the development of oil and gas industry
- the norms for preliminary approval of the land allocation prior auctions have been withdrawn, subsurface lands are located mainly on forestry fund lands, i.e. within the federal property, and acquisition of land of other owners, users is carried out without their participation	Addition of the principle of differentiation of subsoil plots of federal and regional significance	More active participation of the republic in the development of oil and gas industry
- regions do not have the right to control the allocation of the licensed areas for the development and production of various fossils	Restoration of the principle of joint jurisdiction regarding the subsoil plots with the delegation of some powers in the field of subsoil use concerning small fields to the regions	Delegation of authority to control the licensed areas
- tenders for the right to use subsurface area of federal significance may be carried out only in the form of auction	Granting the license for subsoil use on the basis of competition, rather than auction	Possibility to choose a subsoil user with the best characteristics, technology and the environment protection

Source: compiled by the authors

Table 2. Tax mechanism of development of the oil and gas industry and the estimation of its efficiency

Problems	Proposed mechanism	Expected effect
<ul style="list-style-type: none"> <li>▪ The whole tax revenue from on oil and natural gas goes to the federal budget (lack of revenues to the regional budget)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Introduction of a financial result tax (FRT), which will replace the MET and will enable the flow of revenue to both the federal and regional budgets (following the example of the income tax)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Simplification of the administration of the current tax system, reduction of the number of lumped privileges and preferences;</li> <li>▪ Increase in tax revenues to the consolidated budget of the Russian Federation from the highly profitable oil and gas fields;</li> <li>▪ Flow of revenue to both the federal and regional budgets;</li> <li>▪ Creation of fiscal stability, as the tight oil field commerciality will be secured even in case of low world prices, so, the tax will carry out not only fiscal function (as the MET does) but also stimulating one (FRT will stimulate subsoil users to extract tight oil);</li> </ul>
<ul style="list-style-type: none"> <li>▪ MET on oil does not takes into account the quality of raw materials, the complexity of the extraction of raw materials and the degree of depletion of deposits</li> </ul>	<ul style="list-style-type: none"> <li>▪ It is necessary to add to the Tax Code a clause on the differentiation of deposits according to the degree of depletion of fields, the complexity of raw material extraction conditions and the quality of the extracted raw material</li> </ul>	
<ul style="list-style-type: none"> <li>▪ MET on gas and gas condensate is unfixed (it is difficult for companies to forecast their budget and expenses), has a complex and</li> </ul>	<ul style="list-style-type: none"> <li>▪ For the FRT taxation base it is necessary to use the difference between the income from the sale of raw materials and the cost of their production. Thus, the FRT will take into account the expenses</li> </ul>	

Problems	Proposed mechanism	Expected effect
non-transparent calculating procedure (information on many parameters is confidential, and their calculation is carried out by subsoil users themselves)	incurred by subsoil users during the extraction of raw materials and the amount of FRT payments will directly depend on the amount of raw materials extracted in a particular field within a particular period. For new and old deposits, the tax rate will be lower than in the case of the MET. Bigger amount of production will lead to a bigger contribution to the budget.	<ul style="list-style-type: none"> <li>Creation of additional incentives for holes drilling, as FRT will make it possible to halve the payback period for investments in field development, that will ultimately increase revenues comparing to the situation with MET;</li> <li>Possibility to take into account changes in production conditions in the process of exploitation of the deposit, i.e., its depletion (the tax gets decreased according to deposits depletion);</li> <li>Possibility to respond to changes in external economic conditions of production - the world prices (the lower the selling price is, the lower the tax is, and vice versa);</li> <li>Possibility to accurately predict the efficiency of investment projects, because it is a calculated value.</li> </ul>
<ul style="list-style-type: none"> <li>It does not take into account the profitability of the objects, which creates prerequisites for bankruptcy or absorption of small and medium-sized producing companies by large ones</li> </ul>	<ul style="list-style-type: none"> <li>FRT tax rate should be determined depending on the profitability</li> </ul>	

Source: compiled by the authors

Table 3 - Investment mechanism of development of the oil and gas industry and evaluation of its efficiency

Problems	Proposed mechanism	Expected effect
<ul style="list-style-type: none"> <li>Insufficient financial resources for the implementation of the investment program of development of oil and gas industry</li> <li>Attraction of investment resources is complicated by the fact that the company carries out activities related to the socio-oriented activities</li> </ul>	<ul style="list-style-type: none"> <li>Creation of the Investment Fund of Development and Modernization of the Oil and Gas Industry of the Republic of Sakha (Yakutia), the sources of funding of which will be: <ul style="list-style-type: none"> <li>Internal resources of oil and gas companies;</li> <li>Borrowings: - Bank loans, loans of credit and financial institutions, foreign investors, etc.; - attracted funds of individuals and entities on the terms of co-financing of investment projects; - trade credit.</li> <li>Budget funds: public investment in the framework of the state program of gasification of settlements gas supply securing in the Republic of Sakha (Yakutia)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Ensuring the long-term and perspective development of the oil and gas industry of the Republic of Sakha (Yakutia);</li> <li>Creating a favorable investment climate in the oil and gas industry of the Republic of Sakha (Yakutia);</li> <li>Ensuring a high-quality implementation of the state plan for the gasification of settlements and ensuring the reliability of gas supply of the Republic of Sakha (Yakutia), aimed at improving the level and quality of life, working conditions, improving the ecological environment, securing the reliability of operation of the gas transport system and settlements energy supply;</li> <li>Ensuring financing of investment projects of oil and gas industry of the Republic of Sakha (Yakutia), including the development of fields;</li> <li>Expanded financing of geological exploration works;</li> <li>Possibility to establish local oil and gas processing facilities on the territory of the Republic of Sakha (Yakutia)</li> </ul>
<ul style="list-style-type: none"> <li>Due to the fact that the profit is generated by means of the tariffs for transportation of natural gas established by the government, the internal sources of financing are directly dependent on government regulation.</li> </ul>		

Source: compiled by the authors

**JOURNAL**   
of Applied Economic Sciences

ISSN 2393 – 5162

ISSN - L 1843-6110