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## **RENT-SEEKING BEHAVIOR STRATEGY IN THE SPHERE OF SUBSOIL AND CONCEPTUAL APPROACHES TO THE MODELING OF THE OPTIMUM SIZE IN REMOVAL OF RENTS**

In the article the conceptual provisions determine the optimal rate of rent payments in subsoil use. Is paid attention to analysis hypothesis of rent relations. Developed alternative definitions rate rent payments based on basics criterions. It is substantiated that the realization of rental relations with the rent-oriented strategy of the behavior of mining and processing enterprises has a certain specificity, which is due to the tight limited availability of mineral resources, the use of differentiated in terms of natural wealth and component composition of the areas of technological extraction, heterogeneity and inelasticity of supply, institutionalization of access control to them based on the specification of property rights and their sound distribution.

**Key words:** rent, rent-seeking behavior, strategy, criterias, optimal rate, alternatives.

**Formulation of the problem.** Consideration of the problem of creating a coherent, consistent, logical, transparent economic mechanism of subsoil use, taking into account the possible solution of emerging economic contradictions between subjects of rental relations is considered in the context of rent-oriented behavior of each of them. Protecting the environment, increasing the efficiency of the technological process in the enrichment of mined ore - are a priority for any country on the territory of which the extraction and enrichment of minerals is conducted. Ukraine has significant deposits of minerals in state ownership (for the expert opinion, the variability of the natural resources of Ukraine can be estimated at 5 trillion US dollars [1, p. 28].

Accordingly, the resolution of questions about the appointment of rental rates, the withdrawal of rental income, distribution and redistribution requires the development of approaches to optimize their withdrawal to the state's revenue.

Transformation of the existing institutional framework in Ukraine encourages theoretical study and practical application of reasonable development strategy is rent-

seeking behavior of rent relations and determine the methodology for modeling the optimal size of rental payments in subsoil use.

**Analysis of recent research and publications.** Features current research devoted to rent seeking consideration of the issue of "resource curse" and its negative impact on economic growth [2]; problems and prospects of overcoming the crisis [3]; institutional relationship traps and rent seeking under public choice theory [4]; problems of overcoming the crisis by means of the formation of the national innovation system [5]; problems of content and evolution of the new economy, its basic types and avant-garde nature of the new economy of post-industrial type [6], but consideration of rent-seeking behavior strategies rental business relations and determine the optimal size of the withdrawal of rents remains outside attention.

**The purpose of the article.** The article is to examine the theoretical and methodological legacy and evolution of rent and rent relations, to ascertain the nature and development of rent-hypotheses, conceptual approach to determine the optimal amount of rent extraction.

**Presenting of the main material.** Theoretical and methodological heritage and continued studying the evolution of rent and rent relations can distinguish four basic stages of its development, namely:

Stage 1 - establishment and development of the theory of rent and rent relations was part of classical economics (William Petty, Francois Quesnay, Adam Smith, David Ricardo, Tomas Malthus etc.).

Stage 2 - the formation and development of Marxist theory of rent (Karl Marx, Friedrich Engels and their followers).

Stage 3 - development and testing of the neoclassical directly address the problems concerning rent relations on the theoretical basis of "economic rent" and "quasi-rent" (Alfred Marshall).

Stage 4 - research and development in the tradition of "institutional rent theory" (Bruce L. Benson, John Buchanan, Gordon Tullock et al.) Has led to the expansion of the list of subjects of rent relations, types of rent and conceptual positions rent seeking, aimed at "rent seeking."

Modern researchers rents, rent relations, rent seeking (V. Avtonomov, V. Bazylevych, A. Gritsenko, V. Dementyev, D. Erhin, A. Zaoztrovstev and others) pay attention to the problems of assignment of rent developing mechanisms for its removal, specific appearance and existence in rent with rent-seeking behavior, but despite advances in modern economic theory a number of fundamental and important issues remain outside attention, namely strategic approach to the determination of withdrawal (or anti-handling devices) rent s payments principles of formation of rent-seeking behavior strategies of enterprises, negotiation and calculation of differential rent I and differential rent II at work on prey and mineral.

In today's world rent relations cover almost all spheres of life, permeate the production, distribution, exchange and consumption, create conditions and sources of rental income from rent seeking in the:

- short run;
- medium run;
- long run.

S. Burlutsky and S. Burlutskaya consideration offered 4 hypotheses about rent [2]:

1. The source of rents in the short term is no-reproduction capital.
2. Combine together of capital in the financial-industrial groups provides extraction of rents in high cost debt.
3. The condition of economic rent is inadequate a national compensation and the absence of expanded reproduction of human capital.
4. The condition of extracting the absolute form of economic rent is relatively low organic composition of capital.

We believe that the implementation of rent relations in the rent-seeking behavior strategies mining companies have certain characteristics associated with strict limits for mineral resources, differentiated by the use of natural resources and the component composition technology areas of production, heterogeneity and inelastic supply, institutionalization access control to them based on the specification of property rights and their reasonable distribution.

We can not agree with the conclusions of the authors that rent seeking "reduced economic growth" [2, 47].

Rent can be motivating factor in the development if correctly estimate the number of payments each economically active subsoil and take into account the natural geographical and component composition of each plot. We believe that the development of a conceptual scheme of extracting rent payments need to find the optimum of these payments.

During the long history of solving these problems has developed a considerable number of techniques and methods of calculating rent. However, none of the presented approach does not allow to find optimum specific payments. That's why we spend calculating the amount of rent payments for subsoil use based on the existing set of alternatives bid rent payments based on the selection of certain criteria that correspond to known the basic principles of developing any strategy, namely:

- of multiple and adaptability;
- consistency and balance;
- consistency and hierarchy;
- continuity;
- scientific and technical feasibility;

- feasibility and distance;
- effectiveness and social orientation;
- quantitative and qualitative certainty;
- sustainability measures.

The existence of a conflict of economic interests between the state and business tenants on the distribution of mineral resources rent payments and determine the optimal rate of rent payments require research and forming a plurality of alternative rates of rent for subsoil use and choice of evaluation criteria with regard to completeness, independence, existed contradictions and limitations.

Royalties for use of subsoil for the extraction of oil, condensate, natural gas, iron ore under paragraph 252.20 of Article 252 of the Tax Code of Ukraine. For example, iron ore rate is set of 8.0 % of the cost of iron ore concentrate and marked "1" sets the application the factor equal proportion of iron in commodity production (p. 252.20 Art. 252 in the Tax Code of Ukraine).

Search optimum in balancing rent relations and general business taxation leads to a search version modeling, depending on the nature of the external environment on the scale of "negative- indifferent - positive" impact.

The idea is that an increase in the effective rate of rent payments 5 times (ie 500%) the existence of mining and processing industry can result in complete collapse, and declared in law unable to pay outstanding debts.

The list of alternatives that we believe should be considered in the range of 500% in increments of 20% in both directions and constraints in the absence of rent from the current rental rates. Obtain the following list of alternatives for analysis (Table. 1).

Twenty-six options listed above is analyzed by the following criteria:

1. The rent liability (accrued).
2. Paid rent obligations.
3. Value-added tax paid.
4. Income taxes paid.
5. The income tax (withheld).
6. Single Social Tax.
7. Income from operations.
8. Income received in foreign currency.
9. The average number of employees.
10. The fate of Ukraine in the world market.
11. Ecological consequences.
12. The social consequences.
13. The saturation of the local budget.
14. The standard of living.

**Alternatives in analysis of rental rates for mining companies**

a	$\kappa Ma$	Expression	Alternatives
1	5	$5 * x =$	5x
2	4,8	$4,8 * x =$	4,8x
3	4,6	$4,6 * x =$	4,6x
4	4,4	$4,4 * x =$	4,4x
5	4,2	$4,2 * x =$	4,2x
6	4	$4 * x =$	4x
7	3,8	$3,8 * x =$	3,8x
8	3,6	$3,6 * x =$	3,6x
9	3,4	$3,4 * x =$	3,4x
10	3,2	$3,2 * x =$	3,2x
11	3	$3 * x =$	3x
12	2,8	$2,8 * x =$	2,8x
13	2,6	$2,6 * x =$	2,6x
14	2,4	$2,4 * x =$	2,4x
15	2,2	$2,2 * x =$	2,2x
16	2	$2 * x =$	2x
17	1,8	$1,8 * x =$	1,8x
18	1,6	$1,6 * x =$	1,6x
19	1,4	$1,4 * x =$	1,4x
20	1,2	$1,2 * x =$	1,2x
21	1	$1 * x =$	1x
22	0,8	$0,8 * x =$	0,8x
23	0,6	$0,6 * x =$	0,6x
24	0,4	$0,4 * x =$	0,4x
25	0,2	$0,2 * x =$	0,2x
26	0	$0 * x =$	0x

where:

x - current rent rate;

a - the serial number on alternatives;

$\kappa Ma$  – coefficient of calculation alternatives.

15. The balance of funds to meet the needs of households of different urgently needed.

16. Value added tax paid (on p.15).

The analysis of alternatives allows the matrix to form a decisive 26 (alternatives) x 16 (criteria).

The method of "utility-variance" in these studies, it is advisable to assess alternatives taking into account uncertainty and risk.

The alternative with the highest estimate and will meet the optimal rental payment in Ukraine, taking into account the saturation state and local budgets, environmental and social impacts of foreign currencies and the business environment.

Examples of economic strategy developed state may be Sustainable Development Strategy "Ukraine - 2020" [7].

Strategy rent-seeking behavior state in subsoil use similar strategies for sustainable development "Ukraine - 2020", should be based on certain specific targets, motion vectors, immediate priorities and indicators of formation and development of rental relations in the sphere of subsoil use. You must determine of possible stakeholders.

Directly stakeholders strategy rent-seeking behavior - the state, as the owner of mineral resources, and entrepreneur-lessee subsoil (subsoil). These participants rent relations in the subsoil interested in institutionalizing the specification of ownership of the subsoil, forming economically reasonable and transparent system of distribution of rental income together for the long term.

The objectives of the strategy formation rent-seeking behavior in the field of mineral resources affect not only rents but related rational and environmentally sound mineral resources, mining and extracting the maximum possible useful component extracted from raw natural resource management, as well as (indirectly) related to social policy state system of reproduction and use of labor resources. Legal aspects of subsoil and subsoil ownership rights enshrined in the current legislation, the Code and the Constitution of Ukraine.

**The conclusions and recommendations for further research.** The conclusions and recommendations for further research. Thus, the article stated and justified conceptual provisions regarding the possibility and expediency of allocation of rent payments between the state and subsoil, the author proposed a method of determining the optimal size of rental payments in view of the possible alternatives. Further research in this area need to determine the optimal rate of rent payments for using the proposed method and the matrix of alternatives.

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**Рентоорієнтована стратегія поведінки в галузі надрокористування та концептуальні підходи до моделювання оптимального розміру вилучення ренти**

У статті розглядаються концептуальні положення щодо визначення оптимальної ставки рентних платежів в надрокористуванні. Приділено увагу аналізу гіпотез рентних відносин. Розроблено альтернативні положення визначення ставки рентної плати за допомогою розроблених критеріїв. Обґрунтовано, що реалізація рентних відносин при рентоорієнтованій стратегії поведінки гірничо-збагачувальних підприємств має певну специфіку, яка пов'язана з жорсткою лімітованістю запасів корисних копалин, використанням диференційованих за природним багатством та компонентним составом ділянок технологічного видобутку, неоднорідністю та нееластичністю пропозиції, інституціоналізацією контролю доступу до них на основі специфікації прав власності та їх обґрунтованому розподілі.

**Ключові слова:** рента, рентоорієнтована поведінка, стратегія, критерії, оптимальний розмір, альтернативи.

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**Рентоориентированная стратегия поведения в сфере недропользования и концептуальные подходы к моделированию оптимального размера изъятия ренты**

В статье рассматриваются концептуальные положения определения оптимального размера рентной платы за пользование недрами. Уделено внимание анализу гипотез рентных отношений. Разработаны альтернативные положения определения ставки рентных платежей основе разработанных критериев оценки. Обосновано, что реализация рентных отношений при рентоориентированной стратегии поведения горно-обогатительных предприятий имеет определенную специфику, которая обусловлена жесткой ограниченностью запасов полезных ископаемых, использованием дифференцированных по показателям природного богатства и компонентного состава участков технологической добычи, неоднородностью и неэластичностью предложения, институционализацией контроля доступа к ним на основании спецификации прав собственности и их обоснованного распределения.

**Ключевые слова:** рента, рентоориентированное поведение, стратегия, критерии, оптимальный размер, альтернативы.