#### 1. ՄԱԿՐՈՏՆՏԵՍԱԿԱՆ ՀԻՄՆԱԽՆԴԻՐՆԵՐ ԵՎ ՖԻՆԱՆՍՆԵՐ

# MAIN INDICATORS CHARACTERIZING THE INVESTMENT ATTRACTIVENESS OF THE MINING INDUSTRY

Yevgenya Artashes Hakobyan Artur Sos Petrosyan Anahit Khachatur Markosyan

Հոդվածը ստացվել է՝ 02.10.23, ուղարկվել է գրախոսման՝ 29.11.23, երաշխավորվել է տպագրության՝ 07.12.23

Introduction. The role of the mining industry in the economy can vary significantly depending on factors such as saturation and abundance of mineral resources, technological advancement, government policies, and global market conditions. This also applies to the investment attractiveness of the mining industry, which also depends on several factors, including the type of mining (e.g. coal, metals, minerals), location of mining, market conditions, environmental and regulatory considerations, etc. Since the mining industry is considered one of the strategic sectors of the RA economy, it is necessary to study the main determinants of the investment attractiveness of the sector and to separate the most important ones, which provides the relevance of this article. The goal of this article is to study and analyze the factors and main indicators determining the investment attractiveness of the RA mining industry. To achieve that goal, the following tasks were set in the scope of the article:

- To study the role of the mining industry in the RA economy,
- To study the main indicators of the sector both in RA and in international information platforms,
- Based on studies and analysis, identify the determinants of the investment attractiveness of the RA mining industry.

**Literature review.** Various representatives of the field conducted studies on the mining industry, who interpret it from their point of view, highlight the sector's importance, and provide appropriate conclusions. Foreign and domestic researchers carried out many studies on the role and importance of the mining industry in improving the economy and the living standards of the population, the development prospects of the sector, as well as the positive and negative aspects of the impact of the sector.

According to A.E. Popov, nowadays the enterprises of the mining industry are oriented to the active use of new and modern technologies, which is important not

only from the point of view of their development but also for the development of the entire state<sup>1</sup>.

According to A.A. Nazarmatov, this industry is considered one of the leaders and promoters of economic development in many countries. Through the mining industry, not only mineral reserves are created but also fuel and energy, which are reused in various industries<sup>2</sup>. Despite some negative changes and developments, in general, a positive trend can be observed in the mining industries of many countries of the world. The last two decades have shown that the mining industry attracts a large number of workforce, which indicates the attractiveness of this sector. Thus, it can be confidently stated that the mining industry plays an important role in the development of the national economy, as well as in the improvement of the standard of living of the population<sup>3</sup>.

According to N.D. Koroteev "a mandatory condition for the stability of the base of minerals is the promotion of the quantitative growth of reserves, which were obtained as a result of conducting geological-exploratory works<sup>4</sup>".

Particularly valuable are the works of Armenian authors, in particular economist Ashot Mardoyan's article "Analysis of the International Experience of Preventing the Negative Effects of Mining Industry", in which the importance of the mining industry, the need for development, as well as the negative effects of the mining industry and the international experience of their prevention, were presented in detail. The author also made comparative parallels between leading international and local experiments, and noted the weak, incomplete, and vulnerable aspects of the RA mining industry, considering the study of international experience and further localization as important factors for increasing the efficiency of the sector<sup>5</sup>.

Economist N. Afyan conducted a valuable study on the importance of the mining industry. In the article "Prospects of sustainable development of the mining industry in Armenia: SWOT analysis" she first emphasized the place and weight of the mining industry in the RA economy, and then studied the leading international experience (in

<sup>&</sup>lt;sup>1</sup> Popov A. E., Forms and methods of organizing and stimulating innovative activity at enterprises of the mineral resource complex, Strategy for the development of geological exploration of subsoil: present and future (to the 100th anniversary of MGRI-RGGRU): materials of the International scientific-practical conf. M.: MGRI-RGGRU. 2018. pp. 367–368.

 $<sup>^2\,</sup>$  Nazarmatov A., "The role of the mining industry in the development of the country's industry" // Bulletin of SurSU, 2021, Vol. 1 (31), p. 51.

Nazarmatov A., "The role of the mining industry in the development of the country's industry" // Bulletin of SurSU, 2021, Vol. 1 (31), p. 54-55

<sup>&</sup>lt;sup>4</sup> Koroteev N., "Formation of a sustainable mineral resource base of the territory" // Ural Mining School for the Regions: materials of the International scientific-practical conf. Ekaterinburg: Publishing house UG-GU, 2017, p. 700.

<sup>&</sup>lt;sup>5</sup> Mardoyan A., "Analysis of the international experience of prevention of negative consequences of mining" // BANBER Eurasia International University, № 2, 2016, p. 53 − 67.

particular, Canada and Sweden)<sup>1</sup>. She presented in detail the 2015-2019 indicators of the RA mining industry, as well as the importance of the sector in providing employment in RA. Afyan also reaffirms Mardoyan's conviction that the assimilation of leading international experience is somewhat absent or slow in the Armenian mining industry, as well as the introduction and application of modern technologies, which would allow for improvement and increase the efficiency of the industry's activities. She explains this by the fact that there are still no representatives of large and internationally recognized companies in RA.

The study of A. Markosyan and Z. Mkrtchyan is of particular importance, where the authors note that one of the trends of the modern economy is the gradual reduction of the importance and role of natural resources in goods production. However, natural resources remain an important factor determining the development of countries and a priority condition for raising the standard of living of the population. This is also the case in the RA, whose mining industry and related sectors are an integral part of the RA national economy<sup>2</sup>.

**Methodology.** The works of Armenian and foreign researchers were the theoretical basis for the research, the data was obtained from the official statistical yearbooks and publications of the RA, various publications and reports published by the World Bank, as well as other international institutions. Data collection, comparison, analytical, as well as statistical methods were implemented in the scope of the research.

Analyses and discussions. Every year, the Mining Contribution Index (MCI) is calculated and presented to the public by The International Council on Mining and Metals (ICMM). The MCI is designed to improve the understanding of the role of mining in national economies. It shows the dependence of ensuring large-scale economic and social progress at the expense of "mineral wealth" on the need for efficient management of mineral resources<sup>3</sup>. According to the recorded indicators, compared to the previous years, the RA has improved its position in the field of mining. The indicators of the leading 25 countries in the mining industry are presented in Table 1.

<sup>&</sup>lt;sup>1</sup> Afyan N., Gasparyan G., "Prospects of sustainable development of the mining industry in Armenia. SWOT analysis" // Scientific Artsakh, №1 (8), 2021, p. 166-167.

<sup>&</sup>lt;sup>2</sup> Markosyan. A, Mkrtchyan Z., The problem of mineral rent formation in the mining industry of the Republic of Armenia, public administration 2/2020, page 125.

<sup>&</sup>lt;sup>3</sup> Mining Contribution Index (MCI), 6th Edition

Mining Contribution Index (MCI) of several countries in 20221

Nº	Country	Metallic mineral,	Metallic mineral and coal	Mineral rent
		metals and coal export	production value 2020	(as % of GDP)
		contribution 2020 (%) (as % of GDP)		
1	2	3 4		5
1	Burkina Faso	86.4 17.42		15.39
2	Mongolia	90.9 23.00		21.27
3	Liberia	62.7	7 17.34	
4	Mauritania	65.6	65.6 20.05	
5	Mali	84.7	15.14	16.03
6	Kyrgyz Republic	65.7	14.22	
7	Zambia	79.5	36.02	9.71
8	Zimbabwe	55.6	16.08	8.93
9	Uzbekistan	51.8	9.69	8.98
10	Papua New Guinea	48.0	14.62	14.33
11	Tajikistan	62.6	47.37	7.29
12	Congo, Dem. Rep.	89.1	24.27	17.85
13	Chile	88.2	17.73	6.12
14	Namibia	88.1	17.61	3.88
15	Australia	88.0	9.11	8.16
16	Bolivia	86.9	2.57	7.07
17	South Africa	86.4	9.68	2.95
18	Tanzania	85.7	2.83	3.37
19	Nigeria	85.1	2.16	0.57
20	Peru	84.8	11.91	3.94
21	Senegal	82.7	3.13	3.63
22	Kazakhstan	82.3	8.31	5.97
23	Armenia	81.3	4.51	5.73
24	Sudan	80.5	0.60	18.90
25	Russian Federation	80.3	3.33	1.87

According to the 6th publication of the "Role of Mining Industry in the National Economy" report, compared to the previous 5th publication (2020), Armenia improved its rank by three positions - from 26th to 23rd.

Table 2 presents the change in indicators of the industry sectors of RA.

<sup>&</sup>lt;sup>1</sup> Mining Contribution Index (MCI): 6th Edition – <a href="https://www.icmm.com/website/publications/pdfs/social-">https://www.icmm.com/website/publications/pdfs/social-</a> performance/2022/research\_mci-6-ed.pdf?cb=16134

The output volumes of the mining industry in RA, 2018-2022.<sup>1 2</sup> (million AMD, at current prices)

	2018	2019	2020	2021	2022
Mining industry and	300 744.8	356 780.6	403 455.5	589 885.6	517 426.3
open pit mining					
Metal ore mining	287 273.6	342 944.3	386 899.5	570 258.5	486 415.8
Other branches of the	10 995.2	13 141.4	16 190.0		31 003.7
mining industry and				19 608.4	
open-pit mining					
Activities related to the	2 476.0	694.9	366.0	18.7	6.8
mining industry					

It turns out that the volumes of mining products have increased intensively between 2018 and 2021, while in 2022, compared to the previous year, some indicators have significantly decreased. It should also be noted that 19.3% of the industrial output according to production departments is allocated to the mining industry and the operation of open mines<sup>3</sup>.

The studies of various researchers, as well as the recorded indicators, prove that the mining industry is considered one of the important and attractive sectors of the economy of many countries of the world. The latter is because the demand for mineral resources is increasing year by year, which contributes to increasing the investment attractiveness of the mining industry, as a result of which an opportunity is provided for the implementation of new projects, and many new jobs are created.

It must be noted that the investment attractiveness of the mining industry may vary depending on several factors, including technological advancements, environmental regulations, market demand, and more. Therefore when assessing the investment attractiveness of mining, it is necessary to take into account: that the prices of mined minerals have a significant influence and importance on the profitability of the sector and are a driving force of investment attractiveness. The prices of goods are highly unstable in case of unstable geopolitical situations, which has an impact on the dynamics of global demand and supply. High demand and limited supply can in turn lead to higher prices of mineral resources and therefore attractive returns on mining investments. However, oversupply or a downturn in global economic conditions may in turn negatively affect the sector's profitability. Therefore, the next factor in increasing the investment attractiveness of the sector is the influence of the political and regulatory environment, because the policies conducted by the state, legislative

<sup>&</sup>lt;sup>1</sup> The RA Statistical yearbook, Yerevan 2022, page 302.

<sup>&</sup>lt;sup>2</sup> Socio-Economic Situation of RA, January-December 2022, Industry, page 11.

<sup>&</sup>lt;sup>3</sup> Socio-Economic Situation of RA, January-December 2022, Industry, page 14.

acts and regulations, as well as the political situation created in the given country can significantly affect the increase in the investment attractiveness of the sector.

It should also be noted that the rapid and frequent changes in the state policy aimed at the regulation of the mining industry can lead to regulatory uncertainty in the sector, which in turn will create significant risks for investors. Environmental and social responsibilities also have a significant impact on the investment attractiveness of the mining industry. This factor can be considered as a continuation of the legislative framework regulating the sector because, in the current conditions, investors are increasingly concerned about the environmental and social impacts of mining, as well as the legislative regulations aimed at reducing them. Given that mining projects are increasingly subjected to strict environmental and social regulations, companies that prioritize sustainability, responsible mining practices and community engagement may therefore be more attractive to investors. It should also be noted that the internal system of analyzing and evaluating the efficiency of their infrastructures, as well as the presence of advanced technologies, is of great importance and has a significant impact on increasing the reputation of companies, as well as their investment attractiveness., it provides competitive advantages.

**Scientific novelty.** By studying the role of the mining industry in the national economy, within the framework of the article, the determinants of investment attractiveness of the RA mining industry were identified.

**Conclusion.** By summarizing the results of this study on the determinants of the investment attractiveness of the RA mining industry, as well as analyzing the studies of foreign and domestic economic circles on the indicators of the mining industry in recent years, international and local statistical data, we came to the conclusion that despite the threats to the safety of the environment and the health of the population, the mining industry continues to be one of the leading and important economic sectors of the countries around the world.

#### References

- 1. Afyan N., Gasparyan G., "Prospects of sustainable development of the mining industry in Armenia. SWOT analysis" // Scientific Artsakh, №1 (8), 2021.
- 2. Averin E., "Selection of criteria for assessing the investment attractiveness of projects in the mining industry" // News of Tula State University, Earth Sciences, 2017, Vol. 4.
- 3. Koroteev N., "Formation of a sustainable mineral resource base of the territory" // Ural Mining School for the Regions: materials of the International scientific-practical conf. Ekaterinburg: Publishing house UG-GU, 2017.
- 4. Mardoyan A., "Analysis of the international experience of prevention of negative consequences of mining" // BANBER Eurasia International University, № 2, 2016.

- 5. Markosyan. A, Mkrtchyan Z., The problem of mineral rent formation in the mining industry of the Republic of Armenia, public administration 2/2020.
- Mining Contribution Index (MCI): 6th Edition. Source: https://www.icmm.com/website/publications/pdfs/social-performance/2022/research\_mci-6-ed.pdf?cb=16134.
- 7. Nazarmatov A., "The role of the mining industry in the development of the country's industry" // Bulletin of SurSU, 2021, Vol. 1 (31).
- 8. Popov A. E., Forms and methods of organizing and stimulating innovative activity at enterprises of the mineral resource complex, Strategy for the development of geological exploration of subsoil: present and future (to the 100th anniversary of MGRI-RGGRU): materials of the International scientific-practical conf. M.: MGRI-RGGRU. 2018. pp.
- 9. Semenov V., "Actual problems and perspectives of the application of methods and tools of quality management in organizations" // Discussion, 2018, No. 1.
- 10. Socio-Economic Situation of RA, January-December 2022, Industry. Source: https://armstat.am/file/article/sv\_12\_22a\_121.pdf, last accessed 19. 09. 2023.
- 11. The RA Statistical yearbook, Yerevan 2022. Source: https://armstat.am/file/doc/99533583.pdf, last accessed 19. 09. 2023.

### ՀԱՆՔԱՐԴՅՈՒՆԱԲԵՐՈՒԹՅԱՆ ՈԼՈՐՏԻ ՆԵՐԴՐՈՒՄԱՅԻՆ ԳՐԱՎՉՈՒԹՅՈՒՆԸ ԲՆՈՒԹԱԳՐՈՂ ՀԻՄՆԱԿԱՆ ՑՈՒՑԱՆԻՇՆԵՐԸ

### Եվգենյա Արտաշեսի Հակոբյան Արթուր Սոսի Պետրոսյան Անահիտ Խաչատուրի Մարկոսյան

Համառոսագիր։ Հանքարդյունաբերության դերը տնտեսության մեջ կարող է զգալիորեն տարբերվել՝ կախված այնպիսի գործոններից, ինչպիսիք են հանքային ռեսուրսներով հագեցվածությունը, դրանց առատությունը, տեխնոլոգիական առաջընթացը, կառավարության վարած քաղաքականությունը և համաշխարհային շուկայի պայմանները։ Վերոնշյալը վերաբերում է նաև հանքարդյունաբերության ոլորտի ներդրումային գրավչությանը, որը ևս կախված է մի շարք գործոններից, ներառյալ հանքարդյունաբերության տեսակը (օրինակ՝ ածուխ, մետաղներ, օգտակար հանածոներ), հանքարդյունաբերության գտնվելու վայրը, շուկայի պայմանները և բնապահպանական և կարգավորող նկատառումները և այլն։ Քանի որ հանքարդյունաբերությունը համարվում է ՀՀ տնտեսության գերակա և ռազմավարական Ճյուղերից մեկը, ապա անհրաժեշտություն է առաջացել ուսումնասիրել ոլորտի ներդրումային գրավչությունը պայմանավորող հիմնական ցուցանիշները և առանձնացնել դրանցից էական նշանակություն ունեցողները, ինչով էլ պայմանավորված է սույն հողվածի արդիականությունն ու

**հրատապությունը**։ Սույն հոդվածի **նպատակն է** ուսումնասիրել և վերլուծել հանքարդյունաբերության ոլորտի ներդրումային գրավչությունը պայմանավորող գործոնները, հիմնական ցուցանիշները։ Այս նպատակին հասնելու համար հոդվածում դրվել և մի շարք **խնդիրներ**, որոնցից կարելի է առանձնացնել հետևյալները.

- Ուսումնասիրել հանքարդյունաբերության ոլորտի դերը տնտեսության մեջ,
- Ուսումնասիրել ՀՀ և միջազգային տեղեկատվական հարթակներում ոլորտի արձանագրած հիմնական ցուցանիշները վերջին տարիներին,
- Ուսումնասիրությունների և վերլուծության հիման վրա առանձնացնել ՀՀ հանքարդյունաբերության ոլորտի ներդրումային գրավչությունը պայմանավորող և բնութագրող հիմնական ցուցանիշները։

Հետազոտության համար տեսական և տեղեկատվական հիմք են հանդիսացել ինչպես հայ, այնպես էլ արտասահմանցի հեղինակների կողմից ներկայացված աշխատությունները, ՀՀ պաշտոնական տեղեկագրերում, Համաշխարհային Բանկի, ինչպես նաև այլ միջազգային կառույցների կողմից հրապարակած տարբեր հրապարակումներում և հաշվետվություններում տեղ գտած տվյալները։ Հետազոտության ընթացքում կիրառվել են տվյալների հավաքագրման, համեմատության, վերլուծական, ինչպես նաև հաշվարկային և վիձակագրական մեթողները։

Սույն հետազոտության **գիտական նորույթ է** հանդիսանում այն, որ ուսումնասիրելով հանքարդյունաբերության ոլորտի դերը տնտեսության մեջ հոդվածի շրջանակներում առանձնացվել են ՀՀ հանքարդյունաբերության ոլորտի ներդրումային գրավչությունը պայմանավորող և բնութագրող հիմնական ցուցանիշները։

**Բանալի բառեր**. հանքարդյունաբերություն, ներդրումային գրավչություն, շուկայական պահանջարկ, հանքահումքային ռեսուրսներ, տեխնոլոգիական առաջընթաց, ոլորտի շահութաբերություն, բնապահպանական կանոնակարգեր, օրենսդրաիրավական նորմեր։

## ОСНОВНЫЕ ПОКАЗАТЕЛИ, ХАРАКТЕРИЗУЮЩИЕ ИНВЕСТИЦИОННУЮ ПРИВЛЕКАТЕЛЬНОСТЬ ГОРНОДОБЫВАЮЩЕГО СЕКТОРА

Евгения Арташесовна Акопян Артур Сосевич Петросян Анаит Хачатуровна Маркосян

**Аннотация.** Роль горнодобывающей промышленности в экономике может существенно различаться в зависимости от таких факторов, как насыщенность минеральными ресурсами, их изобилие, технологический прогресс, государственная политика и условия мирового рынка. Вышеупомянутое также относится к

инвестиционной привлекательности горнодобывающего сектора, которая также зависит от ряда факторов, включая тип добычи (например, уголь, металлы, полезные ископаемые), место добычи, рыночные условия, экологические и нормативные соображения и т. д. Поскольку горнодобывающая промышленность считается одной из приоритетных и стратегических отраслей экономики РА, необходимо изучить основные показатели, определяющие инвестиционную привлекательность отрасли, и выделить наиболее важные из них, именно поэтому данная статья является актуальной. Целью данной статьи является изучение и анализ факторов и основных показателей, определяющих инвестиционную привлекательность горнодобывающего сектора. Для достижения поставленной цели в статье поставлен ряд задач, среди которых можно выделить следующие:

- Изучить роль горнодобывающего сектора в экономике,
- Изучить основные показатели, зафиксированные в отрасли в РА и на международных информационных платформах за последние годы,
- На основе исследований и анализа выявить основные показатели, определяющие и характеризующие инвестиционную привлекательность горнодобывающего сектора РА.

Теоретической и информационной основой исследования послужили работы, представленные как армянскими, так и зарубежными авторами, данные, найденные в официальных бюллетенях Республики Армения, различных публикациях и отчетах, опубликованных Всемирным банком, а также другими международными институтами. В ходе исследования использовались сбор данных, сравнение, аналитические, а также расчетно-статистические методы.

Научная новизна данного исследования заключается в том, что, изучая роль горнодобывающей промышленности в экономике, в рамках статьи были выявлены основные показатели, определяющие и характеризующие инвестиционную привлекательность горнодобывающей промышленности РА.

**Ключевые слова:** горнодобывающая промышленность, инвестиционная привлекательность, рыночный спрос, минеральные ресурсы, технологический прогресс, рентабельность отрасли, экологическое регулирование, законодательные нормы.

## MAIN INDICATORS CHARACTERIZING THE INVESTMENT ATTRACTIVENESS OF THE MINING INDUSTRY

Yevgenya Artashes Hakobyan Artur Sos Petrosyan Anahit Khachatur Markosyan

Abstract. The role of the mining industry in the economy can vary significantly depending on factors such as saturation and abundance of mineral resources, technological advancement, government policies, and global market conditions. This also applies to the investment attractiveness of the mining industry, which also depends on several factors, including the type of mining (e.g. coal, metals, minerals), location of mining, market conditions, environmental and regulatory considerations, etc. Since the mining industry is considered one of the strategic sectors of the RA economy, it is necessary to study the main determinants of the investment attractiveness of the sector and to separate the most important ones, which provides the relevance of this article. The goal of this article is to study and analyze the factors and main indicators determining the investment attractiveness of the RA mining industry. To achieve that goal, the following tasks were set in the scope of the article:

- To study the role of the mining industry in the RA economy,
- To study the main indicators of the sector both in RA and in international information platforms,
- Based on studies and analysis, identify the determinants of the investment attractiveness of the RA mining industry.

The works of Armenian and foreign researchers, the official statistical yearbooks and publications of the RA, and various publications and reports published by the World Bank and other international institutions were the information bases for the research. Data collection, comparison, analytical, as well as statistical methods were implemented in the scope of the research. The scientific novelty of this article lies in the fact that by studying the role of the mining industry in the national economy, within the framework of the article, the determinants of investment attractiveness of the RA mining industry were identified.

**Keywords:** mining industry, investment attractiveness, market demand, mineral resources, technological advancement, industry profitability, environmental regulations, legislative norms.