Abstract. The value of this noble metal is enduring on both national and international levels. The diamond industry is within the purview of economic agents, and their investment interest on the stock markets is continuous and lasting. Diamonds are precious metals with a transparent and sparkling appearance, exceptionally beautiful, captivating the minds and dreams of people from ancient times to the present day. They are natural treasures extracted from the depths of the Earth and formed over centuries. In society, these noble crystals symbolize power, wealth, and influence. In this context, the subject of the current scientific research is diamonds as a type of noble metal. The aim of the scientific study is to analyze relevant aspects related to the global diamond trade.

Keywords: diamond trade, economic, mining, precious metals

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Introduction. At the present moment, if we cast our gaze back in time, we can confidently discover that the value of this noble metal is enduring on both national and international levels. The diamond industry is within the purview of economic agents, and their investment interest on the stock markets is continuous and lasting. The subject of this scientific research is diamonds as a type of noble metal. The objective of the scientific study is to analyze relevant aspects related to the global diamond trade.

The scientific research explores the historical aspect of the trade in precious crystals. It elucidates not only the investment trade in diamonds from a historical perspective but also examines the role and economic significance of diamonds as part of global trade. In fact, in the global history of humanity, diamonds are also known by the name “elmaz”.

Economic factors influencing diamond prices. Diamonds undeniably possess an intriguing history intimately intertwined with human civilization. These transparent crystals, after processing, exhibit exceptional beauty, rare colorfulness, and a unique intrinsic value, making them coveted and sought-after commodities for centuries, from ancient times to the present day.

When examining statistical data related to the diamond industry, prominent economic factors come to the forefront, influencing diamond values. One such factor is the dynamics of supply and demand in the national and global diamond market, which, as a commodity market, inevitably experiences the influence of
economic principles in determining diamond prices. The ability to discern the nuances of supply and demand in the diamond industry reveals insights into price fluctuations and market trends.

Economic stakeholders with an interest in the diamond industry assert that the supply factors must be approached with specificity according to the quantity of diamonds extracted. The available volume of extracted diamonds for a particular period is of paramount importance because producers aim for a larger quantity, which at a certain point becomes an available surplus, influencing prices. Likewise, when mining companies extract fewer diamonds than expected in the production process, it creates a supply shortage in the market, leading to an increase in prices for the offered diamonds.

In addition to these strategies, mine owners and diamond producers can intentionally withhold a certain quantity of diamonds for a specific period, thereby deliberately reducing market supply. During such times, diamond production maintains or increases its value. This activity is linked to the opening or closure of significant diamond mines, which inevitably impacts not only at a national level but also on the global supply of diamonds and their price values. (Statista, 2023)

On the national and global markets, the term 'demand' refers to the available quantity of diamonds that consumers and economic entities aspire to and/or are capable of investing in, to purchase these dazzling crystals at prices within their means and within a specific time frame.

Consumer preferences and trends certainly guide demand for diamonds towards jewelry and jewelry manufacturing, significantly influencing the demand for diamonds. A particular subjective factor in the demand sector is that if a diamond is cut by a 'branded' company that is popular, it undoubtedly leads to an increase in demand for that specific cut.

Throughout various periods of its existence and economic development, humanity has experienced different phases of growth and decline. During periods of economic prosperity, economic agents and consumers possess stable prosperity and security, which contributes to their inclination to purchase luxury household goods and to nurture their own ego through acquisitions such as diamonds. In fact, these activities, in turn, naturally lead to an increase in demand for this type of polished mineral.

In this regard, marketing campaigns play a pivotal role, such as De Beers campaign “A Diamond is Forever”, which, over time, not only preserves the mineral’s value but significantly increases its perceived value and influences the global demand for diamonds. (Bonsor, 2023)

In this context, statistical data reveal the close interplay between supply and demand, which, in turn, dictates a meaningful price for diamonds in the commodity markets.

At a price equilibrium, when supply equals demand, the market is in balance, and prices stabilize. In fact, if there is an excess of diamonds, meaning supply exceeds demand, diamond prices can decrease. Conversely, if demand outpaces supply, diamond prices may rise due to the existing shortage of available minerals. (Fernando, 2023).
It can be responsibly stated that the dynamics of supply and demand in the diamond industry are influenced by multiple factors, ranging from extraction rates to consumer preferences and economic agents. Upon careful observation of this dynamic, traders, investors, and consumers alike are essential to scrutinize and analyze price movements and make informed market decisions regarding diamonds, both at the national and international levels.

Another niche in diamond exchanges that has a definite impact on diamond values is synthetic diamonds, often referred to as lab-grown or cultured diamonds. The emergence of these diamonds, produced in laboratories through innovative and refined technological processes, introduces a new dimension to the traditional diamond market. Indeed, these diamonds, created in laboratories, possess the same physical, chemical, and optical properties as natural diamonds. The rise of synthetic diamonds undeniably has significant economic consequences for the diamond industry, profoundly affecting pricing, consumer perceptions, and adapting to new market challenges and dynamics.

It should be noted here that synthetic diamonds are produced through two primary methods: High-Pressure High-Temperature (HPHT) and Chemical Vapor Deposition (CVD). These methods can generate diamonds much faster and with more predictable qualities compared to natural processes of diamond mining and processing. In fact, the production of synthetic diamonds is significantly more cost-effective than mining natural diamonds, inevitably leading to more competitive prices in the market. Additionally, the laboratory-controlled conditions during diamond production result in fewer imperfections and more consistent quality, making them particularly attractive to certain market segments. (GIA, WHAT ARE LABORATORY-GROWN DIAMONDS?, 2023)

The perception and introduction of synthetic diamonds as a market commodity represent a choice for consumers and an opportunity for some with limited financial means to possess goods like diamonds. In fact, consumers evaluate the ethical and ecological advantages of these diamonds differently, while others prefer the rarity and natural origin of mined diamonds, despite their high value in the diamond exchanges. From ethical considerations, it can be stated responsibly that synthetic diamonds are not conflict minerals and overcome the dilemmas associated with 'blood diamonds.

Synthetic diamonds have a positive impact on the environment. They are created and grown in controlled laboratory conditions, which means they have a weaker environmental footprint compared to mined diamonds. This fact appeals to consumers and economic entities for whom environmental preservation and care are a priority and of paramount importance.

Regarding valuation, synthetic diamonds cost approximately 20-40% less than natural diamonds, which makes them an attractive option for certain buyers, but it also affects the value of natural diamonds. Statistical data from diamond markets and exchanges undeniably demonstrate that high-quality natural diamonds always preserve and enhance their value, while lower-quality natural diamonds face price pressure due to competition from their synthetic counterparts. This is why natural diamond manufacturers employ marketing strategies to emphasize the
rarity, uniqueness, and enduring value of natural diamonds. Employing tactics of this kind establishes conditions for distinguishing naturally created diamonds from lab-grown synthetic diamonds. (Linde et al., 2021)

Undoubtedly, the diamond industry and its regulatory bodies emphasize the importance of clear disclosure of the origin of diamonds to ensure consumer awareness and transparency on the part of sellers regarding the origin of the diamonds they offer—whether natural or synthetic. Trust among consumers and their readiness for new investments depend on this transparency.

In the certification process, natural diamonds come with evaluation reports, and it is entirely natural that the same practice exists for synthetic diamonds. They too can be certified, detailing their characteristics and confirming their laboratory origin. (Federal Trade Commission, 2023)

All of this provides grounds to reveal that the rise of synthetic diamonds complicates the diamond industry market as it affects pricing strategies, consumer preferences, and the established order in the industry. With the advancement of innovations and technological progress, the proliferation of synthetic diamonds and their impact on the traditional diamond market continues to evolve.

**The role of major diamond mining companies.** Diamond mining companies are the key players in the diamond industry market and play a pivotal role in global diamond production, influencing everything from production volumes to pricing strategies. Their decisions and operations have a significant effect on the entire value chain, from the mines to sales in the markets. Their influence provides insights into the economic dynamics of the diamond markets.

Of course, it is important to note that when choosing a corporate policy, a thorough analysis based on data related to financial and economic indicators, statistical data, and regulatory information that covers the specifics of the activity is crucial. (Николова, 2008)

In the diamond mining industry, there are numerous companies, but a few are the major players that not only dominate but also concentrate and control a significant portion of global diamond production. Due to their dominant market position, these companies have a substantial influence on diamond prices. When they control the supply, these companies indirectly impact demand and price determination. It is worth noting that they often set industry standards for mining practices, sustainability, and ethical sourcing. (NSEnergy, 2021)

According to statistical data, one of the leading global diamond mining companies today is De Beers, founded in 1888, which historically held an almost monopolistic position in the diamond mining industry.

Founded by Cecil Rhodes, who was born in England but later sent to live with relatives in Africa, where he was captivated by the beauty of crystal minerals known as diamonds, which are mined in those territories. Historical records indicate that this interest grew after the Great Depression when contracts and concessions he secured for diamond mining propelled the De Beers company to the forefront of the diamond industry, as it controlled 90% of the world's diamond production. In fact, after his death, the company was taken over by Ernest Oppenheimer, under whom it grew into a diamond empire that not only exercised
control over diamond and other precious stone supplies but also wielded significant influence over the global diamond trade.

Throughout much of the 20th century, De Beers controlled over 90% of the global distribution of rough diamonds, granting it unparalleled influence over prices. This allowed the company special privileges to sell diamonds to select groups of clients known as “sightholders” through periodic sales events. In fact, this sales system enables De Beers to monopolistically manage not only the supply but also significantly influence the selling prices in the diamond industry. (1000Logos, 2022)

According to the author of the scientific research, it can be responsibly stated that major diamond mining companies diversify their operations not only geographically but also across the entire diamond value chain. Companies with global presence, such as Rio Tinto and Alrosa, conduct mining activities in multiple countries, allowing them to own and leverage various diamond reserves.

In some companies, there is vertical integration in diamond processing, trading, and even in the final stage of the distribution chain, which involves retail trade. This represents the sale of goods and services directly to end consumers, i.e., at the retail level. This approach opens up opportunities for greater control over the movement of diamonds from the mine to the global markets. (RioTinto, 2023)

At present, and in the context of new requirements regarding ethical mining and increasing consumer awareness related to ethical sourcing of diamonds, major diamond mining companies adopt sustainable and responsible practices for mining and production. Simultaneously, these companies invest in improving the conditions for mining and minimizing the environmental impact of their mining activities, including land reclamation, addressing the ozone layer, preserving global oceans, and water resources.

The giants in the mining industry often engage with local communities by providing employment, infrastructure, and social programs in the areas where they conduct their mining activities. In addition to the above, these companies adhere to international standards to ensure that their diamonds have an ethical origin and are not mined in conflict zones. (DeBeers, 2023)

“Conflict zones” for diamond mining include territories where there are military conflicts and confrontations. These areas are typically found in Central and West Africa, where diamonds mined are used to finance military activities against governments, the purchase of weapons, aircraft, ammunition, and more.

These diamonds are known as “blood diamonds”, and while they are genuine diamonds, their trade is illegal. Numerous processes are in place to combat this illegal diamond trade, presenting various ethical dilemmas for producers, economic agents, and diamond traders.

In fact, the major diamond mining companies, with their vast resources and market dominance, unquestionably play a pivotal role in shaping the economic activity of the diamond industry. Their decisions regarding production, marketing, and sustainability practices inevitably influence diamond prices and contribute significantly to the dynamics of the diamond market.
**Technological advancements in the diamond trade**

*Digital platforms and online diamond trading*. The influx of innovation and scientific advancements in technology has revolutionized many industries, and the diamond mining and trading sector is no exception. Digital platforms and online trading introduce a new paradigm in the way diamonds are bought, sold, and evaluated, making the process more transparent, efficient, and accessible to a global audience.

At the same time, online diamond trading platforms are emerging as specific digital markets where buyers and sellers can list, evaluate, and finalize diamond transactions without the need for physical inspections.

These platforms hold immense value and have a global reach as they provide access to the worldwide market, enabling traders from different parts of the world to interact and conduct transactions seamlessly. Digital platforms are highly efficient, reducing the need for physical showrooms and intermediaries, which inevitably leads to faster transactions and a decrease in daily business management costs. Calculations in this regard are of utmost importance as they determine expenses, create conditions for a healthy business, and, ultimately, ensure realized profits. (Rapnet, 2023)

To facilitate these activities, digital platforms provide detailed information about each diamond, including its 4Cs, certification, origin, and price value, which entails and requires a certain level of transparency and access to information. Making informed decisions regarding a purchase or sale is of paramount importance. Buyers can make informed decisions based on comprehensive data, high-resolution images, and sometimes even 360-degree videos of the diamonds. In fact, on online platforms, consumers often have the opportunity to compare prices among different sellers on a national or international level, ensuring competitive prices and a balance between quality and price for the offered goods, such as diamonds on the stock markets. (BlueNile, 2023)

In fact, the use of new technologies in the market also belongs to blockchain technology, which is entering and being utilized in the diamond industry to trace the path of a diamond from its mining in the mining industry to the market, ensuring its authenticity and ethical origin. Blockchain technology not only provides traceability and protection against falsified records regarding the journey of diamonds but also serves as a guarantee of their origin and ethical sourcing. These facts are closely related to consumer trust, as knowing the origin and path of diamonds increases trust in manufacturers and sellers, ultimately leading to higher market prices. (EverLedger, 2023)

The use of Virtual Reality (VR) and Augmented Reality (AR) technologies in diamond viewing allows buyers to examine the diamonds offered for sale in a virtual space, simulating the experience of physically inspecting them. Buyers can virtually 'try on' diamond jewelry or view loose diamonds in 3D, enhancing their online shopping experiences. In fact, this represents remote business operations, which is particularly relevant in our contemporary era when physical interactions are limited, and VR and AR technologies enable continuous business operations
and engagement with numerous customers from different nationalities and
continents. (GemStoneTips, 2023)

In fact, business is everywhere and at all times, as technological
advancement, especially digital platforms and online commerce, transform the
traditional diamond trade and the diamond industry. These innovations offer
greater transparency, efficiency, global reach, and simultaneously change the way
diamonds are traded in the modern era.

**Technological tools for diamond classification and verification.** Precision
and accuracy in diamond classification are paramount requirements in the diamond
trading industry. By integrating advanced technological tools and innovative
technologies, the process of classifying and verifying diamonds becomes more
complex yet consistent and reliable. The use of such tools not only enhances
accuracy in assessment but also instills greater confidence in buyers and sellers as
key participants in the diamond trade.

Automated systems also represent a type of technological tool for diamond
classification and verification, as these computerized systems utilize advanced
image processing technology to assess diamond qualities based on standardized
evaluation criteria. In fact, automated systems reduce human error, as they provide
consistent assessments of diamonds that vary in type and shape. At the same time,
these systems offer speed and can classify diamonds more quickly than manual
evaluations, thereby enhancing efficiency in the classification process.

Another technological process involves spectroscopy, which entails the
analysis of light interaction with the diamond. This method determines not only the
diamond's properties but also verifies its authenticity.

Advanced spectroscopic techniques are also utilized for detecting synthetic
diamonds when they are being sold on the market without proper disclosure. This
technique is exceptionally precise and capable of distinguishing natural from lab-
grown diamonds. In fact, both natural and synthetic diamonds hold certain market
values but do not differ in their beauty, and they certainly constitute items of
jewelry art. Spectroscopy, as a method, can identify treatments and determine
whether the offered diamonds have undergone processes to enhance their color or
clarity. (GIA, Diamond Identification, 2018)

Furthermore, 3D scanning and subsequent modeling undeniably create a
digital replica of a specific diamond. This innovative method, on its own,
represents the ability to capture details of its external and internal characteristics.
Simultaneously, it offers precision and enables highly accurate measurements of
dimensions, symmetry, and other physical features of the diamond. Economic
actors, particularly buyers, gain the opportunity for comprehensive and detailed
acquaintance with the 3D model of the diamond from all angles through interactive
examination. (Benji, 2023)

For absolute diamond identification, laser inscription is employed. By using
a laser on the diamond's girdle, a microscopic inscription is created, usually
containing its unique identification number or other vital information.

This ensures traceability and provides a permanent mark that does not
damage the diamond, whether it is of natural or artificial origin. It creates
conditions for tracking and verifying the diamond's origin and certification. In fact, this is a special guarantee for consumers who have the opportunity to compare the laser inscription with the diamond's certificate and be certain that they are purchasing the correct gemstone. (REVEDiamond, 2023)

All participants, economic entities, have the opportunity to use high-resolution visualization systems that capture detailed images of inclusions and defects in diamonds, which is of paramount importance for clarity classification. In this regard, detailed analysis allows gemologists to meticulously examine the internal and external characteristics of the diamond.

According to international regulatory requirements, documentation in the diamond industry provides buyers with secure visual evidence of the characteristics of diamonds in terms of clarity, which definitely enhances the transparency of the purchase process and allows for the return of satisfied customers.

It is important to note for the scientific research that in the field of diamond trading, technological advancement in quality assessment and verification tools leads to transformative changes. In fact, the innovative tools supported by science and technology ensure, beyond any doubt, that diamonds are classified with maximum precision, thereby enhancing trust and transparency in the diamond trade.

**Challenges in diamond trading**

*Fluctuations in global economic conditions.* Global economic conditions create fluctuations in the diamond trade, similar to many other global industries. The economic environment significantly influences this aspect. Fluctuations in the global economic landscape have both direct and indirect impacts on diamond trading, particularly within the diamond industry, especially in terms of demand and pricing. Understanding the interaction between the diamond market and the global economy is crucial for stakeholders in the diamond industry. This process is analogous to the field of accounting, where there is a tendency to harmonize accounting concepts and enhance the role of economically more developed countries, aiming for collaboration and the search for a mutually acceptable and applicable framework. (Николова, 2006)

Economic recessions are also a factor and refer to periods of significant decline in economic activity, characterized by reduced consumer spending, business investments, and overall economic production.

Reduced consumer spending during periods of economic recessions creates conditions in which consumers, in an effort to preserve their financial well-being, limit their expenses. Simultaneously, they tend to cut back on their purchases, including luxury goods such as diamonds, leading to decreased demand in the diamond industry. It's worth noting that certain restrictions also come into play in the credit processes during recessions. Recessions often lead to the implementation of special lending conditions aimed at safeguarding banking reserves, which, in turn, complicates the process of securing financing for diamond traders, transactions on the diamond market, and retail consumers.

Here, we must also highlight currency exchange rate volatility, as fluctuations in currency exchange rates significantly impact diamond trading and the values of diamonds on various markets. The diamond industry is highly
dynamic, and economic entities aim for higher profits with lower costs when engaging in their imports or exports. In fact, the specificity lies in the countries that import diamonds from producer nations where the local currency is very weak. This makes the import of diamonds more expensive and potentially affects the demand for and purchase of the sparkling crystal. Regarding profit margins for diamond exporters from countries with currency instability, there is certainly a lack of profitability in selling diamonds, especially when the local currency strengthens and increases its value compared to certain global currencies.

Inflation also has a definite impact on the activity and the increase in the price values of goods and services, which creates conditions for a decrease in purchasing power for luxury goods. In the process of inflation, production costs in diamond mining and processing increase and are transferred to consumers who purchase the desired goods but at higher prices.

In fact, inflation also influences consumer behavior, as individuals refrain from certain purchases, especially diamond purchases, and prefer to keep their savings in cash or invest in assets that protect them from inflation. (DEBEERS, 2020)

On a global scale, governments of countries during periods of economic crises and inflation undertake specific trade policies and trade restrictions, including tariffs and duties, to exert a certain influence on the cross-border flow of diamonds. These unique trade barriers do indeed increase the values of diamonds in certain markets, but they affect the demand and disrupt the global supply chain and availability of diamonds on different stock markets.

Indeed, fluctuations in global economic conditions are undoubtedly challenges for the diamond trading industry. When considering periods ranging from recessions to currency instability and inflation, we understand that economic factors significantly impact the dynamics of demand, supply, and valuation of diamonds in the global market. Therefore, economic entities and participants in the diamond trade, both on stock markets and in individual, unregulated transactions, must be informed, cautious, and adaptive in order to overcome these challenges and possess genuine and uncompromised diamond crystals.

**Ethical and environmental challenges.** In terms of creativity within the aforementioned context, it is necessary to emphasize that the diamond industry must address numerous ethical and environmental challenges that encompass ethical practices in diamond extraction, production, and trade. In this regard, practices related to the production and trade of “blood diamonds”, also known as diamonds from conflict zones, must be highlighted and eliminated. These diamonds are sourced from military territories and sold to finance armed conflicts against governments and states.

Such activities violate human rights, including the right to labor, respect, fair wages, forced child labor, physical violence, often leading to loss of human lives. In fact, this not only tarnishes and damages the reputation of the diamond industry but also has a ripple effect on consumer trust and their purchasing behavior towards diamonds.

To avoid such deviations, it is imperative for diamond mine owners to enhance control measures and implement specific regulations related to the
operations and labor conditions. This should also entail a shift in attitudes towards workers in the diamond industry and processing facilities.

Considering the points made by the author in the scientific research, open-pit diamond mining leads to numerous environmental damages, degradation of the ecosystem, pollution, and destruction of local ecosystems. It results in alterations in flora and fauna, pollution of natural water sources, as well as negative impacts on terrestrial and aquatic organisms and human communities in the affected mining areas. (EnvironmentGo, 2022)

Additionally, carbon dioxide emissions resulting from diamond mining and processing contribute to global carbon emissions, which drive climate change. (DiamondProducersAssociation, 2023)

Addressing these ethical and environmental challenges is of utmost importance for the sustainability and reputation of the diamond industry. As consumers become increasingly discerning and conscious of the impact of their purchases, the industry must adopt transparent, ethical, and sustainable practices to meet these ever-evolving demands and ensure its long-term viability.

To meet such high demands, transparency and traceability of a diamond's journey from the mining source through the diamond supply chain to the diamond markets are essential. Only in this way can consumer trust and ethical sourcing be guaranteed. Therefore, ensuring that every diamond undergoes the certification process and is traceable is a logistical challenge that significantly enhances the credibility of the diamond industry.

Conclusion. The study of the diamond industry can be seen as a combination of diverse and specific activities carried out both at the national and global levels. Diamonds can be regarded as “sparkling treasures” that bring numerous economic, social, and financial benefits to their owners. As evident from the scientific research, various factors can influence the price of this precious metal, and there are many companies in the trading market that play a significant role in the mining aspect. In the conditions of the 21st century, a period of innovation and technological advancement, digital platforms for diamond trading are introduced to increase investment flows. Technological tools for diamond classification and verification are applied in determining the quality of the precious product. Of course, the industry faces significant challenges related to fluctuations in global economic conditions and the implementation of ethical and environmental standards.

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