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ARE DIAMONDS REALLY FOREVER?  
A STUDY OF THE HISTORY AND FUTURE OF THE DIAMOND INDUSTRY

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## **Abstract**

Diamonds have long been a subject of economic intrigue due to the unique nature of their value. While diamonds offer very little consumption benefits, they are prized as status symbols and thus command a high value in trade. Essential to the diamond market is the cultivation of demand for the stones, which has been carefully controlled by the international diamond cartel since its inception in the early 20th century. This industry goes to great lengths to control supply and manipulate demand in order to convince the public at large of the rarity of these precious stones and thus maintain high and stable prices. Essential to these efforts are the psychological processes involved in maintaining the perceptions of the public. This thesis will examine the past, present, and future of the diamond industry, with specific emphasis on the measures taken by the industry to influence consumers' psyche.

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## **I. Introduction**

Due to the unusual nature of their value, diamonds have long intrigued economists. Adam Smith presented this issue in *The Wealth of Nations* in 1776, coining what has become known as the diamond-water paradox: “Nothing is more useful than water: but it will purchase scarce any thing; scarce any thing can be had in exchange for it. A diamond, on the contrary, has scarce any value in use; but a very great quantity of other goods may frequently be had in exchange for it” (Smith, 1776, 26). While diamonds designated for jewelry purposes have little practical value in use, they nonetheless command a high value in exchange because of the utility that comes from “wearing pretty things” (Scott and Yelowitz, 2010, 353). The term “diamond effect” has been used to refer to goods like diamonds that are valued not for their intrinsic composition but because they are costly. This creates what some researchers have called “a market for social status, perhaps by the relative amounts consumed of these goods” (Scott and Yelowitz, 2010, 353). Consumers of diamonds engage in conspicuous consumption, whereby they seek to attain social status through the consumption of luxury goods.

Almost since the discovery of diamonds in South Africa in 1867, the production of diamonds has been dominated by a single international diamond cartel, arguably one of the most successful and longest-lasting cartels in the world (Spar, 2006). Headed by De Beers, this cartel has maintained strict control over all aspects of the diamond industry, essentially bringing the diamonds from the dirt directly to the hands of future brides.

This control of the supply side of the industry has been supplemented on the demand side by pervasive marketing campaigns that aimed to change the American psyche about diamonds in order to intimately link the stones with everlasting love. De Beers’ official motto, “A Diamond is

Forever,” is universally recognized and widely regarded as one of the most successful marketing campaigns in history.

Recent media attention has given the public a heightened awareness of conflict or blood diamonds that are used to fund violent conflicts in Africa. This has led to some backlash against the industry, as well as the development of the international Kimberley Process Certification Scheme in order to eliminate conflict diamonds from the market. Advances in technology have made it possible for scientists to create diamonds in laboratories that are chemically the same as natural diamonds, and even superior in color and clarity. In the past two decades, De Beers has dramatically changed its business strategy and no longer controls a monopoly of world rough diamond supply. The recent financial crisis generated a negative shock to the diamond market, while new entrants to luxury goods markets from prospering countries such as China and India are poised to increase demand for diamonds. The diamond industry is clearly undergoing significant changes, which makes this a particularly opportune time to study the history and present of the diamond industry in order to gain a better understanding of where it might head.

While the primary motives of the players in the international diamond industry may be economic, this thesis will demonstrate that psychological processes are indispensable to nearly every aspect of the diamond market. The value of a diamond is based almost entirely on a carefully cultivated perception of rarity. Consumers purchase diamonds out of a desire to convey social status to others, and conform to standards of behavior when making purchasing decisions. De Beers’ marketing campaign has focused on manipulating the psychology of both men and women to believe that diamonds are the only sign of true love, and that the stones contain deep sentimental value that must not be resold. The diamond cartel has undertaken extreme efforts to control both supply and demand, as any shocks to the system threaten the price stability of the

precious stones, a factor that is key to the public's perception of diamonds' value. Backlash against conflict diamonds is another threat to the industry that was carefully managed by De Beers and other companies who got on board with certification schemes in order to prevent consumers from seeking alternative, conflict-free substitutes. Almost every action taken by the international diamond industry can be traced back to a desire to control the public's psyche concerning the precious stones in order to maintain high prices in the market.

This thesis will begin by explaining the demand for diamonds as symbols of social status and conformity, followed by how the De Beers Corporation was successful in changing the consumer psyche about diamonds and indelibly linking the gemstones with love. It will then examine the structure of the market and the history of the international diamond cartel, followed by a discussion of recent changes to the market. The conclusion will discuss the current status and future of the international diamond industry.

## **II. The Diamond Effect: Diamonds as Status Symbols**

The properties that determine a diamond's value are quite unique. Diamonds are valued not for their intrinsic consumption effects, but instead because they are costly. Diamonds are also unique in that their value is not dependent on the quantity consumed, and therefore consumers can reduce quantities consumed without suffering a loss in utility (Ng, 1987). Valuing something for its value rather than the consumption effect it provides is what Ng calls the "diamond effect" (186).

Consumers of diamonds derive utility by giving a gift of value, or by showing off their wealth. This is what Thorstein Veblen coined conspicuous consumption, whereby people spend lavishly on goods and services in order to display income or wealth to others, primarily in order

to attain social status (1899). According to Veblen, it is the value of the diamond that is important, as opposed to the diamond itself. Veblen discusses gemstones explicitly in *The Theory of the Leisure Class*: “But [gems’] beauty, in the naive sense of the word, is the occasion rather than the ground of their monopolization or of their commercial value. ‘Great as is the sensuous beauty of gems, their rarity and price adds an expression of distinction to them, which they would never have if they were cheap.’” Diamonds are valued *because* of the value and the corresponding social status that comes from owning and displaying expensive goods.

In order to demonstrate conspicuous consumption, Veblen uses an example of people who use silver utensils at meals even though utensils made of cheaper material function just as well, if not better. The same comparison can be made for diamonds, as consumers demand natural diamonds, even though synthetic or laboratory-made diamonds can offer the same or better aesthetic appeal at significantly lower prices. Veblen believes that people compare their socio-economic status to those around them and attempt to emulate those whose status is above their own in order to achieve a higher social status themselves. Diamond jewelry, along with expensive cars or luxury vacations, is one way to demonstrate superior social status to others and therefore engage in conspicuous consumption.

The market value of a diamond is based on four industry-agreed characteristics of a finished jewel: color, carat, cut, and clarity, the four C’s. Colorless and near-colorless diamonds have greater brilliance, while the weight or size of a diamond is measured in carats. The cut of a diamond has significant effect on its sparkle or brilliance, and diamonds that are completely free from internal flaws or inclusions are very rare. While color and clarity are predetermined by nature, the shape as well as the carat weight and cut are determined in the production process,

within the limits imposed by the rough stone. A diamond processor chooses the shape, size, and cut of a diamond that will maximize profits; this is driven by consumer preferences.

### *Conformist Behavior*

Analyzing the market for diamonds provides evidence that people desire to conform to a standard of behavior when purchasing diamonds. Frank Scott and Aaron Yelowitz (2010) found pricing anomalies that suggest, for example, that a diamond of 1.0 carat is worth considerably more, in the mind of the consumer, than one that is 0.99 carats. The researchers gathered data from three online diamond retailers, Blue Nile, Union, and Amazon, in order to analyze prices around half- and whole-carat sizes, which they call “focal points.” They found that there were significant jumps in both the amount of diamonds supplied and diamond prices at or above as opposed to below each focal point.

In conducting their research, Scott and Yelowitz gathered data from every diamond listed in each of Blue Nile, Union, and Amazon’s inventories between July 6 and July 8, 2005, for a total of 139,420 diamonds. Restricting the data at the high and low ends of the spectrum to focus on diamonds weighing between 0.4 and 2.5 carats, they were left with a sample of 114,863 diamonds. The researchers constructed histograms for round diamonds between 0.4 and 2.5 carats in each merchant’s online inventory. As illustrated in Figure 1, there are considerably fewer diamonds available for sale on the low side of focal point carat weights than on the high side. For example, among Blue Nile’s round diamonds, there are only 47 diamonds weighing 0.49 carats, while there are 1,030 weighing 0.50 carats; there are 14 diamonds weighing 0.99 carats and 1,022 weighing 1.00 carats. The researchers remark, “If size were completely exogenously determined by nature, then we would expect to see a smoothly declining continuum of diamonds by carat weight in Figure 1. The effect of human intervention, however, is starkly



evident from the frequency distributions of carat weights for each online retailer” (356). These distinct discontinuities in the frequency distributions of diamonds by size suggest that diamond suppliers are responding to demand signals that consumers are sending.

Scott and Yelowitz then examined the pricing of diamonds around focal points. Controlling for shape, cut, color, and clarity, the researchers compiled results and found noticeable jumps in prices surrounding the focal point sizes; this is seen in Figure 2. Significant price differences were found around focal points of 1.00, 1.50, and 2.00 carats. For example, a 0.01-carat increase in size leads to a 3.0% increase in price for the typical Blue Nile diamond in the neighborhood of one-half carat; however, moving from a 0.49-carat to a 0.50-carat diamond leads to a 17.5% increase in price. In Union’s inventory, this differential is 22.6%, and in Amazon’s, 28.0%.

In order to quantify this, in Blue Nile’s inventory, for example, moving from 0.50 carats to 0.49 carats reduces price by \$281, while moving from 0.50 to 0.51 carats increases price by \$23, an order of magnitude smaller. One-hundredth of a carat difference on the low side of 1.00 carats reduces price by \$554, while on the high side such a price difference increases price by \$120. The researchers note that both sets of coefficient estimates are statistically significant (Scott & Yelowitz, 2010).

The researchers observe that the Union Diamond Co. data presents a notable exception, as their inventory of 0.99-carat diamonds at  $n = 78$  was almost an order of magnitude larger at the time of this data collection than it has been at any other time since the researchers collected the data. They also note that the average price of these 0.99-carat diamonds (\$5,004) differs only slightly from the price of Union’s 1.00-carat diamonds (\$5,437) and is not statistically significantly different. The researchers remark, “It almost appears that Union was conducting a

market experiment at the time to see if it could acquire a larger inventory of 0.99-carat stones and profit from the pricing anomaly that we have uncovered” (Scott and Yelowitz, 2010, 358). The researchers then conclude that this experiment must not have been profitable for Union, because it “has since sharply reduced the number of 0.99-carat diamonds that it carries, and its prices now display the same pattern that Blue Nile’s and Amazon’s prices do” (358).

Based on these findings, Scott and Yelowitz conclude, “Clearly, there is a sizable premium associated with owning a diamond at or below a focal point ... Consumers clearly prefer larger diamonds to smaller diamonds, but the price jumps at focal point sizes indicated that something more than two-thousandths of a gram in weight differentiates a 0.49-carat diamond from a 0.50-carat one” (363-364).

Scott and Yelowitz explore other possible explanations for the observed pricing anomaly surrounding focal point sizes, including a whole-number effect, rule-of-thumb decision making rules, and that diamonds may be purchased as an asset or a store of value. But while Scott and Yelowitz state that each of these theories has some merit, they do not adequately explain the pricing anomalies because they do not incorporate “the aspect of diamonds that economists seem to think sets them apart from ordinary goods” (366), which is that their value is not dependent on intrinsic value, but the fact that they are costly.

One aspect of the diamond market that Scott and Yelowitz use for their explanation of such anomalies is that a major market for larger diamonds is engagement rings. In the engagement ring market, the target peer group for a prospective groom is his fiancée. An engagement ring has both symbolic and real values as a signal of commitment to a long-term relationship: “Hence, the demand for diamonds will have an intrinsic component that stems from the utility derived from wearing a pretty ring. But, it will also serve as a bond posted by the

groom to signal his commitment to the relationship” (366). It is this that leads the researchers to conclude that the fundamentals of the engagement ring purchase are captured in Bernheim’s model of conformism (1994), in which individuals care about status as well as intrinsic utility when making consumption decisions.

According to Bernheim, status is dependent on public perceptions, which are signaled through actions. Bernheim notes, “When status is sufficiently important relative to intrinsic utility, many individuals conform to a single, homogenous standard of behavior, despite heterogeneous underlying preferences” (1994, 841). In the case of engagement rings, the groom wishes to signal to his prospective fiancée (and imaginably her friends and family) that he is a good marital prospect, which he does through the action of purchasing an engagement ring. The status given to the groom is affected by the size of the ring he buys. Despite underlying preferences, Bernheim demonstrates that individuals may attempt to conform to a certain societally accepted standard of behavior when the status component of the good is sufficiently important.

Diamond rings fit this model well, as the difference of a few hundredths of a carat is physically difficult to detect; this is evidenced by the relatively small difference in price between diamonds of 0.93- and 0.95-carats, for example. Scott and Yelowitz suppose that society’s perception function is therefore discontinuous at the focal size point of 1.00 carat, so that status utility will take a discrete jump between 0.99 and 1.00 carats, demonstrated in the discontinuity of diamond prices around this focal point. Therefore, it is likely that prospective grooms who purchase engagement rings wish to purchase engagement rings at or above focal points, perhaps due to whole number effects or rule-of-thumb decision making, to signal to their fiancées that they are good marriage prospects.

### **III. De Beers and Marketing the Demand for Diamonds**

The tightly controlled "supply management" strategy undertaken by the international diamond cartel is supplemented by renowned advertising campaigns in order to create and nurture final demand for diamonds, while also reinforcing the image of diamonds as rare and valuable gems. It is important to keep prices from falling so as to perpetuate consumers' belief that diamonds remain scarce, even though there has been a large expansion in supply since the South African discoveries in the 19<sup>th</sup> century. Promoting demand allows De Beers to maintain diamond prices, despite growth in diamond production, and also keep the size of the Central Selling Organization (CSO) inventory under control. Together, the supply management strategy and highly effective advertising have convinced cartel members of the value of cooperation: diamond prices are maintained and members have a sure flow of funds from sales of rough diamonds to the CSO (Bergenstock, et al., 2006; Spar, 2006).

In order to create this demand for diamonds, De Beers has undertaken aggressive marketing campaigns dating back to the 1930s in order to convince consumers of the value of natural diamonds. The term "the diamond invention," which is "the idea that diamonds are rare and valuable, and are essential signs of esteem" (Epstein, 1982), demonstrates that this concept was manufactured by De Beers in order to drive demand. Epstein writes, "The diamond invention is far more than a monopoly for fixing diamond prices; it is a mechanism for converting tiny crystals of carbon into universally accepted tokens of wealth, power, and romance." In order to do this, De Beers realized it needed to create a perception in the minds of both women and men that diamonds were not merely precious stones, but "an inseparable part of courtship and married life" (Epstein, 1982). In order to stabilize the market, De Beers needed to create the illusion that diamonds were "forever" and that they should never be resold.

After the Great Depression, diamond prices had fallen around the world. In 1938, around three-quarters of all of the cartel's diamonds were sold for engagement rings in the United States; De Beers concentrated its marketing campaigns on this market in order to persuade Americans to buy bigger and greater quality diamonds. This involved creating a new image in the minds of Americans, and was a task undertaken by N. W. Ayer, a leading advertising agency in the United States. The advertising campaign sought to have a significant impact on the "social attitudes of the public at large and thereby channel American spending toward larger and more expensive diamonds" (Epstein, 1982). A key component of this campaign was strengthening the association between diamonds and romance in the public's mind. This included young men, who bought over 90% of all engagement rings, as well as young women, who were to be encouraged that diamonds were an "integral part of any romantic courtship" (Epstein, 1982). The advertising campaigns focused on the relatively new medium of motion pictures in order to romanticize diamonds. This was achieved by presenting movie idols with diamonds as symbols of eternal love in order to penetrate the psyche of the American people.

By 1941, the campaign had already achieved impressive results: the sale of diamonds had increased by 55% in the United States since 1938. N. W. Ayer stated that its campaign had required "the conception of a new form of advertising which has been widely imitated ever since. There was no direct sale to be made. There was no brand to be impressed on the public mind. There was simply an idea – the eternal emotional value surrounding the diamond" (Epstein, 1982).

In 1947, the advertising agency strongly emphasized a psychological approach in its annual strategy plan: "We are dealing with a problem in mass psychology. We seek to ... strengthen the tradition of the diamond engagement ring – to make it a psychological necessity"

(Epstein, 1982). The targeted audience was huge: over 70 million people above the age of 15. De Beers invested substantially in its efforts to change the American psyche concerning diamonds and to indelibly link diamonds with eternal love (Epstein, 1982).

In order to accomplish this, the agency organized a weekly service called “Hollywood Personalities” that provided descriptions of the diamonds worn by movie stars. The agency also encouraged news coverage of celebrities showing off diamond rings in order to create prominent “role models” for poorer middle-class wage earners. In its 1948 strategy paper, the advertising agency explained, “We spread the word of diamonds worn by stars of screen and stage, by wives and daughters of political leaders, by any woman who can make the grocer’s wife and the mechanic’s sweetheart say ‘I wish I had what she has’” (Epstein, 1982). De Beers sought to create demand by encouraging conspicuous consumption of diamonds, turning diamonds into visible symbols of success and socio-economic achievement. N. W. Ayer also coined the famous “A Diamond is Forever” saying, which soon became the official motto of De Beers.

In 1951, N. W. Ayer found some resistance to its marketing in two forms: Upper-income women faced pressure to be “different as a means to being smart,” while lower-income groups “would like to show more for the money than they can find in the diamond they can afford” (Epstein, 1982). To combat these pressures, the advertising agency argued that constant publicity was necessary to show that “only the diamond is everywhere accepted and recognized as the symbol of betrothal” (Epstein, 1982). The company wanted to instill the idea that diamonds are the true symbol of a man’s love and commitment, and that substitutes are unacceptable.

By the end of the 1950s, N. W. Ayer reported to De Beers that the twenty years the company had spent on advertisements and publicity had had a significant effect on the American psyche. Diamonds were indeed becoming a necessary component of engagements for virtually

everyone, exactly as N. W. Ayers had hoped at the outset of its campaign. The entirely new generation of young people that had reached marriageable age since the onset of N. W. Ayer's marketing campaign had been indoctrinated to associate diamonds as a necessity to engagement, so much so that those who could not afford diamonds at the time of their marriage chose to defer the purchase as opposed to forgoing it.

In the mid-1960s, the "diamond invention" began efforts to internationalize the success that had been achieved in America. One country that was the focus of this effort was Japan, where, until the mid-1960s, marriages were arranged by parents and there existed no tradition of romance or courtship; as a result, there existed no substantial interest in giving diamonds as a symbol of love. The advertising campaigns that began in Japan focused on emphasizing diamonds as visible signs of modern values. Advertisements in magazines featured beautiful women with Western facial features and European clothing wearing diamond rings. The women in these ads were often involved in activities such as camping or yachting, activities that defied Japanese traditions. The artifacts such as automobiles featured in the ads were "conspicuous foreign imports," and there was often a Japanese man in the background of each ad. The message of the ads was to show that "diamonds represent a sharp break with the Oriental past and a sign of entry into modern life" (Epstein, 1982). The campaign was incredibly successful: when the campaign began in 1967, less than 5 percent of engaged Japanese women received a diamond engagement ring; by 1981, some 60 percent of Japanese brides wore diamonds. The diamond industry had clearly penetrated the Japanese market by associating diamonds with love and the allure of Western culture (Epstein, 1982).

In America, N. W. Ayer set his sights on a new market for diamonds: long-married couples. He noted that gifts like candy, flowers, and fur come and go, but women seek a

“psychological craving for a ‘renewal of the romance’” that only diamonds can provide (Epstein, 1982). The agency began a new advertising campaign that a second diamond in the later years of marriage represented a symbol of ever-growing love.

This advertising campaign coincided with the discovery of diamond mines in Siberia. These Soviet diamonds were smaller in size, which necessitated a restructuring of the market: the head of De Beers, Harry Oppenheimer, recognized that competition with the Soviets would lead to undesired price fluctuations. Price fluctuations would weaken the “carefully cultivated confidence of the public in the value of diamonds” (Epstein, 1982), which was undesired by the company. In order to combat this, Oppenheimer offered the Soviets a deal in which De Beers became the single channel for distribution of these minute diamonds. As almost all of these diamonds were less than half a carat in their uncut form, the company needed to find a use for this supply of small diamonds.

The company’s strategy for small diamond sales emphasized quality, cut, and color over size. De Beers also developed the “eternity ring,” which was made up of as many as twenty-five tiny Soviet diamonds and was sold to the new market of older married women. This was again a “sentiment born out of necessity: older American women received a ring of miniature diamonds because of the needs of a South African corporation to accommodate the Soviet Union” (Epstein, 1982). This new campaign to market eternity rings composed of smaller diamonds to long-married women was met with considerable success and led to a surge in the sale of small diamonds (Epstein, 1982).

In addition to eternity rings, the company began marketing small diamonds in other ways. The company began emphasizing quality, color, and cut over size, and replaced large rings with small ones in existing pictures. This new campaign was met with considerable success and was



perhaps too successful, as the supply of small diamonds began to diminish. The company then underwent campaigns to restore the status of the large diamond as well as the small diamond (Epstein, 1982).

N. W. Ayer began conducting a series of studies in order to determine the public's true sentiments about diamonds. One such study aimed to "draw out a respondent's innermost feelings about diamond jewelry" through a series of "projective" psychological questions (Epstein, 1982). This study found that although women often publicly harbored negative attitudes about diamonds, dismissing them as "flashy, gaudy, or overdone," they secretly desired receiving diamonds as a "conspicuous symbol of achievement, status, and success" (Epstein, 1982). As such, many women expressed a preference for being surprised by gifts of diamond jewelry as opposed to participating in the selection process because this allows women freedom from guilt about receiving expensive jewelry. Advertising campaigns in the 1970s subsequently focused on the surprise aspect of diamonds as a gift of love that will increase a man's standing in the eyes of a woman (Epstein, 1982).

Another key aspect of the diamond campaign centered on "psychologically conditioning" women to never sell their diamonds. In order to achieve this, N. W. Ayers aimed to portray diamonds as "cherished possessions valued far above their market price" (Epstein, 1982). A secondary market for diamonds that would occur as a result of women selling their diamonds after receiving them would threaten price stability of the market, which the diamond industry wished to strictly control. As of 1982, it was conservatively estimated that the public held over 500 million carats of gem diamonds, which is over fifty times the number of gem diamonds produced by the diamond cartel in any given year. By emphasizing the emotional and

sentimental value of the diamond, De Beers helped ensure that these diamonds would remain off the market once purchased (Epstein, 1982).

By 1979, De Beers had expanded its sales of diamonds in the United States to more than \$2.1 billion, compared with \$23 million in 1939. This increase of nearly a hundredfold was due to advertisements that originally cost \$200,000 a year, and gradually increased to \$10 million (Epstein, 1982).

#### **IV. De Beers and the History of the Diamond Industry**

The creation of the international diamond cartel, headed by De Beers, began in the nineteenth century. Diamonds were manufactured exclusively from India and Brazil before diamond fields were accidentally discovered in South Africa in 1867, which brought a rush of prospectors from around the world hoping to capitalize on mining the precious stones. The miners first worked separately, but soon discovered that most of the diamonds were in deep volcanic pipes as opposed to in the riverbed; this forced them to pool their resources and cooperate. The miners formed Diggers Committees that allocated claims in a region due to the scarcity of resourceful land and the need for basic common infrastructure. Small claimholders began to merge into larger ones in order to dig diamonds on a larger scale. These groups of miners began to purchase or rent equipment for digging, hauling dirt, and pumping water out of the mines (Spar, 2006).

A businessman named Cecil Rhodes was one of the first to take advantage of the miners' needs by renting out a far more effective, steam-powered pump. By reinvesting the proceeds from his equipment rental into acquiring claims, Rhodes held a large enough share by 1880 to justify a separate company concerned solely with managing the mines; this was the birth of De

Beers Mining Company. Within seven years, De Beers controlled all the claims in the area (Spar, 2006).

Rhodes dealt with two issues that he realized would define the diamond trade as he acquired more mines. The first was that the influx of new diamonds due to the increased production from the South African mines to the markets in Europe threatened the notion that diamonds were rare and valuable stones. This danger of losing the image of the scarcity of diamonds would negatively impact demand for the gems if the stones were allowed to simply flood the market.

The second issue Rhodes faced was that diamonds, as both a natural and highly variable product, were difficult to control from the production side. Individual miners could not control the amount of diamonds they produced, as they simply mined the stones they found and tried to sell them all. Rhodes concluded that the solution to these problems was to “forge a unified, vertically-integrated organization to manage – down to the carat – the flow of diamonds from South Africa” (Spar, 2006, 198). In order to achieve this, Rhodes reasoned that only cooperation amongst diamond producers could keep supplies low and prices high. He decided that De Beers would acquire any “excess” supply on the market and stockpile these stones in order to maintain control over the industry. De Beers would use its buying power to buffer the other producers and “remind them of cooperation’s rewards” (Spar, 2006, 198).

The Diamond Syndicate, a formal agreement with Rhodes’ buyers, the local diamond distributors, was signed in 1873. Distributors agreed to buy diamonds exclusively from Rhodes, “and sell them in agreed-upon numbers, at agreed-upon prices” (Spar, 2006, 198). Rhodes controlled all of South Africa’s major mines and the distribution channels for their output by 1890 (Spar, 2006).

Until Rhodes' death in 1902, these mechanisms remained in place. Earnest Oppenheimer was a German who was concerned that the Diamond Syndicate "was still too independent, potentially capable of challenging the producers by shifting either supply or price" (Spar, 2006, 198). Oppenheimer thus began to integrate the channels of production and distribution even more tightly as he rose through the ranks of the diamond trade, and eventually gained control of the diamond syndicate in 1925. Oppenheimer achieved near total integration of South Africa's diamond trade when he took control of De Beers in 1929 (Spar, 2006).

Oppenheimer "now presided over a system that brought diamonds from the dirt practically to the hands of brides-to-be" (Spar, 2006, 198). At the center of Rhodes' system was the Central Selling Organization (CSO), a London-based group that acted as the primary intermediary between the stones mined in a given year and the consumers, based in London. An elite group of dealers that were selected by De Beers would gather at CSO headquarters ten times a year. The dealers, also called "sightholders," would each be presented with an individual parcel of stones called a lot. These lots were selected by the CSO to reflect both what the sightholder was hoping to sell in the subsequent weeks and what De Beers wanted to put onto the market. The sightholders were given the option to take either the entire contents of their lot, or none at all. De Beers was able to control the precise size and quality of diamonds available each year as well as their price through this "orderly marketing" mechanism. Sightholders were encouraged not to purchase diamonds from any sources outside the CSO, nor even to repurchase a "used" stone (Spar, 2006).

In the 1950s, South Africa's immense stock of diamonds began to diminish, while other countries were beginning to discover new deposits of diamonds. Each of these new entrants into the market threatened to destroy the illusion of scarcity that kept prices high. In response, De

De Beers moved quickly to bring the new producers within its system by signing long-term contracts with the diamond-producing countries. These contracts guaranteed that the company would purchase a fixed proportion of the country's output at a fixed price, while the country in return agreed, with minor exceptions, not to sell its stones outside the cartel. While these new countries certainly could have entered the world market on their own, most understood that cooperation was necessary in order to keep supply from growing too quickly or too high, thus shattering the allure of diamonds and causing prices to crash. "If any of the new producers tried to destroy De Beers, in other words, they would also destroy themselves" (Spar, 2006, 199).

When countries failed to comply with this structure and instead sold their diamonds through other channels, the cartel responded to stop this. For example, in 1981, the president of Zaire (now Congo) decided to stop selling his country's industrial-grade diamonds to the syndicate. In response, De Beers flooded the market with industrial diamonds from its stockpiles. This brought the price of Zairian diamonds down by 40 percent. By 1983, Zaire agreed to renegotiate its contract with De Beers; however, the terms of the contract were far less favorable than before Zaire defected from the system. In the 1970s and 1980s, the Soviet diamond authorities would occasionally quietly increase the number of diamonds sold through their own independent channels in order to increase their profits. The Soviet stones were too good and too plentiful for De Beers to flood them out of the market, so they instead negotiated and made whatever concessions were necessary to keep the Soviets inside the cartel and their excess diamonds off the market (Spar, 2006).

In addition to managing demand through its aggressive and pervasive advertising campaigns, De Beers maintained even greater control over demand by exerting its power over market forces. For instance, in the 1970s, Israeli diamond dealers began to convert their financial

assets into diamonds in the hopes of protecting themselves from the rampant inflation the country was undergoing. De Beers “didn’t want diamonds to be seen, or purchased, as anything other than precious, sentimental gifts, and they didn’t want the price decreases that would inevitably follow a speculative rise” (Spar, 2006, 200). In order to eliminate this threat, De Beers effectively made diamond speculation a much riskier venture by imposing a drastic price increase on all diamonds sold by the CSO; this ended the speculation almost at once. The company then stripped hundreds of dealers of their right to purchase diamonds from the CSO (Spar, 2006).

In 2004, another shock to the system brought De Beers to action to maintain price stability. In this case, the global diamond industry was surprised with a demand-side shock, with jewelry sales rising by 6 percent; producers could not keep up. While in many other industries, a sudden surge in demand would typically be considered a positive, this threatened the stability of the market that the industry treasures. In response, the CSO raised its rough diamond prices by 14 percent over the course of the year, causing other major producers to follow suit. De Beers’ own stockpile dwindled to nothing, down from \$4 billion in 1999 (Spar, 2006).

The diamond industry’s obsession with stability, as opposed to other industries such as oil or coffee, can be traced to the fact that their value depends on how consumers view diamonds, and how they think about the price that they pay. The carefully cultivated illusion of scarcity could be shattered by rapid changes in either supply or demand, and thus the international diamond industry goes to great lengths, including sacrificing short-term profits for long-term order, in order to ensure this consistency. Spar explains, “Other industries can handle such fluctuations, because the underlying demand for their product is less rooted in sentiment” (2006, 201).

The diamond industry was highly successful in maintaining the strict price stability it so desired, as can be seen in Figure 3: While prices for platinum, gold, silver, copper, aluminum, and oil fluctuated wildly from 1980-1998, the price of diamonds rose steadily, seemingly without any dips (Spar, 2006). This can be attributed to the efforts of the diamond industry, first with its psychological efforts to promote diamonds as rare symbols of love as opposed to tradable commodities, as well as through the forcible stifling any threats to this stability through market actions.

## **V. Changes to the Market**

### *Substitutes for Diamonds*

Recent advances in technology that allow for the production of synthetic or lab-produced diamonds have brought new caveats to the international diamond market. Scientist are now able to create gem-quality diamonds in laboratories using the same processes that create natural diamonds within the earth. An article in *The Wall Street Journal* in 2007 details the story of an expert on precious stones who learned the jewelry business from his father and spent over 700 hours in a classroom who could not distinguish a natural diamond from a laboratory-produced diamond upon inspection, although a cubic zirconia substitute stood out easily to the naked eye. The jeweler declared the lab-grown diamond “the best of the three” in terms of quality, as the natural diamond contained more flaws. Lab-made diamonds are now being produced with color and quality that match or exceed the quality of diamonds mined from the earth. Once suitable only for industrial use, these stones have begun to be sold by retailers at prices below those for natural diamonds of similar size and sparkle (O’Connell, 2007).

In response to this threat to demand for natural diamonds, the “diamond establishment is gearing up to persuade consumers that natural stones are worth paying more for” (O’Connell, 2007). The industry is trying to persuade the Federal Trade Commission that lab-grown diamonds should be prohibited from using the term “cultured,” suggesting terms such as “synthetic” instead. De Beers stepped up marketing of natural stones in response by emphasizing the permanence of natural diamonds and attempting to make them seem special. Recent advertising campaigns have stated that their natural diamonds are “billions of years in the making,” and the fact that “approximately 250 tons of ore must be mined and processed in order to produce a single, one-carat, polished, gem-quality diamond” adds to “the mystery and aura of what make diamonds so sought-after.” De Beers has also begun loaning machines it says can distinguish between the two types to the most powerful gem-testing labs around the world in order to position lab-produced diamonds as synthetics that don’t compete with natural stones. According to a De Beers spokeswoman, it is “essential that synthetics are readily detectable from diamonds and that clear, unequivocal language is used to describe these man-made products” (O’Connell, 2007). Tiffany and Co. says it has no plans to sell lab-produced stones in its stores, stating that “They don’t fit in our stores. Natural diamonds fit in our stores – diamonds that come out of the ground” (O’Connell, 2007).

In its petition to the FTC, the main diamond associations noted that natural diamonds are a diminishing resource, and therefore prices tend to rise each year. The petition states that as technology improves, the supply of lab-produced diamonds “presumably will increase, thereby increasing the price differential” (O’Connell, 2007).

Lab-produced gems are still in their infancy, as only a handful of companies produce them and turn out a relatively small number of stones. While cubic zirconia is a chemically



different substance, the lab gems are considered true diamonds and not fakes. The Gemological Institute of America began offering gradings for them and other diamond alternatives in 2007 after long refusing to do so. The new ratings will work just like those for natural diamonds, grading them according to color, clarity, and cut, although the reports will describe the stones as “laboratory grown.” The lab-grown diamonds differ in miniscule ways from natural diamonds; for example, lab-grown diamonds tend to be more transparent in ultraviolet light than all but the most rare mined stones because of a lack of nitrogen. These differences aren’t noticeable to the eye but can be detected with equipment (O’Connell, 2007).

Established diamond producers fear that in the long term, mined diamonds could suffer the same fate as naturally occurring pearls. Cultured pearls now account for more than 95% of all pearls sold globally, destroying the natural pearl industry. Observing the price collapse that occurred with the introduction of cultured pearls, Apollo, one manufacturer of laboratory diamonds, has set the prices for most of its stones at 15% below that of mined diamonds; it developed this figure for pricing after interviewing customers in focus groups (O’Connell, 2007).

While lab-grown diamonds have yet to find strong consumer demand, producers of the diamonds as well as some jewelry store owners remain convinced that more people will demand them as the business develops and more people become aware of their existence. In 2006, 400,000 carats were produced in the U.S. for gem use, compared with 130 million carats mined annually around the world (O’Connell, 2007).

In 2007, it was estimated that prices for natural diamonds will increase, as at least 100 million new diamond consumers from India and China enter the market over the next five years. However, production in carats is expected to remain flat despite this anticipated surge in demand,

according to the Rapaport Diamond Report, which analyzes the diamond market (O'Connell, 2007).

It remains to be seen whether lab-grown diamonds will gain acceptance with consumers. Cubic zirconia and moissanite, which both simulate the look of diamonds, have declined in price since their arrival on the market. As of "Gem Wars" publication in 2007, lab-grown diamonds were benefitting from the backlash against natural diamonds brought about by recent media attention surrounding blood diamonds. For example, actor Terrence Howard wore a custom pin made of several lab-made diamonds when presenting at the Academy Awards. Howard supports the lab-grown diamonds because they are diamonds, but consumers "can be sure nobody was harmed in the process of making it" (O'Connell, 2007).

#### *Changes to De Beers Business Structure*

Political and economic shifts created a new set of challenges for the diamond trade in the 1990s. The end of apartheid in South Africa led Nelson Mandela to proclaim that he would nationalize the mines, but this never happened. Instead, wide-reaching programs of black economic empowerment were enacted, which encouraged South African firms to sell a portion of their assets and reserve a portion of their assets for "historically disadvantaged" groups. The end of international economic sanctions also led to a flood of interest from foreign investors, which created new pressures from global financial and product markets (Spar, 2006).

By this time, South African diamonds had fallen to only about 14 percent of the world's rough production, and De Beers's own production was down to 45 percent of the world total. New discoveries in Canada were sure to reduce this percentage even further, and political change in Russia threatened once again to remove Canada's production from De Beers's hold (Spar, 2006).

The combined impact of these changes had a vast impact on De Beers. In 1990, the company restructured its already-complicated corporate structure by moving the bulk of its financial assets out of South Africa and into a Swiss-based corporation named De Beers Centenary AG. Then in the mid-1990s, it hired an American consulting firm to review its entire strategy. De Beers responded in June 2001, when De Beers Consolidated Mines delisted from the Johannesburg Stock Exchange and sold all of its shares to three entities. Effectively, De Beers was now a privately-held, family-run company. It also transformed the CSO into the Diamond Trading Company (DTC) and announced a new policy, ambiguously entitled Supplier of Choice (Spar, 2006).

Under this program, the number of sightholders was reduced dramatically, and those who remained would no longer be expected to take whatever stones De Beers deemed most appropriate. Instead, the buyers would now plot their own sales, implement their own marketing strategies, and request a specific package of stones from De Beers. Theoretically, this independence would allow sightholders to choose their purchases to align with their customers' demands. In the process, it would also pull more diamonds through the pipeline, reducing De Beers's stockpile and absorbing some of the projected supply increases (Spar, 2006).

De Beers also began rearranging its own sources of supply. It purchased 100 percent of Snap Lake, a mine in Canada, and renewed its supply contracts in Botswana and Namibia. It signed a five-year, \$4 billion trade agreement with Russia's largest diamond producer and expanded its exploration efforts around the world.

Despite this restructuring, De Beers was met with more international competition. In 2000, diamond sightholder Lev Leviev convinced the Angolan government to end the country's relationship with De Beers and instead sell all of its rough production through Leviev's new firm,

which then became the world's second-largest producer of rough diamonds. Meanwhile, a newly configured Russian diamond mining company, Alrosa, was also actively contemplating a break with De Beers. Canadian producers were likewise hinting at plans to polish, brand and market independently stones produced at certain mines, while batches of diamonds were also seeping into the market from across the vast middle regions of Africa (Spar, 2006).

De Beers was forced to acknowledge that its grip on the supply side of the industry was slipping. As a result, for the first time in its history, the company began to explore possible entries into the world of cut diamonds: "Until this point, De Beers's only direct connection with the jewelry trade was its famous 'diamonds are forever' campaign, an industry-wide appeal sponsored solely by De Beers. In 1999, however, the newly organized company heeded the consultants' advice and made the brand its own" (Spar, 2006, 203). The company began selling branded "millennium" diamonds that were etched with microscopic versions of the company's logo (Spar, 2006).

In 2001, De Beers moved another step further, signing a deal with LVMH Moët Hennessy Louis Vuitton, eventually developing a De Beers-branded line of premium diamond jewelry. "This deal brought together two of the world's most successful firms in a high-profile venture that promised to revolutionize how consumers viewed and bought diamonds" (Spar, 2006, 204). Despite all these changes, De Beers remained the dominant player in the world diamond industry; however, it no longer enjoys the monopoly status it had attained in the 1970s and 1980s, during which the company controlled up to 90% of the world supply of rough diamonds (Spar, 2006).

Currently, all of the major participants in the oligopolistic market for rough natural diamonds organize sales based on the concept of selling in lots. While many economists have

considered these trading practices discriminatory, Levin and Sheveleva (2010) argue that selling in lots leads to greater economic efficiency in the transactions due to the nature of diamond sales. One such distinctive feature is the existence of asymmetry of information between the buyer and seller. The true market price of a rough diamond can only be determined after it has been polished, cut, and faceted. These factors, in turn, depend on subjective factors such as the skill of the faceter and current preferences in the market. The selling of diamonds in lots helps to minimize costs, because gathering information on the quality of the diamonds and speculating the value of the diamonds after they are manufactured is very costly for both the buyer and seller. Thus, selling in lots and prohibiting negotiations eliminates incentives for buyers to incur costs associated with inspection (Levin & Sheveleva, 2010).

### *Blood Diamonds*

Recent media publicity has heightened international awareness about conflict diamonds. The United Nations defines conflict or blood diamonds as “diamonds that originate from areas controlled by forces or factors opposed to legitimate and internationally recognized governments, and are used to fund military action in opposition to those governments, or in contravention of the decisions of the Security Council” (United Nations Department of Public Information, 2001). Most conflict diamonds originate in Africa, and have funded conflicts in countries such as Sierra Leone and Angola for decades; the extremely brutal conflict in Sierra Leone brought the issue of conflict diamonds to the attention of the media in the 1990s. In a report published in 1998 entitled “A Rough Trade: The Role of Companies and Governments in the Angolan Conflict,” the activist group Global Witness was one of the first organizations to identify the connection between diamonds and conflicts in Africa. In response, the UN, governments, the diamond industry and non-governmental organizations such as Global Witness and Amnesty International

recognized the need for a global system to prevent conflict diamonds from entering the legitimate diamond supply chain and thus helping to fund conflict (World Diamond Council, n.d.).

Global Witness Partnership Africa Canada united in order to “embed their vision in a major global initiative” (Spar, 2006, 204). This initiative aimed at bringing corporations into the picture by lobbying them to take action and take responsibility to correct wrongs that weren’t directly theirs. At the conclusion of its report on rough diamonds and the conflict in Angola, Global Witness concluded that De Beers and the CSO, “as the major force in the world diamond trade,” must act decisively to end once and for all the trade that is the life blood of a guerilla organisation” (Global Witness Ltd., 1998).

On December 1<sup>st</sup>, 2000, the United Nations General Assembly unanimously adopted “a resolution on the role of diamonds in fuelling conflict, breaking the link between the illicit transaction of rough diamonds and armed conflict, as a contribution to prevention and settlement of conflicts” (United Nations Department of Public Information, 2001). This agreement developed a procedure called the Kimberley Process Certification Scheme (KPCS), which requires participating governments to ensure that each shipment of rough diamonds be exported and imported in secure containers, along with a uniquely numbered, government-validated certificate stating that the diamonds are from sources free of conflict.

Under the Kimberley Process, diamond shipments can only be exported and imported within co-participant countries; no uncertified shipments of rough diamonds are allowed to enter or leave a participant's country. This ensures that conflict diamonds are unable to enter the legitimate diamond supply chain and thus cannot be used for illegitimate purposes. The

Kimberley Process Certification System was ratified by 52 governments in November 2002, and was fully implemented in August of 2003 (World Diamond Council, n.d.).

In what may be a surprise to many, De Beers is actually a central proponent of the process: “De Beers executives campaign with Global Witness in support of the system; they sing its praises to analysts and reporters; and, through the Supplier of Choice program, they formally impose Kimberley’s provisions on all De Beers sightholders” (Spar, 2006, 204). The reasons for De Beers’s enthusiasm about the process are not immediately obvious, as the campaign initially threatened De Beers’s own image. However, the Kimberley Process is in fact good for De Beers. De Beers’s entire history has focused on keeping excess supply off the market and preventing new suppliers from entering; the Kimberley Process accomplishes this by restricting supply and boosting the status of big, established players such as De Beers. “The campaign against conflict diamonds helped to move the entire diamond market in De Beers’s direction” by crowding new suppliers out of the market and directing consumer preferences the producers who, like De Beers, can guarantee the cleanliness and integrity of their brand (Spar, 2006, 206).

Currently, 74 governments are committed and legally bound to the UN-mandated process, accounting for well over 99% of the global production of rough diamonds. Kimberley Process participants undergo periodic reviews as well as peer monitoring to ensure compliance. Additionally, all rough diamond sales are independently audited and are subject to separate governmental regulations. The Kimberley Process can sanction any country that is found in violation of the KPCS (World Diamond Council, n.d.).

The Kimberley Process has created notable improvements in reducing the role of diamonds in funding conflicts during the ten years since its inception. For example, the scheme pioneered a three-way approach to solving international problems, as well as helped some of the

countries that were affected worst by diamond-fuelled wars to increase their official diamond revenues.

However, the process is not without limitations, and discontent among civil society has been growing since the scheme was inception in 2003. Member governments have repeatedly failed to deal effectively with problem cases such as Zimbabwe, Côte d'Ivoire, and Venezuela. Despite the existence of the Kimberley Process, diamonds are still fuelling violence and human rights abuses. Although the scheme makes it more difficult for diamonds from rebel-held areas to reach international markets, there are still significant weaknesses in the scheme that undermine its effectiveness and allow the trade in blood diamonds to continue. The UK non-governmental organization Global Witness said in a June 19, 2010 statement: "Despite having all tools in place, the scheme was failing effectively to address issues of non-compliance, smuggling, money laundering and human rights abuses in the world's alluvial diamond fields" (GLOBAL, 2009). Ian Smillie of Partnership Africa Canada and one of the architects of the process resigned his position as civil society representative to the KPCS in June 2009, stating in his resignation letter: "When regulators fail to regulate, the systems they were designed to protect collapse ... I feel that I can no longer in good faith contribute to a pretense that failure is success, or to the kind of debates we have been reduced to" (GLOBAL, 2009).

In addition to complying with the KPCS, United States Presidents Bill Clinton and George W. Bush have issued Executive Orders banning the importation of rough diamonds. President Bill Clinton issued Executive Order 13194 on January 18, 2001, which prohibited the importation of rough diamonds from Sierra Leone into the United States, in accordance with UN regulations. On May 22, 2001, President George W. Bush issued Executive Order 13213; this order banned rough diamond importation from Liberia into the United States, as the UN had



identified Liberia as a pipeline for conflict diamonds from Sierra Leone (World Diamond Council, n.d.).

## **VI. Conclusion**

The future of the diamond industry is somewhat difficult to predict. On one hand, exploding wealth and populations in countries such as India, China, Russia, and Dubai are creating increasing demand for luxury items such as diamonds. On the other hand, countries that initially drove global prosperity such as the U.S. and Europe are still feeling the effects of the recent financial crisis that resulted in crumbling real estate prices, causing spending cutbacks that have reduced the sale of diamonds in recent years.

Prices for rough diamonds and polished goods continued to rise up to the last quarter of 2008, then subsequently sank abruptly in line with the global financial crisis. However, “most analysts predict that prices will rise again in the long term and the gap between supply and demand will widen because no new economic diamond discoveries have been made recently” (Read & Janse, 2009, 1). There is even suggestion that the peak world diamond production has or will soon pass.

Figure 4 shows the long-term rough diamond supply/demand outlook 2000 to 2018, prepared by WWC International Diamond Consultants Ltd. using January 2009 values (Read & Janse, 2009). This graph shows a steadily increasing demand curve beginning in 2009, while supply remains largely stagnant from 2011 on. According to the graph, the gap eventually reaches almost \$8 billion in 2018, with close to \$21 billion worth of diamonds demanded, and only \$13 billion available in supply. As demand outstrips supply, prices of the precious stones will certainly rise, perhaps eventually to levels that make them unaffordable for all but the

world's richest.

This gap between supply and demand could usher in an era of laboratory-grown diamonds, as these chemically identical substitutes become relatively more affordable than their natural counterparts: "There may be a role for gem quality synthetics in an under-supplied market" (Read & Janse, 2009, 8). In fact, the authors note a rumor in the industry that Element 6, a subsidiary of De Beers, may be looking into acquiring a share of the synthetic gem market, in competition with American synthetic gem producers such as Gemesis and Apollo (Read & Janse, 2009). If true, this represents a distinct shift from De Beers's current policy, and would signal that the company foresees a future profitability in synthetic diamonds.

Another notable trend is that online purchases now account for a substantial portion of retail diamond sales, with the largest retailer, Blue Nile, experiencing growth of 26.9% in sales from 2006 to 2007, increasing from \$252 to \$319 million. De Beers has also begun offering online jewelry sales, demonstrating that the dominant force in the industry recognizes that online sales represent an investment opportunity (Read & Janse, 2009).

While the future of the diamond industry remains uncertain, its long history suggests that change will not come all that quickly, and that the diamond cartel will find the means to bring this market back to the orderly competition that has dominated the industry for over a century. Dominated by cooperation and measures of control that allow for "orderly marketing" to triumph, the diamond market will surely adopt to the changes presented to it (Spar, 2006). Central to these challenges will be efforts to maintain the public's perception of diamonds as rare, precious stones that are synonymous with love and full of sentiment.

# Appendix

Figure 1

**FIGURE 1**  
Frequency Count of Round Diamonds

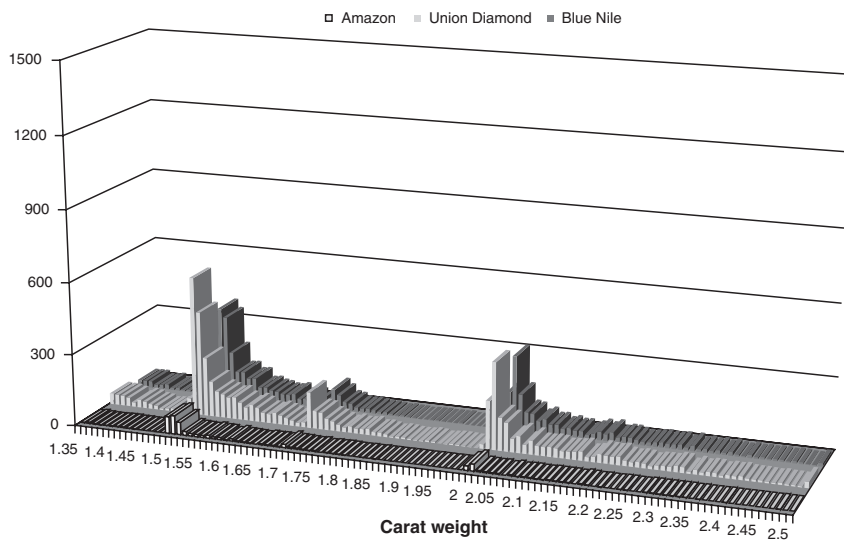
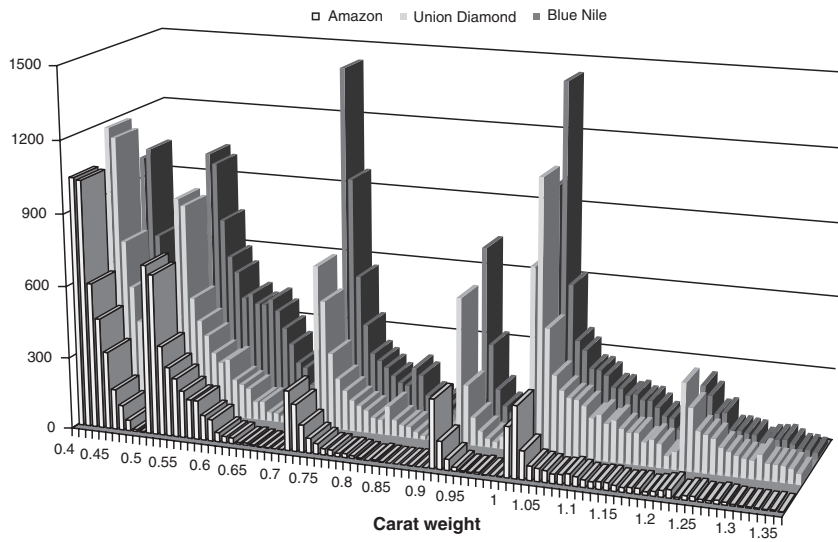


Figure 2

**FIGURE 2**  
Average Price by Carat Weight for Round Diamonds in the 1.0 Neighborhood: (A) Blue Nile, (B) Union, (C) Amazon.

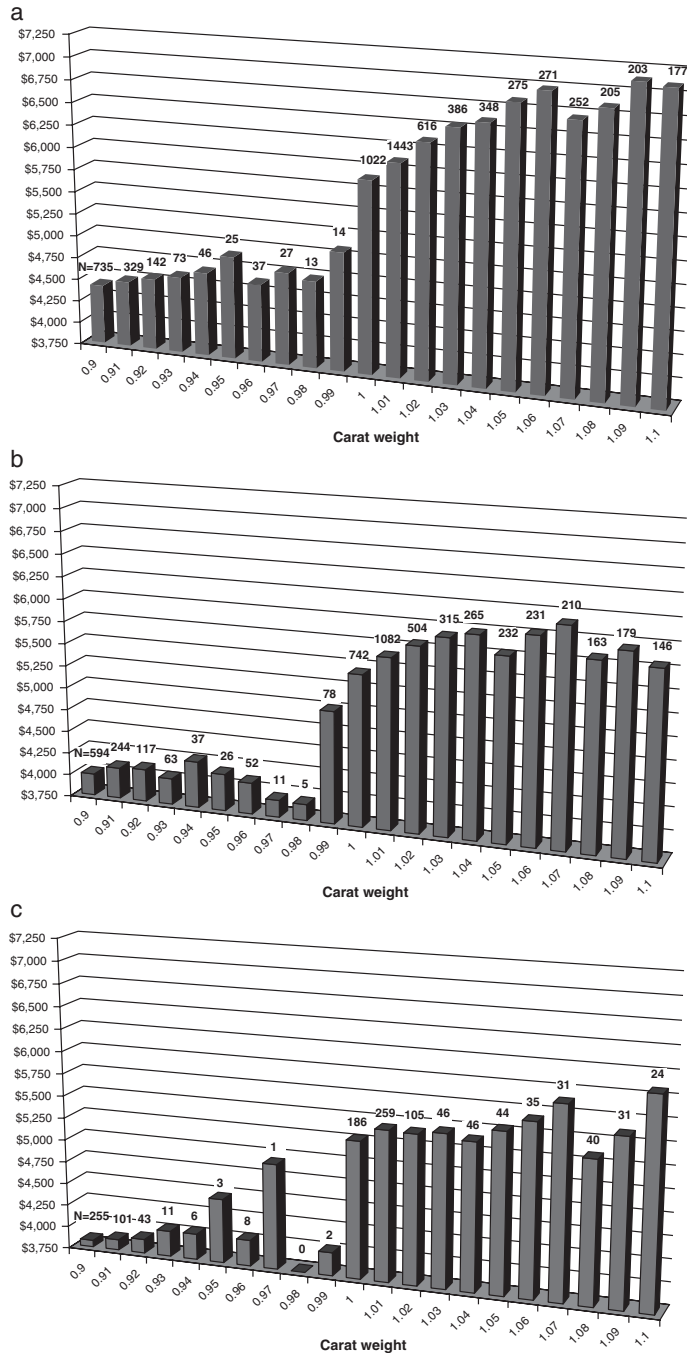
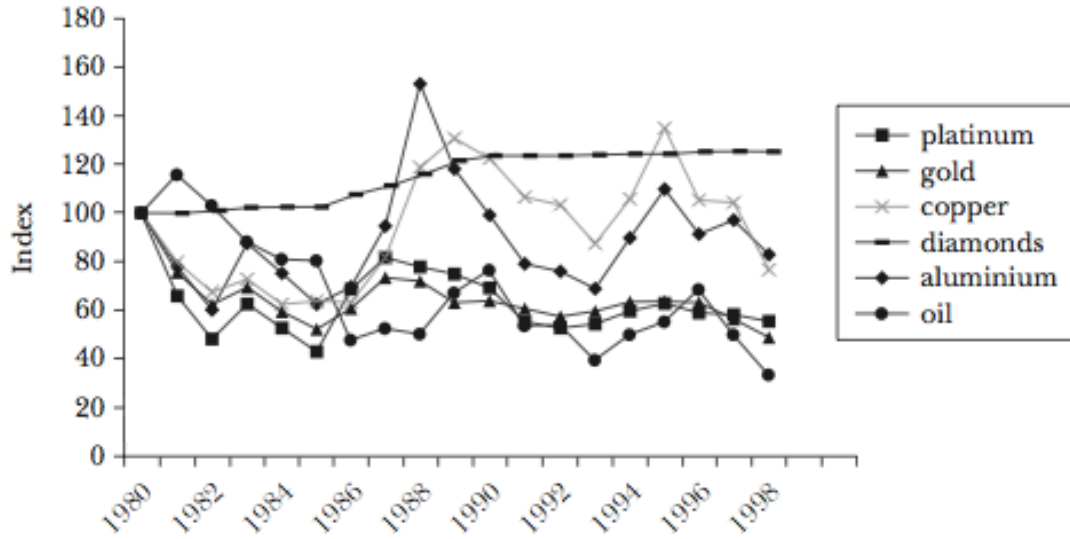


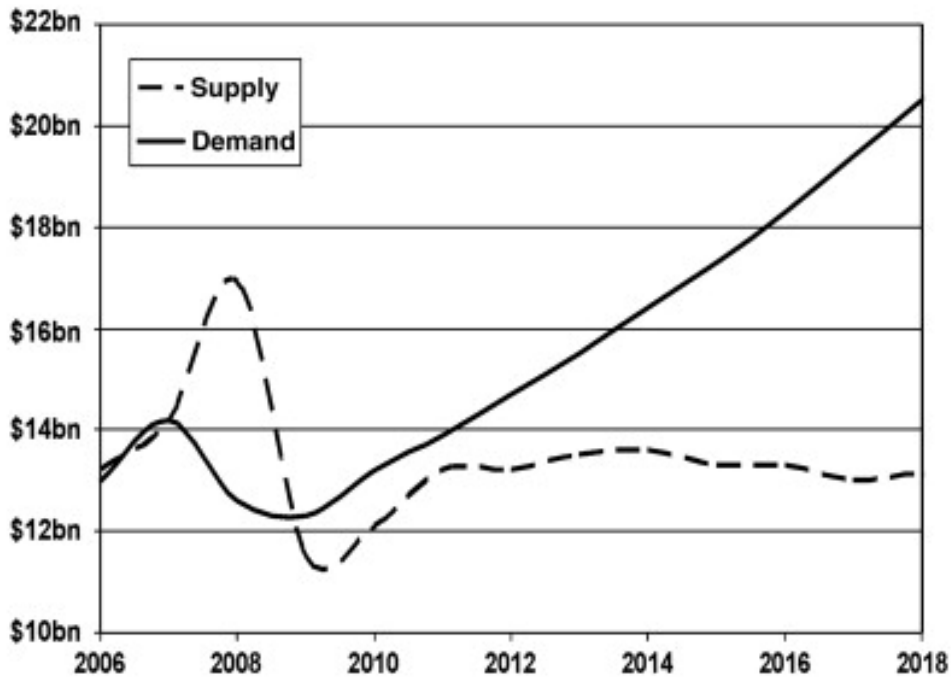
Figure 3

### Commodity Prices, 1980–1998



Source: De Beers.

Figure 4



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