CONTRARIAN REPORT COMPENDIUM

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Murray's Musings

DIAMONDS AS AN INVESTMENT

Although diamonds were known and gathered 4,500 years ago, diamond mining on a systematic basis could only proceed with the development of the modern sciences of geology and crystallography. This was possible only at the end of the 19th century, so it was then that the 19th century diamond extraction in South Africa commenced. This ultimately gave rise to the De Beers monopoly. De Beers controlled the diamond market until the end of the 20th century.

The De Beers monopoly was an obvious barrier to price discovery and transparency. Thus, the evolution of diamonds as an asset class only became possible in the 21st century. Even still, diamonds present valuation problems not ordinarily present in commodities. Gold and silver of given levels of purity, for example, are homogenous commodities, while all diamonds are heterogenous; no two are identical. Accordingly, there developed a detailed grading system. Diamonds are commonly divided by the four criteria of color, cut, clarity, and carats, each with its own measures.

That grading system has existed for over 50 years, but it is only lately that modern computing technology has enabled the ability to assemble a diverse set of diamonds into packets that each have equivalent value in much the same way that ETFs are designed to combine sets of individual companies be representative of an industry exposure. Such packets, then, are homogenous, like other commodities. That is a significant change in the investment characteristics of diamonds as an asset class.

This section of the *Compendium* is intended to serve as a reference guide for and answer certain questions about what might be regarded as basic diamond investing. One such question might be: Where is historical data on diamond prices kept? Another might be: Is historical diamond price data accessible to the public?

Historical price data is available via the Rapaport Group, which is a large Belgian broker of diamonds. This is the only database that I have seen that makes diamond prices readily available. Rapaport publishes the price lists, and one can purchase them from the company. For instance, one can buy the price list for April 27, 2007 for \$150.

Rapaport also publishes and sells a Diamond Price Statistics Annual Report for each year, starting with 1994, which is approximately the time that the De Beers monopoly was effectively dismantled. It might be recalled that the U.S. government charged both General Electric Company (GE) and De Beers, in 1994, with industrial diamond price fixing.

It is fair to assert that diamond prices rarely decline, at least according to the data. A notable exception was during the 2008 financial crisis, but even then the decline was modest in



comparison with other assets, such as stocks and bonds. A brief drop in diamond prices also occurred when the World Trade Center was destroyed in 2001.

Constructing a diamond price index would require making certain assumptions regarding index weightings, and such assumptions can be subjective. It will not be attempted in these pages. In order to comprehend the complexity of building an index of diamond prices, one might parse the problem by considering the impact on price just of the differences in diamond cut.

Petra Gems publishes a diamond buying guide that illustrates the complex nature of this challenge. Oval or round cut diamonds are the most desirable and therefore the most expensive diamonds if all other factors are held constant, which of course, is rarely the case. In order of desirability:

- Oval cut diamonds are priced 5-15% lower than round cut diamonds.
- Princess cut diamonds are priced 17-26% lower than round cut diamonds.
- Cushion cut diamonds are priced 22-30% lower than round cut diamonds.
- Radiant cut diamonds are priced 20-27% lower than round cut diamonds.
- Emerald cut diamonds are priced 19-27% lower than round cut diamonds.
- Pear cut diamonds are priced 15-22% lower than round cut diamonds.
- Marquise cut diamonds are priced 23-32% lower than round cut diamonds.
- Asscher cut diamonds are priced 21-31% lower than round cut diamonds.

Another complexity is that the Rapaport Price List is based on ask prices rather than actual realized prices. A dealer frequently will demand and receive a 15% or even 20% discount to the Rapaport ask price. The market still lacks a certain level of transparency, since it is difficult to know actual realized prices.

A further problem is that even realized prices are semilogarithmic with respect to certain attributes, such as carat size. To illustrate this relationship, let us assume the existence of a round cut diamond of 1 carat, with color D (highest color grade) and clarity FL (flawless). If the selling price is X, a 1.5 carat round cut diamond with color D and clarity FL would sell for about 2.14x the price of the comparable 1 carat diamond. To be clear: if one compares the 1.5 carat diamond to a 1 carat diamond with these characteristics in common, the price would not be 50% higher just because it has 50% more weight; it actually would be 2.14x as expensive as the 1 carat diamond.



The only difference between the two diamonds in this example is that the latter has 1.5x the weight of the former. The 2.14x greater price is because a 1.5 carat diamond is rarer than a 1 carat diamond. In other words, the value density of a 1.5 carat diamond is more than 1.5x as great as a 1 carat diamond's value density.

Value density will ultimately become extremely important as the concept of physical commodities increasingly dominates the world of commodity ETFs. A 3 carat round cut diamond with D color and FL clarity could sell for \$170,000.

To be clear about the value density, a 3 carat diamond weight is only 6 grams, and there are 31.1035 grams in a troy ounce. Thus, a diamond with the aforementioned characteristics and price is selling for $$170,000 \div 6$ grams, or \$28,333 per gram. One troy ounce of diamonds of this caliber would theoretically sell for $$28,333 \times 31.1035$, or \$881,255. In contrast, one troy ounce of gold sells for about \$1,757. Therefore, one ounce of diamonds with the aforementioned quality features is 501.6x more value dense than gold ($$881,255 \div $1,757$).

The largest physically backed gold ETF is SPDR Gold Shares (GLD), with \$50.736 billion of assets under management. Using the current \$1,757/ounce gold price for the calculations, this fund holds roughly 28,876,494 ounces of gold. If confidence in the financial system were to be lost, the investors ostensibly could demand to collect their 28,876,494 ounces of gold. What would that entail?

A troy ounce of gold has the following dimensions: 0.95 inches long, 1.65 inches wide, and 0.08 inches thick, which equals 1.254 cubic inches. An ounce of gold is easily transported and easily hidden in a crisis. However, transporting and hiding 29 million ounces is a far more complex logistical challenge – that would be 1.999 million pounds,. One Honda Accord weighs about 3,300 pounds.

Contrast that value density with diamonds. If an ounce of diamonds is worth \$881,255, achieving a valuation of \$50,736,000,000, the market capitalization of SPDR Gold Shares, would require only \$50.736 billion ÷ \$881,255 or 57,572.43 ounces, or 3,985 pounds. A human being could easily transport or hide over \$8 million by holding a mere 10-ounce diamond packet.

One of the reasons investors wish to hold physical gold is that it cannot be easily debased like the U.S. dollar or other fiat currencies. However, all of the large central banks have extensive gold reserves, and it might be necessary for central banks to sell those reserves if a time comes when the fiat currency is not be trusted and might not even be an acceptable medium of exchange. In that case, large gold sales might depress the price of gold. On the other hand, central banks do not have reserves of diamonds to sell.

Gold has been readily available in sufficient supply at the requisite level of purity to use as a medium of transaction for thousands of years. On the other hand, a market for diamonds could not exist that was fair in any meaningful sense of the word until the modern science of crystallography developed.



A factor in the performance of diamonds is the evolution of India's diamond industry, which is where much of the cutting and polishing of rough diamonds is now done. The Indian diamond industry employs 850,000 people. In fact, the Indian city of Surat in the western state of Gujarat has become known as Diamond City. Diamond cutting is a highly skilled art, and people who are expert in this field are well compensated in Western nations. Indian skilled labor is far less expensive. The Indian diamond export trade is centered almost entirely in the Bharat Diamond Bourse in Mumbai, which handles 98% of the export trade. It has a constructed area of 2 million square feet, with two basement complexes containing an extra 1 million square feet.

The transition of a rough diamond to a polished cut diamond is a time-consuming process. Indian labor has greatly reduced friction in this area. That inexpensive labor has served to restrain diamond prices in recent years.

The global market for diamonds is expanding, as a greater proportion of the world population enters the middle class and becomes part of the diamond consumers' universe. Existing diamond exchanges include the London Diamond Bourse, the Diamond Federation of Hong Kong, the Israel Diamond Exchange, the Dubai Diamond Exchange, the Amsterdam Diamond Bourse, the Bharat Diamond Bourse, the Tokyo Diamond Exchange, the Shanghai Diamond Exchange, the Antwerp Diamond Exchange, the Diamond Dealers Club of Australia, Borsa Diamanti d'Italia, and the Guangzhou Diamond Exchange.

A number of new diamond bourses are in the process of being established. These include the New York Diamond Dealers Club, Borsa Istanbul, Diamant Club Wien, Bangkok Diamonds and Precious Stones Exchange, the Diamond Exchange of Singapore, and the Korea Diamond Exchange. This does not include the World Federation of Diamond Bourses itself.

It is important to recall that the De Beers had a global monopoly, for all practical purposes, and was involved in price fixing that was only effectively challenged in 1994. This was over 300 years after the Buttonwood Agreement of 1792 that became the foundation of the New York Stock Exchange. The first important revision of that agreement did not occur until 1817. The U.S. Securities and Exchange Commission did not commence operations until 1934. The Depository Trust Company (DTC), which does clearing, was only founded in 1973, as the central securities depository of the U.S. market system, 181 years after the New York Stock Exchange. Bitcoin began its existence as a white paper published on October 31, 2008, and was first used in 2009. In 2022, it still has no regulatory structure.

In other words, the modern diamond market is evolving more rapidly than the securities market.

The first recorded use of a diamond engagement ring was in 1477, when Archduke Maximillian of Austria proposed marriage to Mary of Burgundy. Diamonds were a rarity even for engagement rings until 1947, when De Beers engaged the now-defunct advertising firm N.W. Ayer & Son to create the campaign entitled "A diamond is forever." This was



one of the most successful advertising campaigns of all time and created the modern diamond market. The universal diamond grading system was only created by the Gemological Institute of America (GIA) in the 1950s. The Gemological Institute of America was only founded in 1931.

The diamond asset class is developing very rapidly. However, it is very unlike ordinary asset classes like securities, in which creation can be infinite – which is to say, if a certain kind of 'paper' is appealing to the public, issuers can and will produce, with virtual immediacy, as great a quantity of it as the market will bear. The global production of rough diamonds is in decline, and probably in inexorable decline. The *Facts & Figures* section in this *Compendium* contains more data on that.

An investable asset class is in the process of being created and, moreover, with an asset manifesting declining production supply. According to Statista, rough diamond production was 177 million carats in 2005 and 116 million carats in 2021. The most alluring returns from an asset class occur before it actually becomes an investable asset class.

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