

## Diamonds: Past, Present, Future

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London, U.K.

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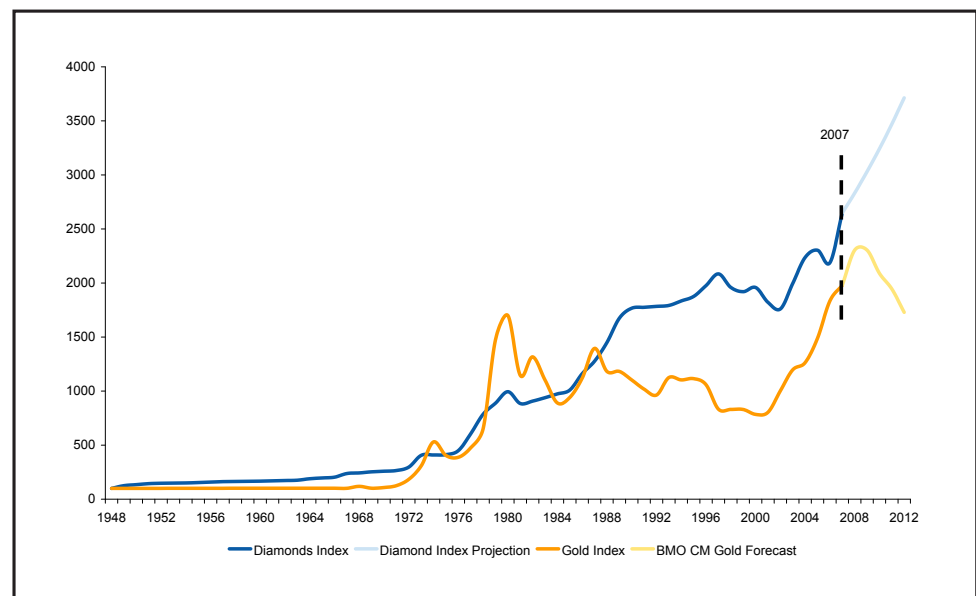
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Industry Rating: **Outperform**

### Highlights

- Rough diamonds are in increasingly short supply and prices rose by 20% on average in 2007. Prices of fine, large gem of +2 carats are increasing more rapidly.
- We forecast that rough diamond prices will rise by 40% on average across diamond categories by 2012, and then increase more rapidly as shortages grow with the fading of three major mines.
- Whilst the argument is largely supply-side driven, demand in China and India is rising at 15% per annum and the Gulf is strong too.
- BMO Capital Markets believes that this has the hallmarks of a long-term uptrend, sustainable for many years, and is not a flash in the pan.
- To quote a top rough diamond buyer, “In over 30 years in the diamond market I have never seen anything like this.”

*BMO Diamond Price Index Versus the Gold Price and Rebased as of 1948*



Source: BMO Capital Markets



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## Introduction

The argument for significant, sustained rough diamond price increases is very largely supply driven. However, the demand picture, and in particular the ability of diamonds to maintain and enhance their attraction over long periods of history, and to broaden their socio-economic and geographical attraction, is also of great importance.

In the relatively shorter term, despite some external setbacks, often more apparent than real or at least exaggerated by unrelated outside factors, diamonds have maintained a steady growth rate in nominal U.S. dollar terms. In the 35 years from 1971 to 2006, retail demand for diamond jewellery has risen by over 6% per year. In only one year (1982) did retail diamond jewellery sales fall slightly.

Demand has broadened from royalty, to the proverbial dowager duchess, and from there to all manner of stars and celebrities. Most importantly, the appeal of natural diamonds has widened socially and geographically to be embraced by both the West and the East across varying income and wealth brackets.

Average rough diamond prices, which relapsed in 2006 partially due to heavy stock sales by De Beers (now finished), rose by about 20% in 2007 as supply-side shortages began to bite, particularly in fine, large gem of +2 carats. The top end of the market has risen by significantly more than the average.

By 2012, we forecast that average rough prices should rise by about 40% on average as supply continues almost flat, and demand, particularly from emerging markets, continues its robust growth. After 2011, the supply side actually declines more sharply. We believe the rough diamond market is in the early stages of one of its longest periods of prosperity ever.



**Figure 1: To Marilyn Monroe in “Gentlemen Prefer Blondes” (1953), “Diamonds Are a Girl’s Best Friend”**  
(Source: [allposters.com](http://allposters.com))



**Figure 2: The Taylor-Burton**  
(Source: [famousdiamonds.tripod.com](http://famousdiamonds.tripod.com))



**Figure 3: An Assortment of Fancy Coloured Diamonds, Not the De Beers’ Collection**  
(Source: [diamonds\\_fancy\\_color\\_taille.com](http://diamonds_fancy_color_taille.com)) No longer active.

## Continuous Attraction – Circa 77 AD to Date

“Diamond” said Pliny the Elder, a Roman scholar in 77 AD, “is a gem known only to kings.” Pictures of Queen Elizabeth I of Great Britain (1583–1603) wearing diamonds and other gems are among many that mirrored the change in attitude from antiquity, a change carried extravagantly forward into fairly modern times by Grace Vanderbilt (wife of Cornelius III) in her bid, particularly against *the* Mrs. Astor, to become queen of New York society in the 1900s. She showed that nothing succeeds like excess. In her box in the diamond horseshoe, as the semi-circle of boxes in the Metropolitan Opera was known, she typically wore a triple necklace of diamonds, a diamond stomacher, 12 rows of diamonds over her bosom, a diamond tiara and individual diamond stars in her hair: perhaps US\$30 million in current money terms.

To Marilyn Monroe in “Gentlemen Prefer Blondes” (1953), “Diamonds are a girl’s best friend,” while the late Richard Burton bought the 69.4 carat internally flawless, pear-shaped diamond (“The Taylor Burton”) for his then-wife Elizabeth Taylor in 1969. It was found at the Premier mine (now renamed Cullinan) in 1966, weighed over 240 carats in the rough and was fashioned by Harry Winston.

In the 1970s, diamonds “entered the heart” of English author Evelyn Anthony when she saw the famed De Beers collection of fancy coloured diamonds. Blues and “purplish” pinks are the most prized and valuable fancy colours. A clean blue of intense colour can fetch over US\$1 million per carat, while the handful of Argyle pinks fetched around US\$390,000 per carat in 2007.

Fancies are very individual and it is impossible to generalise about them. Some diamondaires regard fancy colours as the last remnants of the old diamond business—with small operations of superlative expertise compared with mass marketing supported by a high-tech background. A lot of nonsense has been written about fancy colours in recent times, which is a pity, as they represent the Leonardos and Michelangelos of the diamond market.

In 1982–1983, diamonds survived the onslaught of the deepest U.S. recession since 1945, combined with the threat of the huge (but low-value) production from the Argyle mine in Australia and the introduction of flashy, cheap cubic zirconia, a man-made diamond imitation. This was compounded by the publication of a book entitled, “The Diamond Invention” by American Edward J. Epstein, which shook the trade (but not the public) with predictions of the end of demand for quality natural diamonds as they are replaced by cubic zirconia and other prices are driven down by the influx of cheap, low-quality rough from Argyle.

In 1998, Victoria Beckham received her diamond engagement ring in Manchester—then the centre of De Beers’ test run into branding diamonds.

Since then, world retail sales of diamond jewellery rose from US\$50 billion to US\$74 billion in 2006, despite several adverse factors such as the long implosion of the Japanese economy, which reduced that country’s world market share of diamond jewellery demand from 33% in 1989 (then pari passu with the U.S.) to 12% in 2006.

Keeping the fashion alive in recent years have been Catherine Zeta-Jones, Joan Collins, Jennifer Aniston, Jordan, Liz Hurley, Madonna, Paris Hilton, Britney Spears, Christina Aguilera and Whitney Houston, among others. The 203 carat, D colour, flawless De Beers Millennium Star has been renamed The Flagship of De Beers Diamond Jewellers (below).

Celebrity “endorsement” of fine diamonds is an important factor to their appeal throughout much of the socio-economic range, particularly the young. This can be viewed essentially as “product placement” in today’s business vernacular.

Such celebrity glamour is contagious, and “cultured” diamonds, which emerged in the U.S. in 2002 (Gemesis) and 2005 (Apollo) remain a separate market with an entirely different target audience. Please see the section on Cultured Diamonds, beginning on page 19, for more details. The key point about this long introductory passage is that gem diamonds have maintained, increased and widened their appeal over centuries, despite having no obvious utility value such as many competitive luxury items, e.g., Louis Vuitton handbags or Patek Phillipe watches.

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**Figure 4:** *The Flagship of De Beers Diamond Jewellers*

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The Flagship of De Beers Diamond Jewellers was 777 carats in rough form and was cut down to 203 carats (yield 26% -  $203c/777c \times 100$ ) to remove all the imperfections.

Source: De Beers Diamond Jewellers

## “A Diamond is Forever”

De Beers gave the first job of advertising diamonds to the New York firm of NW Ayer in 1947. Frances Gerety, a copywriter about four years out of college, was the one who got the assignment of writing a short slogan that encapsulated a diamond. According to NW Ayer, Gerety coined the four-word line after her nightly prayers when she was awakened by a flash of inspiration. Advertising Age concluded that “A Diamond is Forever” is regarded as the greatest advertising slogan of the 20th century.

On a very different aspect, the diamond market has proved resilient in the face of dramatic events. For example, according to WWC International, a De Beers study has shown that since 9/11 diamonds have performed better than any other luxury goods.

**Figure 5:** An Early De Beers Advertisement (1952)

*a  
Diamond  
is forever*

The wishes from your heart  
are echoed by your engagement  
diamond in lovely, logical  
light. And it will ever grow  
more rich with meaning, more  
cherished with its telling of the  
joy and memories you share.

Because it will bespeak your  
love a lifetime through, your  
diamond, though it be modest  
in price, should be chosen  
with care. Remember, color,  
cutting and clarity, as well as  
carat weight, contribute to  
a diamond's beauty and value.  
A trusted jeweler will help  
you find a stone of fitting  
size and quality and style for  
what you wish to spend.

- 1/4 carat (225 points) \$105 to \$185
- 1/2 carat (500 points) \$210 to \$425
- 3/4 carat (575 points) \$315 to \$570
- 1 carat (700 points) \$420 to \$770

These prices are for unmounted top grade engagement diamonds. They vary according to the qualities offered by different jewelers throughout the country in July, 1952. Exceptionally fine stones are higher priced. Add Federal tax. Exact weights shown are infrequent.

www.debeersgroup.com

De Beers Consolidated Mines, Ltd.

Source: De Beers Diamond Jewellers



## Production Background

Of course, none of this glamour would have been possible without the discovery of diamonds, initially in India from at least the first millennium BC. By the 4th century BC, India was already exporting diamonds to the Persian Gulf and Mediterranean. Many exceptional diamonds came from India, including the Hope (45.5 carats deep fancy blue) and the Koh-I-Noor (now recut to 105.6 carats). Moreover, expectations for renewed production from India have risen.

Borneo in the Malay Archipelago in Southeast Asia followed very shortly afterwards, though on a smaller scale. Production there, from what is now the general area of Gem Diamond's Cempaka mine, continues and is expanding.

In 1725, Brazil replaced India as the leading source of diamonds and still today produces significant output, much of it illegal. Production from all these sources was alluvial (of secondary nature), and still is—alluvials being concentrations of gem material created when rivers and streams transport sediment some distance from a primary, hardrock source (kimberlite or lamproite) and redeposit it.

In 1860, a diamond was discovered on the banks of the Orange River in South Africa and from there a whole new dimension was added to the trade, as by the 1870s more diamonds had been found in South Africa than had been mined in Brazil in the previous 140 years, and very probably more than in all history. The diamond business, as we know it today, unquestionably dates from what became Kimberley in South Africa. Kimberley was named in 1873 after Lord Kimberley, then Colonial Secretary, who, it is rumoured, disliked pronouncing the name of the farm (Vooruitzicht) on which the initial major diggings were, and so his Lordship's Permanent Secretary suggested "Kimberley." Vooruitzicht was bought by the brothers De Beer for £50 and sold for £6,300 to a syndicate.

The original De Beers company was formed in 1880 by Cecil Rhodes and his partner Charles Rudd. Rudd was the first chairman and managing director, and Rhodes the company secretary. The company as we essentially know it today, De Beers Consolidated Mines, was created in 1888 in an epic battle with Barney Barnato's Kimberley Central. The forceful Rhodes became managing director and Rudd his financial anchorman. One hundred years later (1990), Centenary AG was formed in Switzerland to hold all of the group's non-South African assets, notably in Botswana and Namibia.

In June 2005, De Beers' chairman Nicky Oppenheimer told the International Institute for Strategic Studies in London: "There is no doubt that without the discovery of diamonds and gold over a century ago, South Africa would have remained an impoverished pastoral backwater." He omitted to say that the very first diamond discovered in South Africa on the river bank was found by a young African boy, doubtless attracted by its flashing light under the South African sun.

Diamond revenues in South Africa were used to discover gold, then other metals and minerals, followed by industry, finance and commerce. Nicky Oppenheimer's statement may not have pleased many but, about a century after diamonds were found in South Africa, De Beers discovered them in Botswana in 1967, in what became the great Orapa mine, and others followed. Botswana regularly ranks easily in the top quartile of the



World Bank's most open economies, and one of the best in which to do business, though De Beers may regard this as something of an overstatement these days.

Diamonds are rare: of around 6,500 known kimberlites (the main primary source of diamonds), only about 1% are known to be commercially diamondiferous, according to De Beers and others. World diamond production in 2006 is estimated by BMO Capital Markets to be slightly over US\$13 billion and, within that, only 13 mines produced US\$300 million or more. Jwaneng in Botswana was way ahead of any of those with US\$2.06 billion. This is due to the interaction of tonnes treated, grade (carats per 100 tonnes), therefore carats produced, and average carat values. A carat weighs 0.2 grams. At Jwaneng, which has a good grade of 150 carats per 100 tonnes and an average carat value of US\$136, 1 tonne of ore yields 0.3 grams of diamonds worth US\$204. With basic mining costs around US\$10 per tonne at Jwaneng, the profits are enormous—even allowing for all the other costs from treatment through to sorting and marketing. Jwaneng is one of a few extremes but, nevertheless, diamond mining industry margins are in general high.

## **The 1990s to 2002: Worst Period for Rough Diamond Prices Since the Early 1930s**

The 1990s and a little beyond was the worst period for rough diamond prices since the Great Depression of the early 1930s. Prices in nominal U.S. dollars were slightly down over the period and significantly lower in real terms. There were several reasons for this.

On the supply side, Argyle had come in during 1986, Venetia entered in 1991, Catoca in 1997 and Ekati in 1998—all major mines. Moreover, in the mid-1990s, the Russians decided to sell almost all their stockpile, which was a lot.

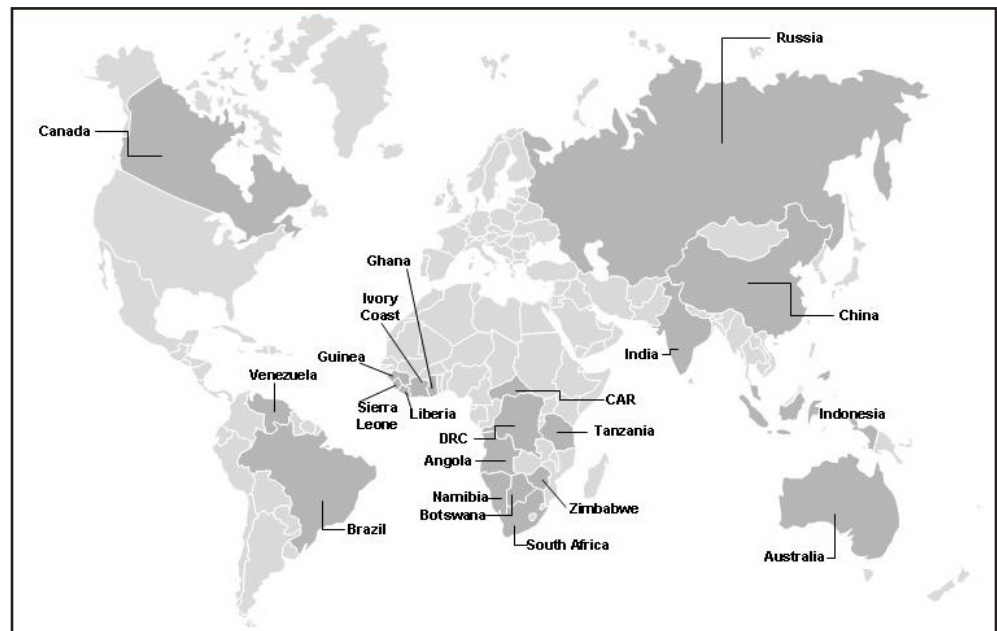
But it was the demand side that did the most damage. In 1989, Japan had risen to be one-third of the world retail diamond market, equal then to the U.S. During the 1990s, that collapsed, at its worst point, to about 8%. The Japanese asset bubble had burst. The Japanese Imperial Palace, in the late 1980s reckoned to be worth roughly the same as the whole of Canada, no longer was and the Nikkei Dow, having peaked at almost 40,000, is still less than half that. There was also a minor U.S. recession in 1992 and a more severe Asian one in 1998. It was part of the reason for the supply-side dearth now; the other is that commercial diamond mines are rare—let alone big ones.

## **World Rough Diamond Production in 2006**

Calculating the value of world rough diamond production is an inexact business, for various reasons. For example, of those majors that provide figures, some use full selling value; others the value net of marketing costs. When it comes to alluvials (mainly Africa and Brazil), most of the production is artisanal, or informal, so it's particularly difficult to get accurate data. Then the Russians (Alrosa, see below) sometimes include their one-third share of the Catoca mine in Angola in their mainstream Russian output, so one has to beware of double counting. Our own figure comes out at just over US\$13 billion for 2006—broken down in detail in Table 1 by mine and country, and in Chart 1 in pie chart form.

Many will have seen the charts of long-term supply and demand (rising demand, flat supply out to around 2018), but what lies behind that picture?

**Figure 6:** Countries With Significant Diamond Production



Countries with significant diamond production – Africa produced about 65% by value in 2006, followed by Russia with 17% and Canada with 10%.

Source: BMO Capital Markets

Alrosa stands for *Almazny Rossii-Sakha*, literally Diamonds of Sakha (the republic in Siberia where most of Russia's diamonds are), though it is more normally referred to as Diamonds of Russia.

The company is currently still a closed type, with almost 48% effectively held by the federal government, 32% by the Sakha republic government, 8% by various Sakha regions and the remaining 13% by management. The Russian government is set to complete its share takeover of Alrosa, according to a resolution approved by Alrosa shareholders and supervisory board. The plan is to issue new shares leaving the federal government with a clear majority stake—though it is not yet clear exactly what that stake will be.

Once this restructuring is done, the federal government will then move to transform Alrosa from a closed shareholding company to an open one. Thereafter, it will be possible for the company to consider an IPO. Alrosa's President, Sergei Vybornov, told a September 2007 conference that, "within a year or a year and a half we are planning an IPO." And an IPO implies restructuring Alrosa on the above lines. Interestingly, a filing by Alrosa with the Russian financial markets Regulator implies a valuation for the company of US\$3.34 billion. This is almost half the official valuation of US\$6.4 billion done in 2005 by the Centre for Professional Valuation. This latest valuation does not explain the difference.

**Table 1: 2006 World Diamond Production by Mine, Artisanal Working & Country**

Country	Mine	Tonnes (mm)	Grade (cpht)	Production (mm cts)	Value (US\$/carat)	Value (US\$mm)	Value (%)
<b>Botswana</b>							
	Jwaneng	10.1	150	15.2	136	2,060	15.6%
	Orapa	18.4	90	16.6	55	911	6.9%
	Lethakane	3.7	30	1.1	215	239	1.8%
	Damshtaa					30	0.2%
<b>Sub-total</b>				<b>33.1</b>	<b>98</b>	<b>3,240</b>	<b>24.6%</b>
<b>Russia</b>							
	Udachnaya			6.1	86	528	4.0%
	Nyurba			4.4	120	528	4.0%
	Jubilee			3.9	97	380	2.9%
	Internationale			2.2	156	343	2.6%
	Zarnitsa			3.7	77	285	2.2%
	Komsomolskoye			0.4	97	39	0.3%
	Lomonosov			0.5	70	35	0.3%
	Small mines & alluvials					162	1.2%
<b>Sub-total</b>				<b>22.8</b>	<b>101</b>	<b>2,300</b>	<b>17.5%</b>
<b>South Africa</b>							
	Venetia	6.1	130	7.9	86	682	5.2%
	Namaqualand	6.4	20	1.3	237	303	2.3%
	Finsch	5.8	40	2.3	84	195	1.5%
	Kimberley	11.1	20	2.2	75	167	1.3%
	Cullinan	2.9	40	1.2	70	81	0.6%
	Koffiefontein	2.2	7	0.1	240	35	0.3%
	Small mines & alluvials					103	0.8%
<b>Sub-total</b>				<b>16.1</b>	<b>97</b>	<b>1,566</b>	<b>11.9%</b>
<b>Angola</b>							
	Catoca	9.3	50	4.7	100	465	3.5%
	Small mines & alluvials					976	7.4%
<b>Sub-total</b>				<b>14.4</b>	<b>100</b>	<b>1,441</b>	<b>10.9%</b>
<b>Canada</b>							
	Diavik	2.3	420	9.7	81	782	5.9%
	Ekati	4.5	70	3.2	160	504	3.8%
	Jericho	0.5	50	0.3	93	23	0.2%
<b>Sub-total</b>				<b>13.1</b>	<b>100</b>	<b>1,310</b>	<b>9.9%</b>
<b>DR Congo</b>							
	Miba	5.4	130	7.0	16	112	0.9%
	Small mines & alluvials					888	6.7%
<b>Sub-total</b>				<b>62.5</b>	<b>16</b>	<b>1,000</b>	<b>7.6%</b>
<b>Namibia</b>							
	Namdeb			2.1	469	985	7.5%
	Other					23	0.2%
<b>Sub-total</b>				<b>2.1</b>	<b>469</b>	<b>1,008</b>	<b>7.6%</b>
<b>Australia</b>							
	Argyle	8.4	340	28.6	16	457	3.5%
	Kimberley	5.0	8	0.4	134	53	0.4%
<b>Sub-total</b>				<b>29.0</b>	<b>18</b>	<b>510</b>	<b>3.9%</b>
<b>Brazil &amp; Other Countries*</b>				<b>n/a</b>	<b>n/a</b>	<b>800</b>	<b>6.07%</b>
<b>TOTALS &amp; AVERAGES</b>				<b>161.4</b>	<b>82</b>	<b>13,175</b>	<b>100%</b>

\* Mainly Africa and Indonesia

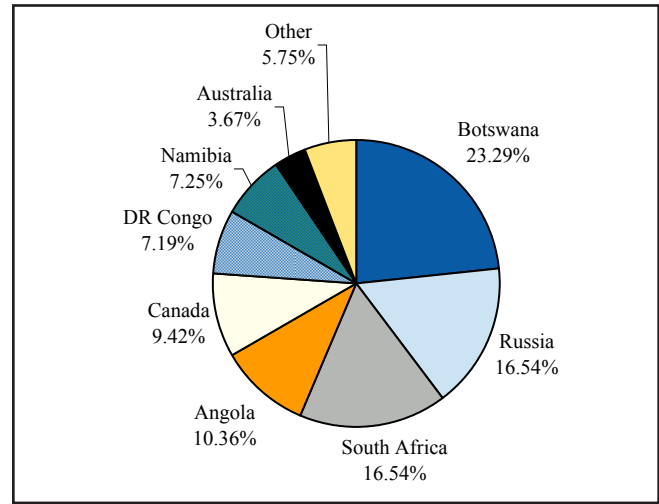
Source: BMO Capital Markets

**Table 2: 2006 Production by Country**

Country	Value (US\$mm)	Value (%)
Botswana	3,240	24.6%
Russia	2,300	17.5%
South Africa	1,566	11.9%
Angola	1,441	10.9%
Canada	1,310	9.9%
DR Congo	1,000	7.6%
Namibia	1,008	7.6%
Australia	510	3.9%
Other	800	6.1%
<b>TOTAL</b>	<b>13,175</b>	<b>100%</b>

Source: BMO Capital Markets

**Chart 1: 2006 Production by Country**



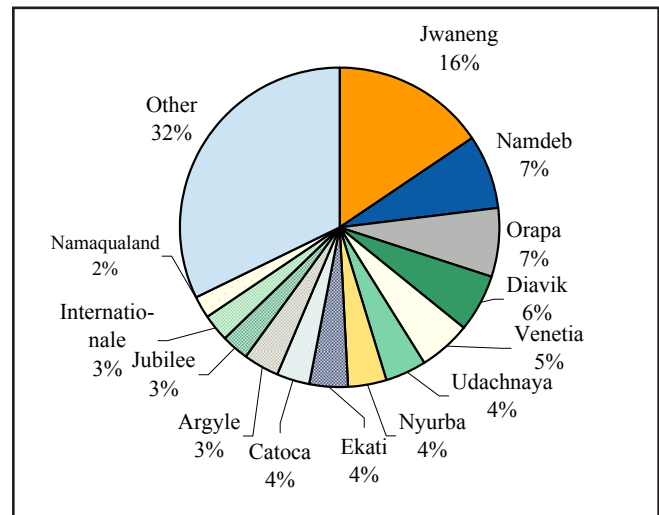
Source: BMO Capital Markets

**Table 3: 2006 Production by Mine**

Country	Value (US\$mm)	Value (%)
Jwaneng	2,060	15.6%
Namdeb	985	7.5%
Orapa	911	6.9%
Diavik	782	5.9%
Venetia	682	5.2%
Udachnaya	528	4.0%
Nyurba	528	4.0%
Ekati	504	3.8%
Catoca	465	3.5%
Argyle	457	3.5%
Jubilee	380	2.9%
Internationale	343	2.6%
Namaqualand	303	2.3%
Other	4,247	32.2%
<b>TOTAL</b>	<b>13,175</b>	<b>100.0%</b>

Source: BMO Capital Markets

**Chart 2: 2006 Production by Mine**



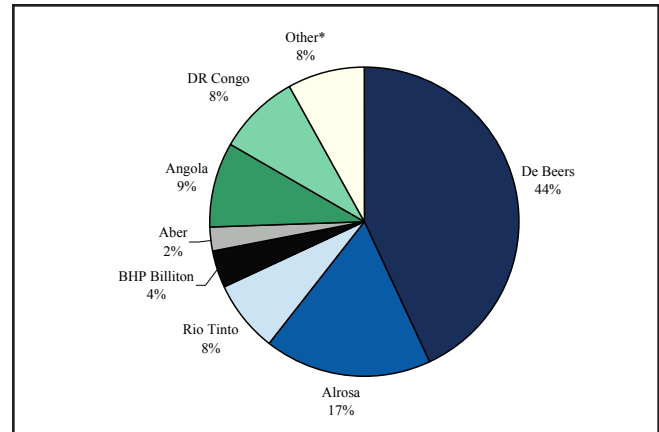
Source: BMO Capital Markets

**Table 4:** 2006 Production by Major and Intermediate Mining Group

	Value (US\$m)	Value (%)
De Beers	5,680	43.1%
Alosa	2,300	17.5%
Rio Tinto	1,000	7.6%
BHP Billiton	504	3.8%
Aber	313	2.4%
<b>Sub-Total</b>	<b>9,797</b>	<b>74.4%</b>
Angola	1,200	9.1%
DR Congo	1,100	8.3%
Other*	1,078	8.2%
<b>TOTAL</b>	<b>13,175</b>	<b>100%</b>

\* Mainly Brazil and other African countries  
 Source: BMO Capital Markets

**Chart 3:** 2006 Production by Major and Intermediate Mining Group



Source: BMO Capital Markets

## Diamond Exploration

Metals Economics Group (MEG) calculated that, in 2006, the exploration budgets of 1,624 mining companies totalled US\$7.13 billion, of which 12% or US\$856 million was spent on diamond exploration. De Beers, including research and development as well as exploration itself, spent US\$299 million in that year. According to MEG, diamond exploration allocations rose for the fourth consecutive year in 2006 to set a new high, led mainly by significant increases in Canada and Africa.

### *A Few Quirks in Diamond History*

War and the need for diamonds in arms manufacture have had some odd consequences. Following are three examples that are not so well-known.

When World War II broke out, Russia had no diamond resources of any consequence. They were first found there in the early 1950s and from then on, strict secrecy surrounded the Russian diamond industry. Paranoia prevailed for a long time and the start of a more relaxed approach is fairly recent.

When Japan joined in the war, again with no diamond resources or easy access to them, women had to hand in their diamond jewellery for the same reason: arms manufacture, the cutting and machining of metal. More bizarrely, the Japanese were not allowed to own diamonds again until the 1960s—over 15 years after the war had ended. De Beers then moved in with a heavy advertising budget and by 1989 had lifted Japanese diamond demand to a third of the world total in that year, on a par with the U.S.

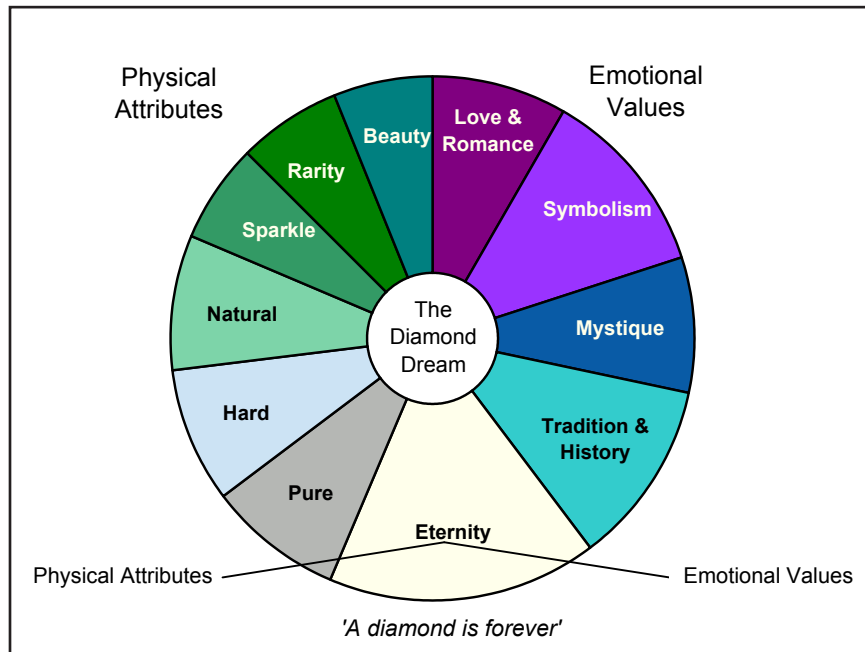
Still with World War II, the U.S. wanted De Beers to move almost its entire stockpile of diamonds from London (largely) and South Africa to the U.S. Then De Beers' Chairman Ernest Oppenheimer was unhappy with this idea, as the U.S. had plenty of industrial diamonds (as we shall see), because the U.S. had not at that stage entered the war and because he feared the diamonds could be sunk during the hazardous Atlantic crossing. Nevertheless, he suggested a compromise: he would send substantial stocks to Canada, a British Commonwealth country that was already in the war and which had a long, common border with the U.S. The Americans were not satisfied and so began the whole saga of the anti-trust case against De Beers; toys were thrown out of cots in a big way and only in recent years have things settled down quite a lot.

And Ernest Oppenheimer was right. Still in the 1970s and 25 years after the war's end, the U.S. General Services Administration, keeper of the nation's strategic materials at that stage, was holding regular auctions of diamonds.

### World Diamond Retail Demand in 2006

About 35 years ago, the late Harry Oppenheimer said that he favoured diamonds over gold because people bought diamonds out of a sort of vanity, while they rushed into gold when they were too stupid to think of anything better to do—and he preferred vanity to stupidity. One might add here that the buyers of gold in recent years are reacting to stupidity by the monetary authorities in the U.S., as well as commercial banks there and elsewhere. Be that as it may, some 20 years thereafter, De Beers looked at “the diamond dream” in a more “corporate,” detailed way—giving some physical and emotional attributes that may lie behind the desire to own diamonds.

**Figure 7: De Beers**  
– Conceptual Diamond Attributes



Source: Concept by De Beers, drawn by BMO Capital Markets

**Table 5: Retail Demand by Country in 2006 and Forecast Growth Figures**

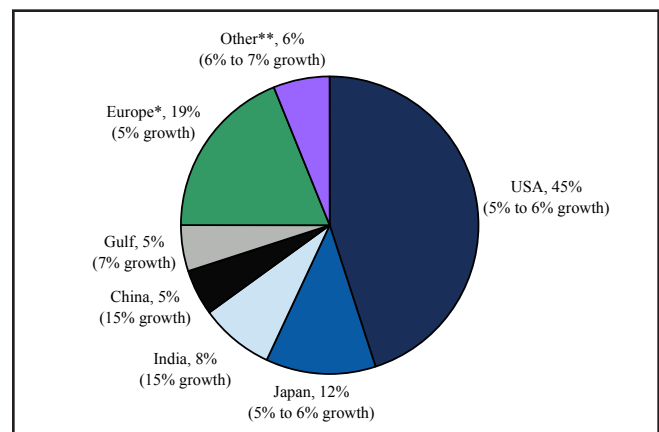
	Proportion of US\$74,000 mm market (%)	Forecast Growth (%)
USA	45%	5 to 6%
Japan	12%	5 to 6%
India	8%	15%
China	5%	15%
Gulf	5%	7%
Europe*	19%	5%
Other**	6%	6 to 7%
<b>TOTAL/W.avg. GROWTH</b>	<b>100%</b>	<b>7%</b>

\* Europe now has 47 countries

\*\* e.g. Latin America

Source: BMO Capital Markets

**Chart 4: Retail Demand by Country in 2006 and Forecast Growth Figures**



Source: BMO Capital Markets



### USA (45%)

Diamond jewellery is deeply ingrained in the American culture. Size is by far the most important of the diamond attributes to the American consumer, as is the concept of “flash for cash;” i.e., having a certain weight of diamonds in a piece no matter that the weight may be made up of many stones, and the smaller the stones that contribute to that weight, the lower the value.

It is fortunate for the rest of diamond consumers that the largest market is not overly discerning regarding the colour and quality of stones. However, the last few years have seen a gradual upward shift in the quality of stones bought, due partly to the use of the Internet for the purchase of diamond jewellery and the ensuing necessity of purchasing certified stones when using this medium.

### Japan (12%)

The economy is still experiencing some problems, although some real growth has at last returned to diamond sales. While it will almost certainly take some time for diamond sales to return to their former size, the fascination of diamonds remains in the minds of Japanese consumers.

Price, quality and rarity are still important factors to the Japanese—the opposite of the mass market in the U.S. The Japanese are still very proud and keen to say they have bought an expensive, high-quality piece.

### India (8%)

In the last few years, growth in the Indian market has been extraordinary. There is a bewildering array of brands and the percentage of GDP spent on diamond jewellery is the highest among the emerging economies. It is often forgotten that diamonds are regarded as a long-term store of wealth in India, which leads people to buy fine, high-quality stones.

In November 2005, De Beers launched its ASMI–Kajol diamond jewellery range in New Delhi, based around 14 diamond jewellery items chosen by the famous Indian actress Kajol.

As part of a strategy to encourage self purchase of diamonds by women, De Beers describes the varied range of diamonds Kajol selected as, “a unique reflection of a woman’s attitude, spirit and inner strength.” This sentiment also infers that diamonds are more than pretty adornments.

### China (5%)

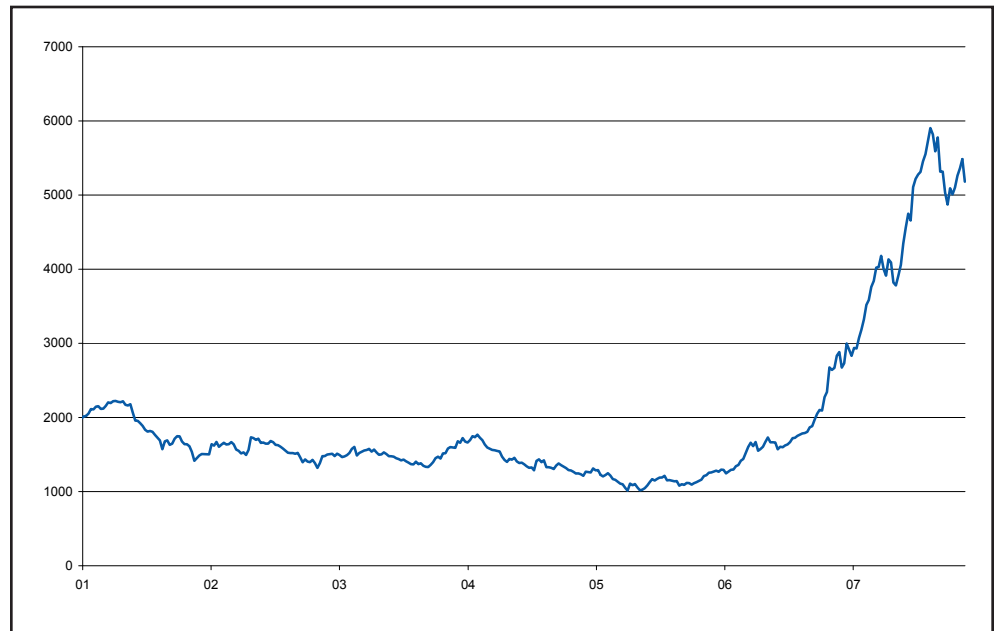
In the past three years, there has been rapid growth in China’s diamond jewellery market. The percentage of the population that can now aspire to owning diamond jewellery is growing rapidly and it is likely to continue for a very long time, as its “industrial revolution” is still at an early stage. Moreover, China is a cash economy—the debt trap has yet to arrive.



**Figure 8: Actress Kajol**  
Source: [bollywoodpicturesgallery.com](http://bollywoodpicturesgallery.com)

Some may say, as they have for a long time, that the Chinese stock market is much too high. However, having risen by five times since mid-2005, the wealth generated, which in China disperses across a fairly broad band of urban society, has been enormous.

**Chart 5: Shanghai Composite Index, Showing the Sustained Chinese Growth of Recent Years**



Source: Bloomberg

Despite the recent fall, the Shanghai Composite Index is still about five times higher than it was in mid-2005, and two-thirds above its level in January 2007.



**Figure 9: Actress M. Wang**  
 Source: pbs.org - Examining China's Vast Consumer Class

Reflecting the growing desire for diamonds, actress Monica Wang (left) said that, “We live in a modern society now ... of course people are going to love and enjoy those things, right?”

China now buys about 12% of the world’s luxury goods, mainly when they travel abroad, compared with 17% by American consumers. There are still only about 11 million cars in China—about the number the U.S. had in 1930. In China, US\$12,500 per year equals roughly US\$60,000 in the U.S. and some 30% of Chinese earn at that level and more than half the population (of the 1.3 billion total) is still rural. But less than 25% of all Chinese is still more than the entire U.S. population. Shanghai is the fifth city in the world to be both home to a diamond exchange and a manufacturing base—together with Antwerp, Mumbai, Tel Aviv and New York.



**Figure 10: The Almas (Diamond) Tower**  
Source: Dubai Multi Commodities Centre

### The Gulf (5%)

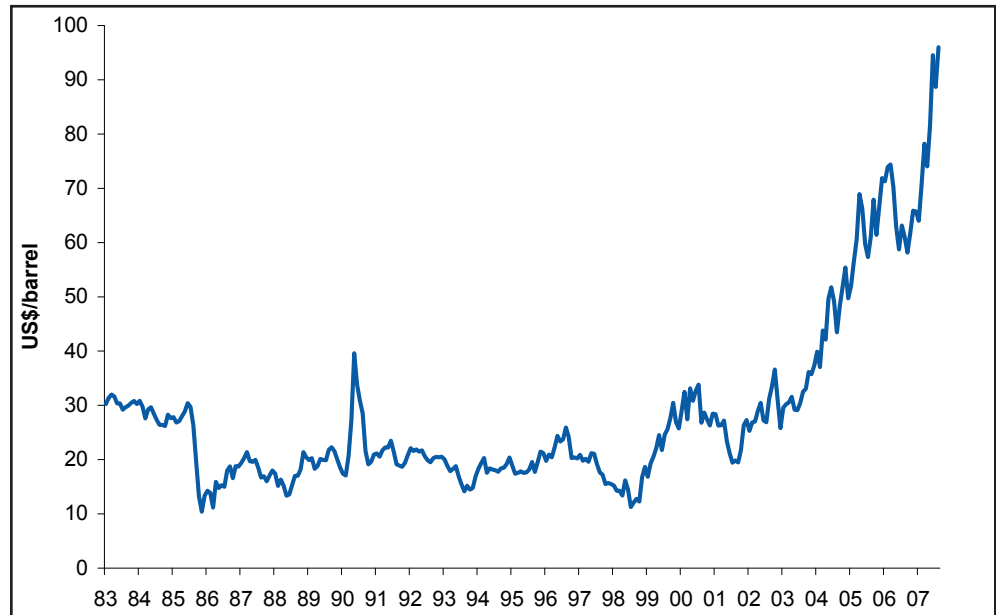
The Almas Tower will be exclusive to Dubai Multi Commodities Centre (DMCC) members who deal in diamonds, gold, energy and other commodities. The Diamond division within the DMCC is aiming to establish Dubai as a diamond trading and value-added centre of global importance.

The strong oil price has added enormously to the wealth of the Gulf region, and people tend to go to Dubai to do their serious shopping for luxury goods. There has been double-digit annual growth in the last few years and all the signs are that this will increase.

Oil is currently over US\$90 per barrel. A price of around \$100 is eight times the low of the late 1990s. This oil wealth is worth over US\$300 billion across the Gulf States. Forty-three per cent of women in the region desire diamond jewellery above any other gift. With this in mind, De Beers has developed a specific range for the Middle East called “Amante.” This allows males to express their love or sentimentality, which they may find hard to put into words. It shows that their relationship is powerful and invincible, defying life’s pressures and the passage of time.

Like China, buying of luxury items is very much on a cash basis.

**Chart 6: WTI Oil, Price per Barrel (US\$)**



Source: Bloomberg



*Figure 11: The 84.37 carat Chloe Diamond, Bought at Sotheby's, Geneva. At US\$192,000 per carat, a new Record for a D Colour, Flawless Stone.*

*Source: Sotheby's Geneva*

### Europe (19%)

Northern Europe is the great missed opportunity for the diamond trade. There is great wealth, but the proportion of GDP that is spent on diamond jewellery is low.

Explanations given are many and varied. Although the engagement ring tradition was successfully engrained long ago, the giving of diamond jewellery for other occasions, such as wedding anniversaries, birthdays and Christmas, is much lower than elsewhere. Also, the concept of women making their own purchases, which has been of growing importance in the U.S. and Japan over the last decade, has made little headway.

It's not all gloom though in Northern Europe's wet and cold. Guess Inc. clothing company founder Georges Marciano bought a 84.37 carat D white, flawless stone for his 12-year-old daughter Chloe, for just under US\$16.2 million, and named it the Chloe Diamond (Figure 11). The diamond originally came from ENDIAMA, Angola's state diamond agency. Perhaps De Beers should develop this idea: US\$16.2 million for the daughter, what about the wife?

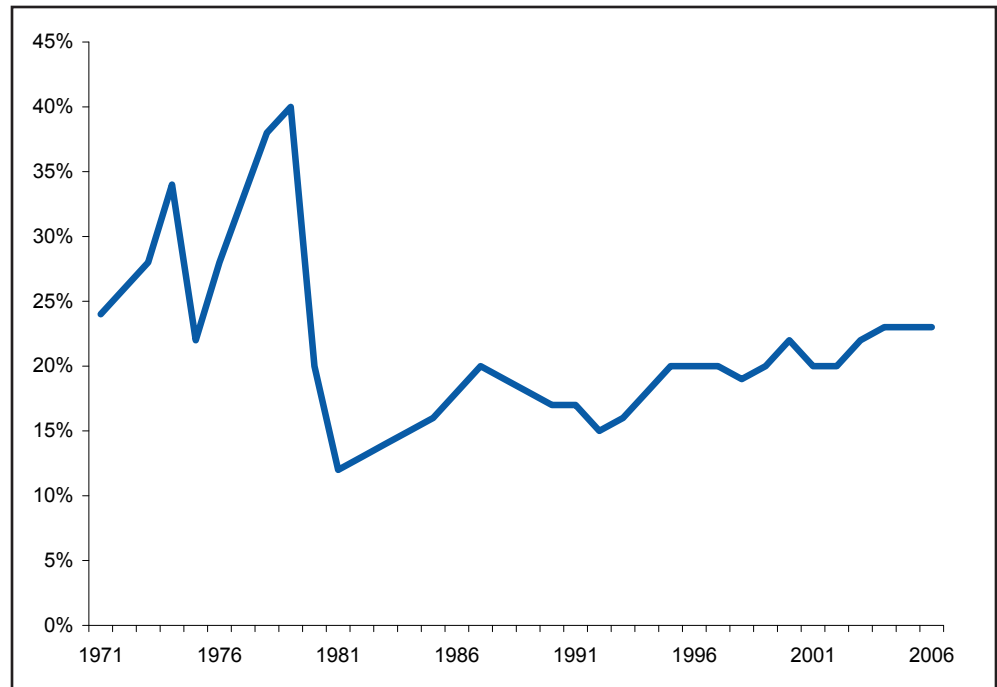
### Other (6%)

Latin America and other Asia feature strongly here. There is considerable potential. South Americans have a penchant for fancy colours, particularly canary yellows.

## The Diamond Content in Diamond Jewellery

The actual value of the diamond content in diamond jewellery has for most of the last 20 years been around 20–24% on a global basis—though with much higher figures in some countries such as India, where diamonds are regarded as a form of saving as well as adornment. There and in the Gulf area the percentage can be as high as 60% or more.

**Chart 7: Diamond Content as a Percentage of the Value of a Diamond Ring – World Averages**



Source: BMO Capital Markets

The period of major divergence from this 20–24% range on an average, global basis was from the early 1970s to 1981. During that period, double-digit inflation prevailed in much of the developed world (13% in the U.S.), largely in the wake of a five-fold increase in the price of oil. People turned to hard assets in an attempt to protect their wealth. Gold, silver, fine art and diamonds were among the asset classes chosen. This was exacerbated in the case of diamonds as the Israeli shekel was devaluing against the U.S. dollar on an almost daily basis—prompting Israeli diamantaires to stock up heavily in U.S.-dollar-denominated diamonds. This speculative boom, which was to have disastrous consequences for the diamond trade, and notably De Beers, had the effect of raising the diamond content of diamond jewellery briefly to around 40% in 1978.

Gold spiked at US\$850/oz in January 1980, and the U.S. Federal Reserve, under Paul Volker, stepped in and raised interest rates as high as 17% in order to bring inflation under control. The hard asset bubble burst, the price of the “marker” 1 carat D colour flawless diamond, which had risen from US\$1,650 in 1971 to US\$65,000 by 1981, collapsed, and the average diamond content of retail jewellery fell back briefly to 11%. The 1 carat D flawless had been pushed up under the combined pressure of a variety of speculators and the Israeli diamantaires—and to make matters worse, less than 15% of available diamonds (by value, 2% in carats) bore the brunt of this heavy buying and then equally heavy sell-

ing. Very shortly after the collapse (in hard assets generally), there appeared beautifully leather-bound, gold-embossed books packed with innumerable charts, “information” self-confidently urging people to buy investment-quality diamonds. Books take time to write, compile, edit and print.

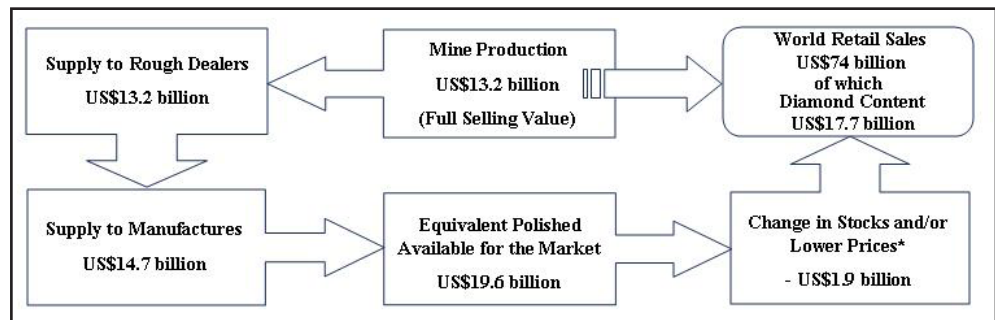
From its artificially low point of 11% in 1981, the diamond content of diamond jewellery has been on a slight, gradual, occasionally erratic but rising trend. This can be expected to increase further as high-value markets such as India and the Gulf improve further.

### The Diamond Pipeline

The pipeline shown below demonstrates the circularity of the diamond trade, rather than the more linear diagrams often shown.

On the left is rough production, through manufacturers to polished supply. The right-hand side starts with retail jewellery sales and works backward to polished demand.

**Figure 12: The Diamond Pipeline**



\* 24% of US\$74 billion in 2006 – see Chart 8  
Source: BMO Capital Markets Research

The difference between supply available to the market (US\$19.6 billion centre bottom) and the Diamond content of World Retail sales (US\$17.7 billion top right) is met by changing prices and stocks.

### Cultured Diamonds

The fuss in the trade about cubic zirconia in the early 1980s, selling for a few U.S. dollars per carat unset, is long past, but questions are still raised about what many call “cultured” diamonds. As mentioned earlier, the Gemesis process started producing stones with a roughly similar atomic structure to natural diamonds in 2002, followed by Apollo in 2005. These have been taken more seriously but, if properly handled, should be seen as an opportunity rather than as a threat. Thus far they seem, like cubic zirconia, though upmarket from them, to occupy a completely different market niche. Moreover, at 30–40% cheaper than the equivalent natural diamond, they provide a stepping stone to natural, or real, diamonds. As most people start with a modest house or car, and trade up as their income improves, so the same appears to be happening with cultured diamonds.



Second, there is still not the manufacturing capacity for cultured diamonds to affect the natural diamond industry, and the marketing of cultured as a cheap alternative, rather than as a quality competitor, has limited their scope as a serious long-term alternative. Also, Gemesis and Apollo are committed to full disclosure of the origins of their productions. Great secrecy surrounds the cultured diamond business, but it is thought that Apollo and Gemesis together produce around 100,000 carats per year, compared with 161 million carats of natural diamonds produced in 2006—of which some 40 million carats were of gem quality. The increasing rise of the low-cost Indian and Chinese manufacturing centres has increased the percentage that can be cut and polished commercially. Some diamantaires now refer to “cuttable” and “non-cuttable” rather than gem and industrial.

Increasing cultured production is expensive and if they swamped their own market they would undermine their own prices. Apollo uses a carbon vapour deposition process (CVD), while Gemesis employs machines using extreme heat and pressure—simulating artificially the conditions found in the diamond stability field, where diamonds form at a depth of more than 100km beneath the crust of the earth.

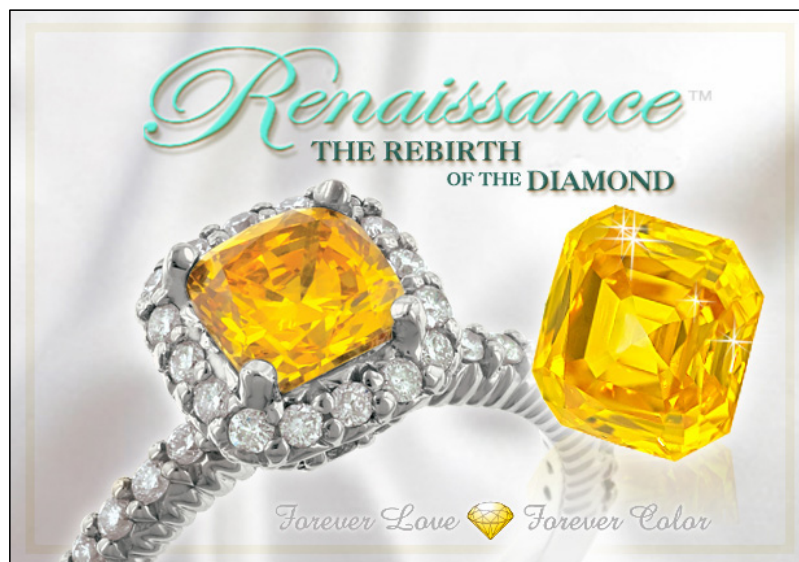
Moreover, detection techniques are improving all the time and De Beers, as market leader in synthetic technology through its Element Six subdivision, has the ability to ensure that synthetic stones do not become a threat to natural diamonds but remain an entirely separate market with different target audiences. In addition, in 2004 De Beers’ Diamond Trading Company (DTC) introduced its Forever Mark. The inscription, on the table of the diamond, is meant to show that a Forever Mark diamond is genuine, natural and has not been altered or treated. The inscription consists of the DTC’s Forever Mark icon and an identification number, and can only be seen with a DTC Forever Mark viewer. The idea was, and is, to build and sustain consumer confidence in natural diamonds.

Since Gemesis started producing fancy yellow/orange coloured diamonds in 2002 (Figure 14), prices of natural fancy colours have been persistently strong as awareness of them has grown; De Beers and others concentrate their advertising on white stones.



**Figure 13: Forever Mark**  
Source: De Beer’s Forever Mark Division

**Figure 14: Two Gemesis Fancy Yellow/Orange Cultured Diamonds – Stepping Stones to a Natural Diamond?**



Source: gemesis.com



## Rough and Polished Price Differences / Supplier of Choice

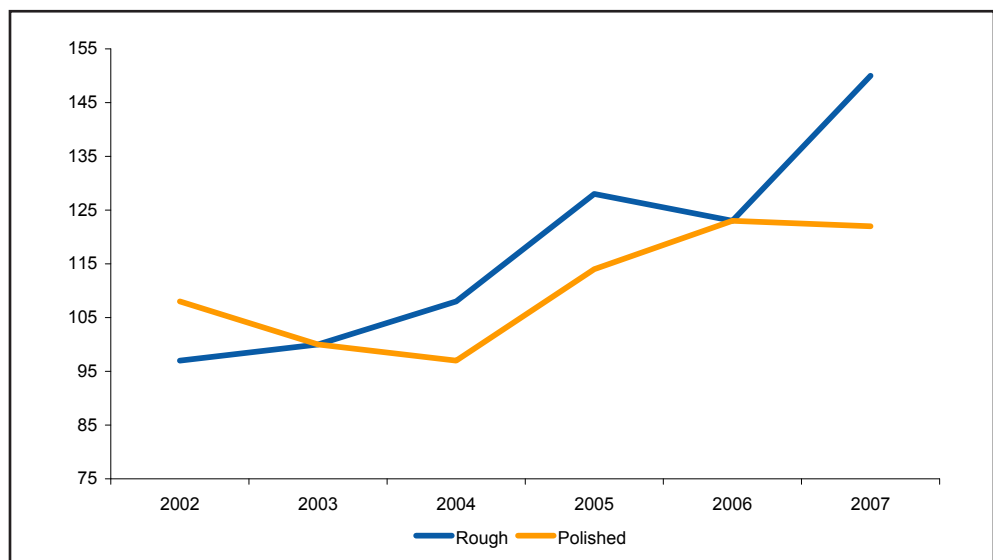
Diamonds are often thought of as a single commodity, but this is dangerous for a commodity where prices can range from US\$1 to US\$100,000 a carat and much more. The word “diamonds” is generic. In 2007, an understanding of the dynamics between the rough and polished markets is particularly important, as they have diverged significantly with strong rough prices (up by almost 20% on average and a lot more than that in fine, large gems over 2 carats, increasing with size and quality), whilst the polished market has stagnated, up only very marginally during the year.

### Why Is This So?

De Beers’ Supplier of Choice (SoC) initiative, arising from its strategic review in 1998, aimed to force the industry to move from being supply-driven to demand-led. Any client (sightholder) had to increase its skills and marketing budget and be committed to working downstream. Meanwhile, De Beers has dramatically reduced its own advertising whilst making the clients make up the shortfall. SoC has proved both very unpopular and a failure. A stock reduction by De Beers from almost US\$5 billion in 1998 to effectively zero now (just hand-to-mouth working stock) had a major impact on the market. One consequence was that with De Beers wanting the rough manufactured into polished, and favouring its clients who do with better rough supplies, the market has been dogged by a large excess supply of polished—hence flat prices. Meanwhile, the market is short of rough, particularly in the larger, fine categories.

Supplies of rough have become a key issue for the industry and whilst De Beers’ market share has fallen, there is no other source of rough that can match its ability to provide a reasonable continuity of supply. Thus, with a large pool of polished, and shortages of rough, there is a significant divergence in rough and polished prices as shown in Chart 8.

**Chart 8:** Rough Price Index vs. Polished Price Index



N.B. The indices are rebased at January 2003 = 100, as that provides fairly long-term equilibrium between rough and polished prices.

Source: BMO Capital Markets Research

**Stocks**

Overall stock levels in the trade, with the manufacturers, continued to fall in Q3/07, with rough supplies remaining tight and the polished overhang being pulled through slowly.

Rough stocks in the trade peaked at US\$3.3 billion in Q2/06 (when De Beers was de-stocking/ overselling and thereby hitting prices) and were under US\$3 billion in Q3/07, while polished stocks peaked at US\$10.4 billion in Q4/06 and were US\$8.8 billion in Q3/07.

**Financing**

Bank debt in Antwerp, Mumbai and Tel Aviv is US\$10.3 billion, or 58% of the polished available to the market in 2006. The biggest diamond bank, ABN Amro, has reassured the industry that its takeover will not affect its commitment to the diamond industry.

And given the extremely positive supply/demand scenario (arguments for which are reflected on page 24), it should not be of great import.

**Supply Changes Between 2006 and 2011**

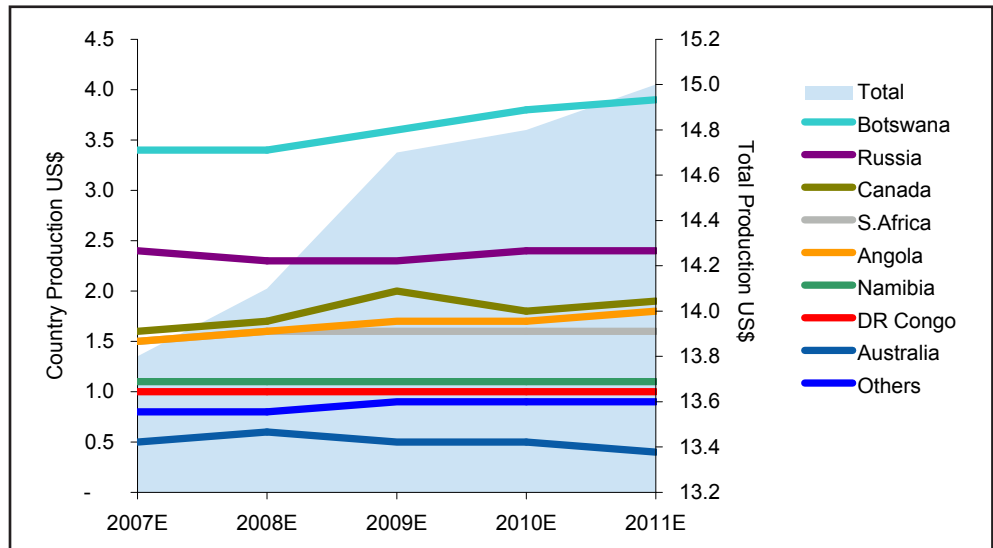
From 161 million carats and US\$13.2 billion of natural rough production in 2006, we see the following summarised picture by 2011, with some explanations below.

**Table 6: Rough Diamond Production to 2011 (Constant US\$ Billions)**

Country	2007E	2008E	2009E	2010E	2011E
Botswana	3.4	3.4	3.6	3.8	3.9
Russia	2.4	2.3	2.3	2.4	2.4
Canada	1.6	1.7	2.0	1.8	1.9
S.Africa	1.5	1.6	1.6	1.6	1.6
Angola	1.5	1.6	1.7	1.7	1.8
Namibia	1.1	1.1	1.1	1.1	1.1
DR Congo	1.0	1.0	1.0	1.0	1.0
Australia	0.5	0.6	0.5	0.5	0.4
Others	0.8	0.8	0.9	0.9	0.9
<b>Total</b>	<b>13.8</b>	<b>14.1</b>	<b>14.7</b>	<b>14.8</b>	<b>15.0</b>

Source: BMO Capital Markets

**Chart 9: Rough Diamond Production Forecasts to 2011 (Constant US\$ Billions)**



Source: BMO Capital Markets

### Changes to Production

In Botswana, tailings treatment at Jwaneng and Orapa (reaching 3.5 million carats, small, low-value stones) should boost production, although their mainstream outputs should remain flat.

African Diamond's AK6 JV with De Beers is now expected to be in production by late 2009.

DiamondEx's Lerala mine (formerly Martinsdrift) will be a small operation: 300,00 carats at an average value of US\$65 per carat=US\$20 million.

Gem Diamond's Gope kimberlite should eventually do 800,000 carats per year. The feasibility study should be ready in early 2008. Negotiations with the local Basarwa tribe started well. If all continues well, production should start in 2010.

In Lesotho, Gem Diamonds is also doubling output at its very high-value Letseng mine, where annualised production has been running at around US\$140 million. So a doubling starts to add another US\$140 million from Q2/08.

Increased production from Angola and Canada should be offset by falling output at Argyle in Australia as output falls from 29 million carats (US\$457 million) in 2006 to 20 million by 2011, and finishing about 10 years later. Also, in South Africa De Beers' Namaqualand operations (US\$303 million in 2006) are likely to be finished by 2010 and The Oaks (small) in 2009. Venetia (US\$682 million in 2006) is likely to be almost finished around 2015, slightly beyond the horizon of this exercise.

Elsewhere in Canada, De Beers' Snap Lake mine is having a difficult start-up phase and the company wrote off C\$1 billion of capex, but should eventually produce 1.6 million carats per year at \$136 per carat = US\$218 million a year.

In Namibia, the declining, high-value onshore operations of Namdeb should be offset by 250,000 carats of additional undersea mining, though at lower prices than the onshore production.

Other production increases, such as the expansion at Gem Diamonds Cempaka alluvial mine in Indonesia, will be offset by declines at Elkedra's Chapada alluvial mine in Brazil and some other smaller mines.

De Beers's Victor mine should be producing in 2008. It's small, 550,000 carats a year, but high value: (\$450 per carat) = US\$247 million a year.

Further down the line come Gaucho Kue, possibly Shore Gold and Stornoway (the Reynard project).

## Production Groups in Constant US\$ Billions

The production estimates and forecasts previously given from 2007 to 2011 are as follows, split into five broad categories of size and quality.

**Table 7: Production Forecast by Diamond Production Groups - US\$ Billions**

Category	Descriptions	2006	2011E
Fine Large Gem	+1.25 carats, D-I colour, F to VS2	5.7	6.6
Fine Small Gem	-1.25 carats, D-I colour, F to VS2	2	2.3
Commercial Large	+1.25 carats, J-K colour, S11 to S13	2.2	2.3
Commercial Small	-1.25 carats, J-K colour, SI1 to SI3,	1.3	1.5
Mixed	All goods colour K down, below I1, cleavage, rejections, boart	2	2.3
<b>TOTAL</b>		<b>13.2</b>	<b>15</b>

Source: BMO Capital Markets Research

D is the top colour; I is only slightly tinted white; F is flawless; VS2 means small inclusions; J-K colour is tinted white; and SI means inclusions. Cleavage is any size or shape of rough that must be split into smaller pieces by cleaving, lasering or sawing prior to polishing. Boart is milled for use in industrial abrasives.

Table 7 demonstrates the importance of the value of Fine Large Gem. FLG, as currently defined, accounted for 43% of 2006 estimated production by value and 44% of the 2011 forecast.

### De Beers

De Beers is pretty open about its own dwindling supplies—partly caused by the abandonment of its long-term contract with Russia (it was around US\$800 million or almost twice the combined production values of its new Snap Lake and Victor mines in Canada). Moreover, De Beers has, for the time being, substantially backed away from the much-rumoured purge of its sightholder (client) list that was to have taken place at the end of 2007. This in itself—if it happens (and if those clients go without a fight)—would alter the structure of the diamond markets: sizeable diamond manufacturing companies will have to search elsewhere for their supplies.

Given the potential purchase of Rio Tinto by BHP Billiton, the current issue of manufacturing in diamond-producing countries (with Botswana in particular flexing its muscles as the largest producer) and the possible departure of the Oppenheimer dynasty from the diamond scene, it is clear that radical changes in the diamond industry are likely to continue in the short to medium term.

### Estimated Demand for Diamond Jewellery to Outstrip Supply

With the East and the Gulf regions growing so rapidly, and the West, though still very important, becoming less so, average global retail demand for diamond jewellery is likely to grow at 7% a year. This would need rough production of US\$18 billion for there to be

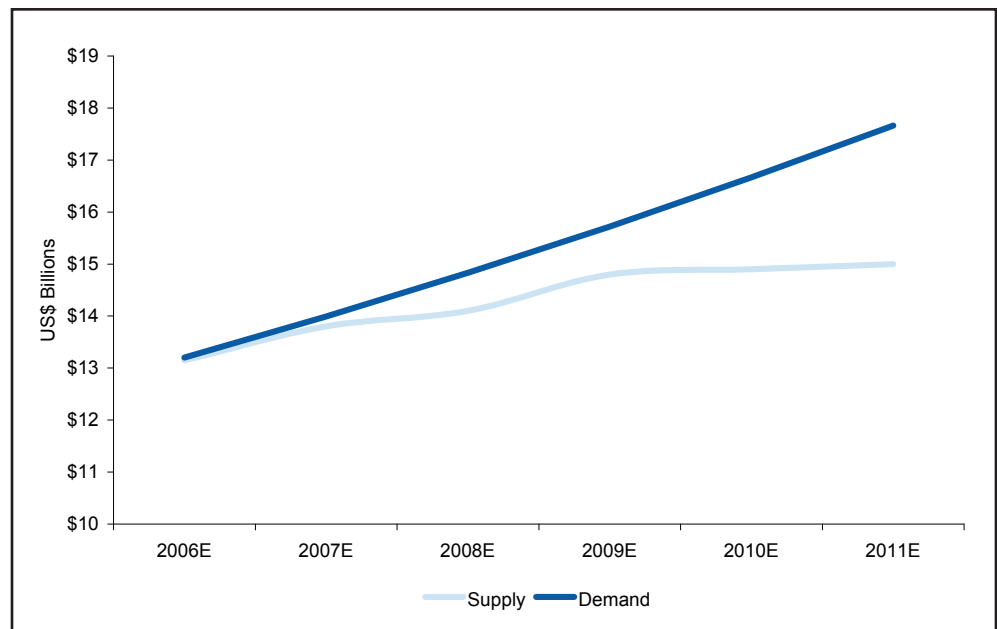
a supply-demand balance by 2011. In fact, Table 6 shows an estimated US\$15 billion of rough production, leaving a supply shortfall of US\$3 billion in rough form by 2011.

That (US\$3 billion) is almost the equivalent of adding another Botswana to the world’s production in five years. And looking a few years further out, Ekati (US\$504 million), Venetia (US\$682 million) and Udachnaya (US\$528 million)—all estimated 2006 productions and totalling US\$1.7 billion—will be declining, thus exacerbating the supply situation beyond 2011 considerably.

We are thus looking at a sustained rough diamond price increase of about 40% on average across diamond categories between now and 2012, with the larger, finer diamonds (fine gem of +2 carats), which are already in short supply, rising by more (in some cases much more) than the average.

As shown in the following chart, the supply-demand situation is expected to get significantly worse beyond 2011.

**Chart 10:** BMO Supply Demand Forecast to 2011



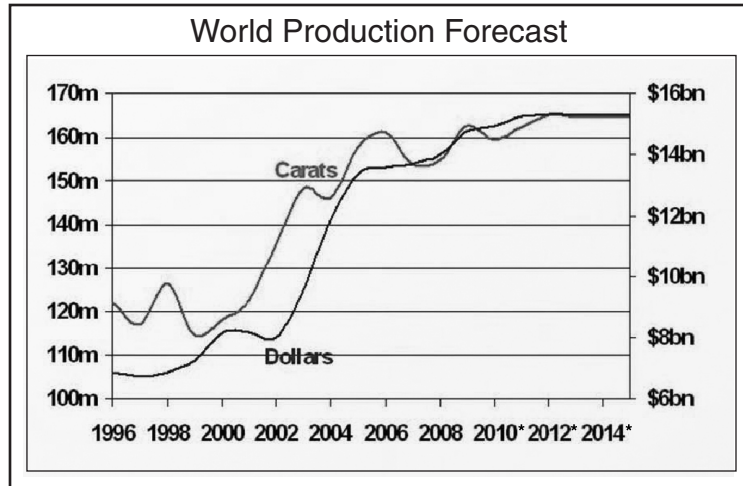
Source: BMO Capital Markets

WWW International Diamond Consultants predicts a production value starting to flatten out at marginally over US\$15 billion from 2008 and remaining around that level until 2015. Chart 10 shows supply flattening out at US\$15 billion in 2011 (the same level).

And, as mentioned above, three major mines—Ekati (US\$504 million in 2006), Venetia (US\$682 million) and Udachnaya (US\$528 million)—will start declining beyond 2011, thus exacerbating the supply squeeze.

The main formal propellants behind the rise in production value from around 1997 were Catoca (1997), Ekati (1998), a doubling in output at Orapa (after 2000), and Diavik (2003). Prior to that came the huge Jwaneng mine (1982), Argyle (1986) and Venetia (1991). Moreover, throughout the period there was a major increase in artisanal, or informal, production, particularly in Angola and the DR Congo.

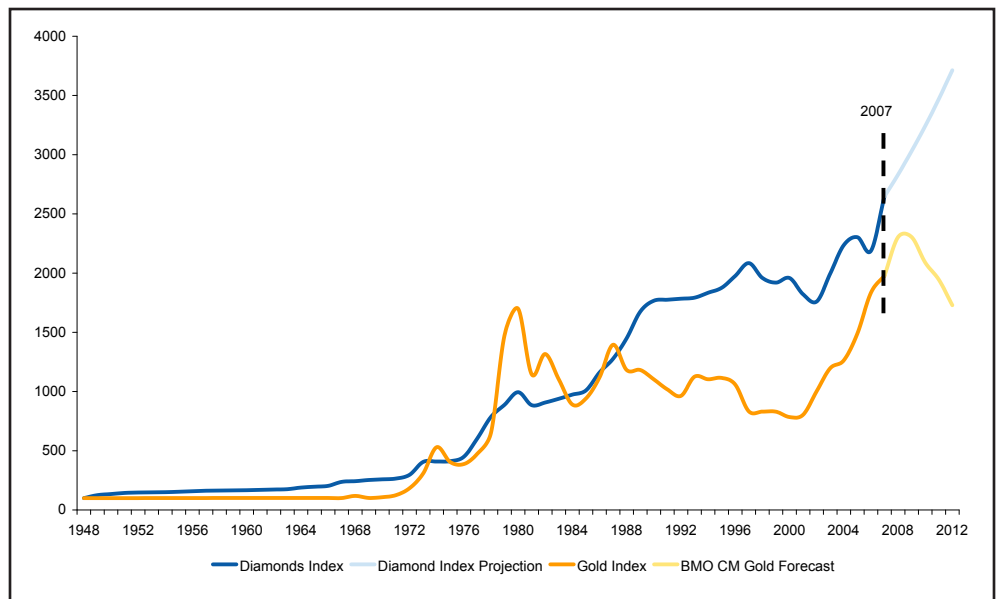
**Chart 11:** WWW International World Production Forecasts



\* Future dates are estimates.  
Source: WWW International

### Diamond Prices Versus the Price of Gold

**Chart 12:** BMO Diamond Price Index Versus the Gold Price and Rebased as of 1948



Note: Values for 2008 and onwards are estimates.  
Source: BMO Capital Markets

The trend in forecast rough prices is expected to start to move more sharply upward from 2011 due to the sharper downturn in supply from that year, as aforementioned. Such forecasts are of course very hard to make, let alone with a fine degree of accuracy, but it is better to be broadly right than precisely wrong. The gold price shown in Chart 13 is BMO Capital Markets' current forecast, done separately.

## Conclusion on the Diamond Market

- Average rough diamond prices, having relapsed in 2006 partially due to heavy stock sales by De Beers (now completed), rose by about 20% in 2007 as supply side shortages begin to bite, particularly in fine, large gem. The top end of the market has risen significantly more than the average. The Russians, too, have sold down their buffer stock.
- By 2012, we forecast that rough prices will rise by about 40% on average across diamond categories as supply continues almost flat and demand, particularly from India, China and the Gulf (together making up 18% of the retail market in 2006), continues its robust growth. Purchases in those three areas, which are growing at almost twice the world average, are on a cash basis. Latin America and other Asia (6% of retail sales) are also doing well.
- In the years after 2011, the supply side actually declines more sharply as three major mines (Ekati in Canada, Udachnaya in Russia and Venetia in South Africa) start to fade.
- This is therefore very largely a supply-side argument and, more than that, one that can be sustained for a long time.

## Junior Diamond Explorers Can Win

It was Dr. Charles (Chuck) Fipke, aided by a few colleagues, who found Ekati in 1991 after 10 years of persistent, exhausting exploration and few resources. This very hard-won discovery re-orientated Canadian geological thinking toward diamonds and prompted a staking frenzy unprecedented at the time.

Hard on the heels of Chuck Fipke's discovery of Ekati (his junior company, Diamet Minerals, was later taken over by BHP Billiton), came Grenfell Thomas and Aber and its Diavik mine in conjunction with Rio Tinto. Aber changed its name to Harry Winston Diamond Corporation on November 19, 2007. Here we have two really world class diamond mines found by junior explorers with limited resources and operating in extremely harsh conditions. Even in the rare world of commercial diamond discoveries, it can be done.

**Figure 15:** Ekati Diamond Mines, Panda Pit – US\$504 Million Production Value in 2006



Source: wunderground.com

**Figure 16:** Diavik Diamond Mine – US\$782 Million Production Value in 2006



Source: Diavik Diamond Mines



### ***Juniors ... From Little Acorns?***

Those great Canadian discoveries eventually prompted a growing rush of diamond exploration, particularly in Africa and Canada.

On the LSE\* the top half dozen or so in terms of market capitalisation:

1. Gem Diamonds (£584 million, FTSE 250 Index), kimberlite and alluvial producer, expansion, developer, explorer. Lesotho, Central Africa, Indonesia, Australia.
2. Petra Diamonds (£225 million), kimberlite producer, expansion, developer, advanced explorer—and less advanced. South Africa, Angola, Botswana, Sierra Leone.
3. African Minerals (£199 million), alluvial producer, base and precious metal rights, Sierra Leone.
4. Namakwa Diamonds (£166 million), alluvial producer in South Africa, Angola, DR Congo and Namibia.
5. Pangea DiamondFields (£59 million), alluvial developer, explorer. Central Africa.
6. African Diamonds (£60 million), AK6 kimberlite production in Botswana in JV with De Beers expected by end 2009, explorer in Botswana and DR Congo in JV.
7. Firestone Diamonds (£63 million), small alluvial producer, kimberlite explorer in Botswana in JV with De Beers.
8. DiamondCorp (£32 million), small kimberlite producer, South Africa.

\* All listed on AIM excluding Gem Diamonds, which is on the main LSE board and forms part of the FTSE 250

The above selection of LSE diamond stocks is capitalised at almost £1.4 billion, of which 42% is Gem Diamonds and 16% is Petra Diamonds.

### **In Canada and Elsewhere:**

1. Harry Winston Diamond Corporation (formerly Aber Diamond Corporation), (US\$1.5 billion), 40% of Diavik plus upmarket retail.
2. Shore Gold (C\$722 million), Star Diamond Project, Fort a la Corne JV, possible developer.
3. Mountain Province (C\$275 million), interesting JV with De Beers at Gaucho Kue.
4. Stornoway Diamond Corporation (C\$104 million), advanced project at Reynard.
5. Trans Hex (US\$127 million), alluvial producer, explorer, Africa, listed on the JSE

Again, this is only a selection of the larger juniors and intermediates—though the Diavik mine, brought in through Harry Winston Diamonds (40%), is of course a world class major. The market capitalisation of this small selection is over US\$2.7 billion (£1.4 billion), skewed by the influence of Diavik.

The two add up to over £2.8 billion, with numerous other diamond juniors, and others still doubtless in the pipeline.

## Thinking Ahead

It seems there is a very good chance that Alrosa, whose value, according to two official Russian agencies, averages almost US\$5 billion, will do an IPO on Western markets within 18 months. Alrosa's President said so in September 2007 and there are good reasons. Alrosa has borrowed a lot from banks over the years and its debt-to-equity ratio is high; it needs capital for underground expansions at its mines and, given their size and harsh location, the required amounts will be large. Most interestingly, Alrosa still has huge unexplored tracts of land. Its area is about 1 million square miles (four times the size of Texas). Given the harsh conditions, it would be easy to miss a kimberlite. Indeed, their first kimberlite pipe (Zarnitsa, meaning Summer Lightning) was found by a geologist in 1954. In so doing she had literally come within a few metres of the massive Mir (Peace) kimberlite. Mir was later found and became Alrosa's greatest mine for a long time.

To make sense, any IPO by Alrosa would need to be at least US\$2 billion, and probably more.

Given the outlook for rough diamonds stimulating more juniors to come to the market, gradual, further rationalisation of this numerically large sector, the expansion of the larger juniors/intermediates, and the probability of Alrosa coming to the market with a big IPO within 18 months all suggest an interesting and potentially profitable time for investors in this sector.

And this leaves aside any speculation about De Beers' future—a subject in itself. It is an interesting fact that De Beers' net diamond earnings in 1989 (i.e., after stripping out the earnings from the then-non-diamond investment portfolio) were US\$924 million on sales of US\$4,086 million, a net margin of 23%. Nearly two decades later, in 2006, net diamond earnings had more than halved to US\$449 million on sales of over US\$6 billion, or 50% more, a net margin of only 7%. There are reasons for this, mainly structural.

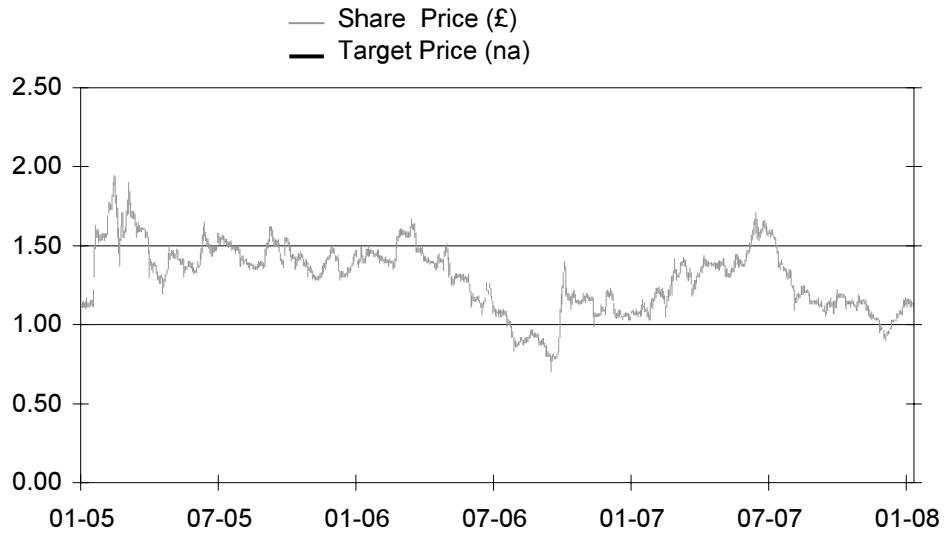
Such a sharp collapse in net diamond earnings over almost two decades, on 50% higher rough diamond sales, requires explanation. There are several factors. In the early 1980s, the huge and highly profitable Jwaneng mine came onstream in Botswana, thus making 50%-owned Debswana very much more important to De Beers, and this importance was further enhanced when Debswana's big Orapa mine doubled production in 2000. And in Namibia in 1994, the 100%-owned Consolidated Diamond Mines (CDM) became 50% held Namdeb. Thus pre-tax, wholly owned profits at CDM and the South African mining subsidiaries were replaced by half the after-tax profits from Debswana and 50% of the dividends from Namdeb. Venetia in South Africa was 50% held when it came onstream in 1992 and the taking out of the minorities in two separate hits by 1999 helped a little. But the point is that the full sales figures from the dominant and highly profitable Botswana mines, and also Namdeb, are included in calculating the net margin on the diamond earnings.

Botswana delivered three direct blows as well. Its total share was increased to 85% from 75% (50% of the equity remained but higher tax and royalties were imposed). Then the Diamond Trading Company's margin on selling Botswana goods was reduced to 7% from 10%. Three percentage points on Botswana's production of over US\$3 billion cut De Beers' income by about US\$100 million.

Another blow came in May 2006 when the Botswana government forced De Beers to initiate the Diamond Trading Company Botswana (DTCB). This is a 50/50 partnership and will be operational from 2008. It is costing De Beers US\$83 million to establish. The DTCB will sort and value Debswana's production and promote the development of a local diamond manufacturing industry. The emphasis of the DTC in London will change from being a rough sorting centre to one that "concentrates on serving the needs of sightholders and driving global demand for diamonds." This is a little disingenuous, as the DTC in London (or Central Selling Organisation as it was known) has done this since 1934. In short, London's function has very substantially diminished and at significant cost to De Beers. Similar changes on the selling side have taken place in South Africa and Namibia.

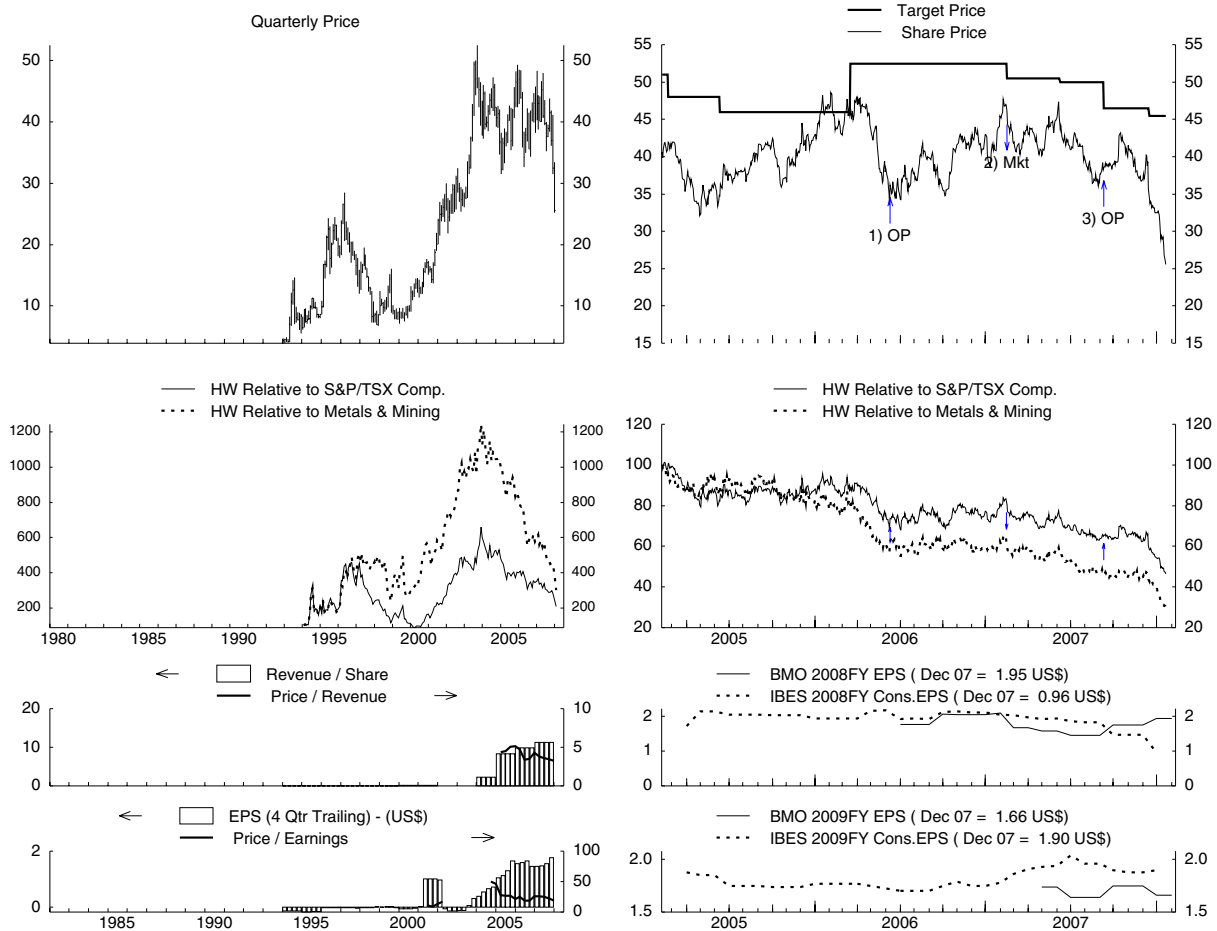
It is an enormous setback for De Beers to be in such a structurally disadvantageous position when the rough diamond market is on the verge of one of its most sustained periods of shortage and therefore prospective price growth.

### Firestone Diamonds PLC (FDI-LSE)



FDI-LSE = Rating as of 18-January-05 = NR

### Harry Winston Diamond (HW)



FYE (Jan.)	EPS US\$	P/E	DPS \$	Yield %	Payout %	BV \$	P/B	ROE %
1994	-0.19	nm	0.00	ND	nm	0.58	7.5	nm
1995	-0.03	nm	0.00	0.0	0	1.02	6.4	nm
1996	-0.01	nm	0.00	0.0	0	1.38	7.1	nm
1997	-0.02	nm	0.00	0.0	0	2.42	9.7	nm
1998	0.00	nm	0.00	0.0	0	2.79	5.6	0
1999	-0.07	nm	0.00	0.0	0	4.27	2.3	nm
2000	0.01	nm	0.00	0.0	0	5.47	1.5	0
2001	0.02	nm	0.00	0.0	0	5.52	2.3	1
2002	-0.06	16	0.00	0.0	0	7.01	3.4	nm
2003	-0.12	nm	0.00	0.0	0	6.99	4.2	nm
2004	0.49	nm	0.00	0.0	0	7.38	6.3	9
2005	1.04	31	0.74	1.8	56	8.99	4.5	16
2006	1.56	25	1.16	2.5	63	8.89	5.2	20
2007	1.46	27	1.16	2.6	70	10.12	4.5	18
Current*	1.77	19	0.20	0.6	11	8.13	4.0	21
Average:		25		0.5	16		5.2	nm
Growth(%):								
5 Year:	41.7		nm			3.0		
10 Year:	57.0		nm			12.9		

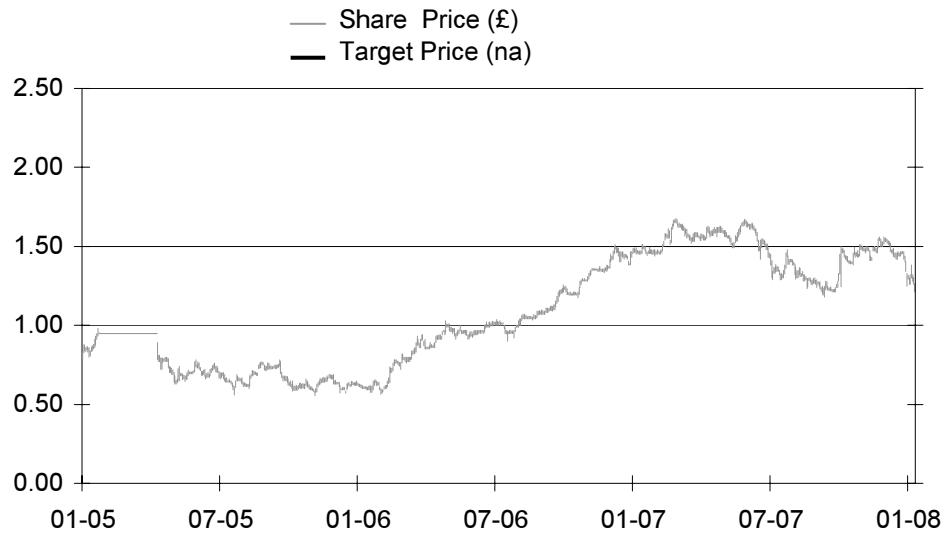
\* Current EPS is the 4 Quarter Trailing to Q3/2008.

HW - Rating as of 8-Feb-05 = Mkt

Date	Rating Change	Share Price
1 9-Jun-06	Mkt to OP	\$36.24
2 14-Feb-07	OP to Mkt	\$46.05
3 10-Sep-07	Mkt to OP	\$38.51

Last Daily Data Point: January 18, 2008

### Petra Diamonds Ltd. (PDL-LSE)



PDL-LSE = Rating as of 18-January-05 = NR

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Harry Winston Diamond Corp. (HW-TSX; HWD-NYSE)	5, 9, 10C	

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(S) = speculative investment;

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