

## 10. Diamond market review

The diamond market has been reviewed and summarised using various publicly available sources of information.

### 10.1. Resources and reserves

There are currently approximately 1,408 reported diamond projects globally at various stages of development, both operational and non-operational. In Africa, there are reportedly 90 active diamond mines at various development stages (SNL, 2017). The top ten diamond mines in the world are shown in Table 2 below.

Angola is the fourth largest diamond producer by value globally (Paul Zimnisky, 2017). 75% of the nation's production comes from Catoca Mine (Paul Zimnisky, 2017). The Luaxe Project in Angola owned by the state company Empresa Nacional de diamantes de Angola (Endiama) and ALROSA is potentially the most significant new diamond discovery in decades. The official figures have not been released for the Kimberlite deposit, however the Luaxe Project is estimated to have approximately 350Mct, which will be exploited at an annual rate of 10Mct. Production is expected to begin by 2020 (Paul Zimnisky, 2017). Lucapa has made headlines with multiple exceptional diamond discoveries, including a 404ct Type IIa colourless diamond, the largest diamond ever reported in Angola, which was sold for USD16m in 2016. Lucapa's Lulo Mine is estimated to produce the highest average-price-per-carat diamonds globally in 2017, with a total of USD2,400/ct (Paul Zimnisky, 2017).

Botswana has the highest diamond carat volumes locked in resources and reserves globally (SNL, 2017). De Beers' two primary mines, Jwaneng and Orapa, represent 92% of the nation's diamond output by value. Lucara's Karowa Mine in Botswana is ranked third in the world in 2017 in terms of value, when excluding alluvial diamonds, with USD700/ct (Paul Zimnisky, 2017). Lucara is expected to continue its operations on the southern lobe of the Karowe orebody, which produced the Lesedi La Rona diamond in 2015, which was the second largest rough gem-diamond ever produced. The Lesedi La Rona diamond is expected to sell for USD 70-85m in 2017 (Paul Zimnisky, 2017).

Table 2 : Global top ten diamond mines by value

RANK	MINE	COUNTRY	LoM	2017 ESTIMATED DIAMOND PRODUCTION	
				VOLUME (Mct)	VALUE (USDm)
1	Jwaneng	Botswana	>20	12.00	2,340
2	Jubilee	Russia	12	9.20	1,426
3	Orapa	Botswana	>15	9.80	882
4	International	Russia	11	4.00	880
5	Diavik	Canada	17	7.40	740
6	Debmarine (A - marine)	Namibia (Offshore)	>20	1.23	656
7	Catoca	Angola	>15	6.50	618
8	Nyurbinskaya	Russia	10	5.00	575
9	Gahcho Kué	Canada	16	4.20	525
10	Mir	Russia	>40	3.20	464

Source: SNL, 2017

In 2016, Botswana had the largest budget allocation towards diamond exploration when compared with other African countries, and third globally (SNL, 2017). Angola is placed second among African countries and fourth globally in terms of exploration expenditure. Botswana's exploration budget constituted 9.97% of the global exploration budget, while Angola's exploration budget constituted 9.21% (SNL, 2017).

There are reportedly 19 diamond operations that are on hold, either temporarily on hold, awaiting financing or awaiting higher diamond prices, on the African continent. In addition, the diamond exploration budget in 2016 for Sub-Saharan Africa constituted 32.6% of the global share (SNL, 2017).

## 10.2. Production

There are currently 14 reported operating diamond mines in Angola, which include SML, Catoca, Somiluana, Calonda, Camutue, Canvuri, Chimbongo, Chitamba, Chitotolo, Dala, Luremo, Luxinge, Tchengi, and Uari Projects. In addition, the Camafuca exploration project is awaiting financing, and the Cassanguidi and Lapi are temporarily on hold. The companies which own these mines include Lucapa Diamond Company Limited, Endiama EP (the state diamond mining company), Rosas & Pétales, Gem International Resources Inc., Escom Mining, Trans Hex Group Limited, PJSC Alrosa, China Sonangol International Limited, ITM Mining Limited, Sociedade Mineira Canvuri, Sociedade Mineira de Lumanhe, Sociedade Mineira de Luremo, African Diamond AB and Sociedade Mineira Do Lucapa.

Botswana currently has a reported 21 active diamond exploration projects and mines. These include five operating mines, one development project, four 'target outline' projects, eight exploration projects, and three grass roots projects. Mines currently operating in Botswana include Orapa, Jwaneng, Letlhakane and Karowe, as well as Jwaneng tailings. The major companies operating include De Beers SA and Government of Botswana (which together form Debswana Diamond Company (Pty) Limited), Lucara Diamond Corp, Petra Diamonds Limited, Lucapa Diamond Company Limited, Tsodilo Resources Limited, Botswana Diamond Plc, Pangolin Diamonds Corp, Peregrine Diamonds Corp, and PJSC ALROSA.

Together these mines contribute significant diamond production to Africa as well as the global market, solidifying both Angola and Botswana as important sources for the diamond market. The on-going exploration for diamonds in Botswana, as well as the target outline operations in Angola and Botswana will prove to be of importance in ensuring future diamond production. The key focus for diamond producers is to manage production costs as diamond mining operations go deeper.

## 10.3. Supply

The major economic crisis in 2008 has been a contributing factor to the decline in performance of commodity markets in general. In more recent terms, the performance of the diamond industry has fluctuated from 2014 through to 2016. Uncertainty developed in the latter half of 2014 and into the first half of 2015 was attributed to slower economic growth in China (Bain & Company, Inc. and Antwerp World Diamond Centre (Bain), 2015).

Due to excess stones being accumulated in 2015, the diamond market was negatively affected. The oversupply led to a 23.5% overall drop in year on year diamond prices, leading to a drop in diamond prices in 2016, and consequently a general drop in revenue for major diamond producers (SNL, 2016). In addition, the diamond market was strained by the decrease in diamond sales to diamond buyers who reacted to a decrease in demand for jewellery in China (SNL, 2016). The largest drop in diamond production in 2016 occurred in Africa, due to De Beers cutting their mining output in Botswana several times in 2015, in response to changing market dynamics (De Beers, 2016).

Global diamond production in 2017 is estimated to be 142.3Mcts, indicating an 11.5% increase in diamond carat volume when compared with global production in 2016, and 9.9% increase in total value (Paul Zimnisky, 2017). In the diamond market, 58% of the global diamond production comes from the top 10 largest mines in the world. Jwaneng Mine in Botswana is the largest diamond supplier by Diamond Resource value, independently producing 15% of the value supply globally. The top diamond producing countries by value in 2016 are shown in Table 3 (Paul Zimnisky, 2017).

The outlook of the diamond market in 2017 is positive, according to analysts. The supply of diamonds globally is expected to peak in 2017 (Selected Diamond Traders (Selected Diamonds), 2017). Diamond supply is expected to continue on an upward trajectory in the coming years, following which a decline may be seen in 2020 (Selected Diamonds, 2017). The expectation is that in the coming three years, the rough diamond supply will balance the high demand (Selected Diamonds, 2017). The long-term outlook of the diamond market is positive, despite the expected short-term decrease in 2020 (Selected Diamonds, 2017).

Table 3 : Top diamond producing countries by value (2017)

RANK	COUNTRY	DIAMOND PRODUCTION CONTRIBUTION BY VALUE (%)
1	Russia	35%
2	Botswana	22%
3	Canada	14%
4	Angola	8%
5	South Africa	7%
6	Namibia	5%
7	Australia	3%
	Other	6%

Source: P Zimnisky, 2017

#### 10.4. Demand

In Angola, the market for rough diamonds is controlled by Sociedade de Comercialização de Diamantes de Angola (Sodiam), a subsidiary of Endiama E.P., which was established to formalise the trading of Angolan diamonds. Angolan diamonds are channelled to key international markets, including New York, Belgium, Israel, Dubai and Hong Kong.

From Botswana, the main downstream markets and entry into export markets for diamonds are orientated through Diamond Trading Company Botswana, a JV partnership between the Government of the Republic of Botswana and De Beers, which acts as an agent for the transfer of diamond sales in London to a trading hub in Gaborone.

According to trends in the diamond market, demand is primarily driven by countries such as the United States (US), China, Europe, Japan and India. The US remains the main driver of sales growth globally, while demand from China has slowed down as a positive shift towards Europe and Japan is observed. India experienced trends which have led to an increase in consumption in 2016. The strengthening of the US Dollar has however negated the growth in the various markets (Bain, 2016).

The over-supply of rough diamonds in 2015 led some mining companies to reduce production in response, resulting in a 24% drop in diamond sales in 2015 (Bain, 2016). The rough diamond sales have reportedly started showing positive growth trends, however the performance of the jewellery sector will determine the recovery of the diamond sector going forward (Bain, 2016).

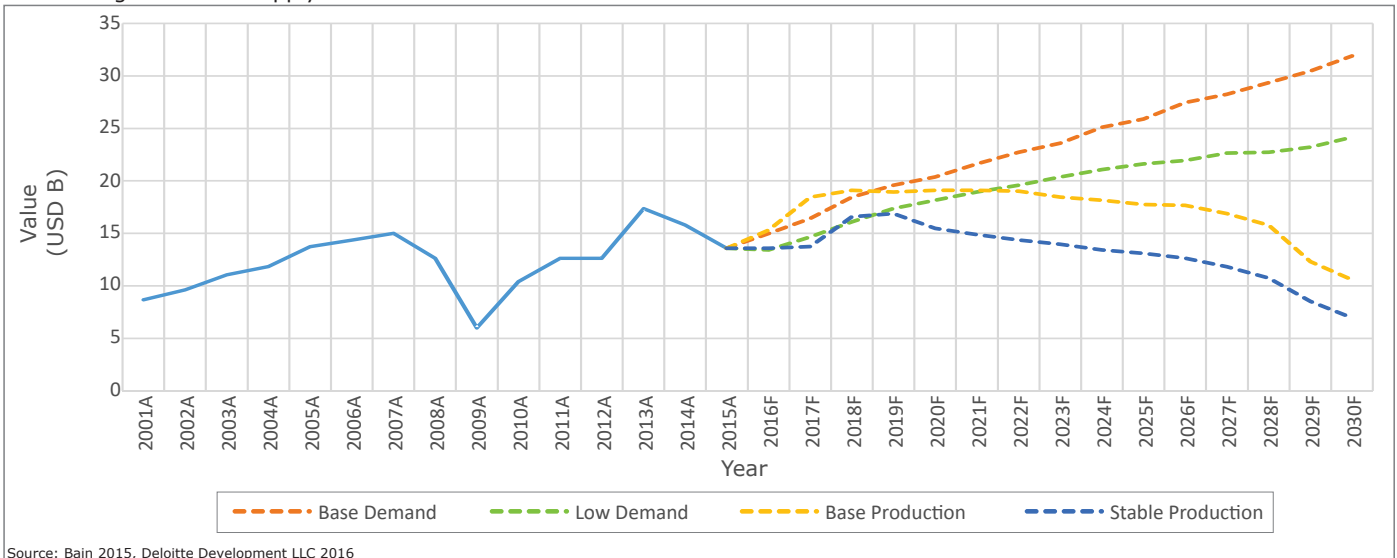
The US, as the largest market for diamonds, has a strong influence on the demand for diamonds. The demand for jewellery in the US is proportionate to households' net worth, and ability of individuals to finance jewellery purchases. A decrease in savings rates in the US is therefore expected to support the demand for jewellery. The slowing of the Chinese economy has been modest, and the effects of the Chinese anti-corruption campaign on jewellery demand are reportedly easing off. In addition, there are improvements in global trade which are expected to filter through to the diamond market. The outlook on diamond demand is therefore generally positive (ABN AMRO, 2016).

In their long term outlook, Bain & Company predicted that the demand and supply in the diamond sector will maintain a tight balance. The demand for rough diamonds is expected to continue to recover from the 2015 downturn, and maintain an average annual growth of 2% to 5%. The growth will be driven by strong fundamentals in the US, and the continued growth of the middle class in China and India (Bain, 2016). The demand for rough diamonds is also expected to recover from the recent downturn that the diamond industry had been faced with (Selected Diamond, 2017).

The graph presented in Figure 4 is based on the diamond market in 2015. The base demand and production are based on existing contracts or mining operations. The low demand considers an anticipated loss of contracts, and stable production includes a certain percentage of unforeseen shut downs.

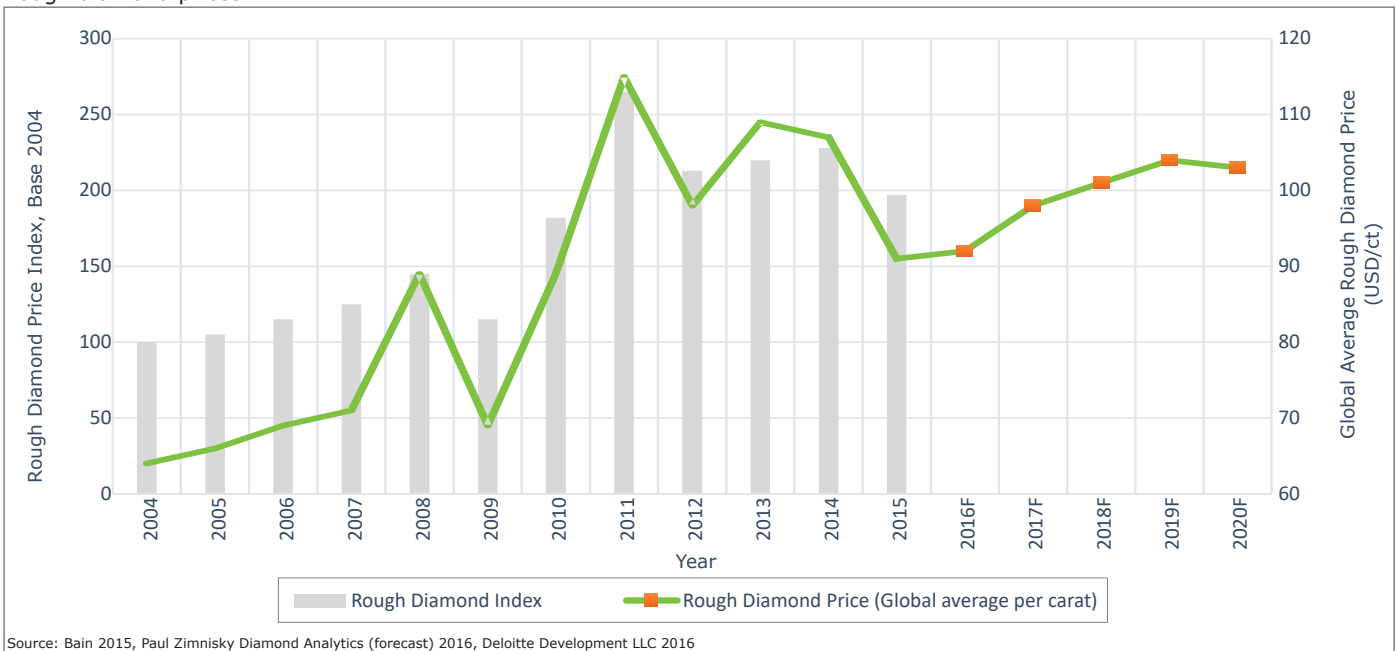
Graphs of global rough diamond supply and demand forecast, rough diamond prices and polished diamond price index

Global rough diamond supply and demand forecast



Source: Bain 2015, Deloitte Development LLC 2016

Rough diamond prices



Source: Bain 2015, Paul Zimnisky Diamond Analytics (forecast) 2016, Deloitte Development LLC 2016

Polished diamond price index



Source: IDEX Online 2017