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How the diamond industry lost its sparkle

The explosion of lab-grown stones from China has shaken up the sector, leaving established players struggling for relevance

Image: jezper/123RF

It takes the Earth more than a billion years to forge a diamond. Feng Canjun can grow one in the space of a week.

On a sweltering summer afternoon in Zhengzhou, capital of the central Chinese province of Henan, Feng's Jiaruifu diamond factory hums with energy. Inside, 600 machines, each larger than an African elephant, simulate the crushing geological pressure and diabolical heat deep in the Earth's surface, where diamonds grow. The machines can turn out three-carat diamonds, the size of a large engagement ring, in just seven days.

"We can mass-produce diamonds," Feng says, proudly pointing to the rows of machines. He has another two factories working around the clock. "Currently, I produce about 100,000 carats a month," he adds.

Over 70 per cent of the world's lab-grown diamonds for jewellery – many destined for the ring fingers of newly engaged couples – originate in a Chinese factory, with Henan at the centre of the synthetic trade.

For the natural diamond industry, Feng's factories and others like them have been devastating. The explosion of lab-grown diamonds on the international jewellery market has coincided with a slump in demand, sending the price of smaller natural diamonds to their lowest levels in a decade.

Today, a three-carat lab-grown stone sells for just 7 per cent of the price of a mined equivalent, according to analyst Paul Zimnisky.

Lab-grown diamonds have captured 17 per cent of the US retail market by volume, up from just 3 per cent in 2020, according to data from Tenoris, a consultancy. Their market share is even higher in the engagement ring category, where a survey by online wedding planning platform The Knot found that over half of respondents had purchased lab-grown diamond rings. Many jewellers believe that number will only grow.

Ankur Daga, who co-founded bespoke online jewellery company Angara, says the company started selling lab-grown diamonds 18 months ago. He has been surprised by how popular they are.

"It is a perfect substitute – chemically, physically, optically identical," says Daga. He expects that in five years, around 80 per cent of the centre stones in engagement rings in the US will be lab-grown, up from just over half today.

The prices (of natural diamonds) have got so low in China that the government has intervened. In Henan, the provincial government is behind the formation of a new diamond association – a move that echoes a broader crackdown on destructive price wars in sectors such as electric vehicles. One of the association's first moves in March was to set a minimum price of $15 per carat for rough diamonds weighing between one and 10 carats.

"If producers sell below that price, rivals will file complaints and the government will intervene," explains Feng. The policy aims to impose a degree of order in a sector where the cost of entry has fallen but overcapacity and competition threaten the survival of some established businesses.

Another strategy used by the natural diamond industry is advertising. Last year, De Beers and Signet launched the "Worth the Wait" campaign, focused on the appeal of natural diamonds.

Last month a new accord was signed by diamond-producing nations and De Beers, pledging to contribute 1 per cent of rough diamond sales revenues to a collective marketing budget run by the Natural Diamond Council. The same organisation recently ran a campaign branding lab-grown stones as "dupes" and "swipe left", although it later took down the ads.

This abstract has been adapted from the Financial Times, written by Eleanor Olcott and Wenjie Ding in Zhengzhou and Leslie Hook in London on 22 July 2025.

https://www.ft.com/content/2a8dca7d-53e8-4d4b-b7f9-44e8a381bf02

Topic areas from the specification to which this article relates

1.2.3 Price, income and cross elasticities of demand

1.2.6 Price determination

1.4.1 Government intervention in markets

3.4.4 Oligopoly

3.4.7 Contestability

Recommended research activities

Using the following article from the FT, consider the likely impact of tariffs on the diamond industry:

https://www.ft.com/content/be55a294-f0f9-4a18-8b32-6d4a18f466d1

Using the following article from the FT, consider the impact of falling diamond prices for both the producers of natural diamonds and 'lab-grown' diamonds.

https://www.ft.com/content/4ca78b3e-3bc9-4aa8-bfa6-ac46548dfaae

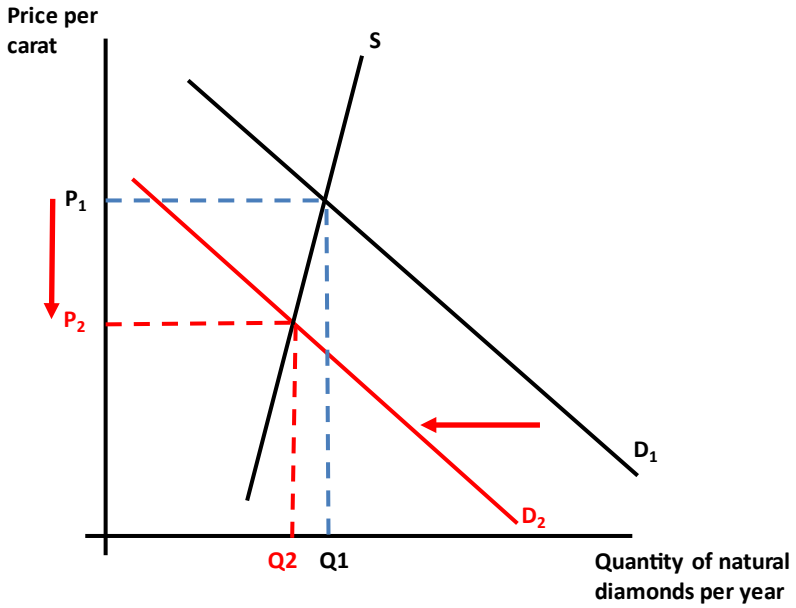
Exam style questions

1. With reference to the extract, explain why the price of natural diamonds has fallen. Refer to the cross elasticity of demand of natural diamonds relative to lab-grown diamonds in your answer.
   Illustrate your answer with a supply and demand diagram. (5 marks)
2. With reference to the extract, discuss **two** measures taken by the producers of diamonds to increase the price of diamonds.
   Illustrate your answer with a supply and demand diagram. (15 marks)

Exam-style questions are not necessarily the exact format of those that will appear in the qualification examination papers, but are written to elicit student responses that meet the assessment criteria, which are exemplified by the answers provided. The length of response in the answers is not indicative of expected student responses, and are provided to support centre teaching, student practice and self-assessment.

1. With reference to the extract, explain why the price of natural diamonds has fallen. Refer to the cross elasticity of demand of natural diamonds relative to lab-grown diamonds in your answer.
   Illustrate your answer with a supply and demand diagram. (5 marks)

Demand for natural diamonds has decreased because lab-grown diamonds can be produced more quickly and more cheaply. 'A three-carat lab-grown stone sells for just 7 per cent of the price of a mined equivalent'. These lab-grown diamonds are described as 'the perfect substitute'. The impact of these lab-grown diamonds on the market for natural diamonds is illustrated in the diagram below:



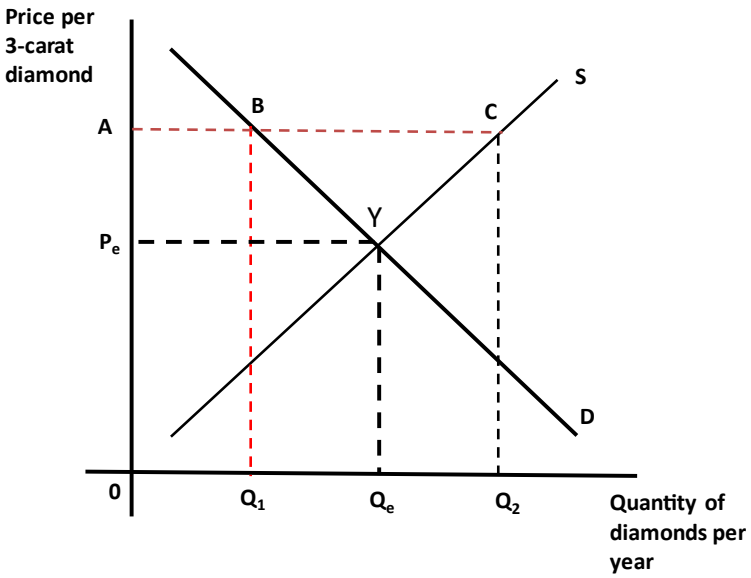
The fall in demand for natural diamonds has led to a decrease in their price.

Cross elasticity of demand refers to the responsiveness of the quantity demanded of one product to a change in the price of another product. Since the lab-grown diamonds are described as a perfect substitute for natural diamonds, a decrease in the price of lab-grown diamonds results in a decrease in demand for natural diamonds. Consequently, the cross elasticity of demand will be positive.

Examiner comments: This answer begins with relevant references to the extract so gaining marks for application. This is followed by an explanation of why the price of natural diamonds has fallen and is supported by a diagram *that is integrated into the written analysis*. (This is very important whenever diagrams are included in the answer.) The answer also addresses the requirement to consider the relevance of cross elasticity of demand to the diamond market. [5/5]

2. With reference to the extract, discuss **two** measures taken by the producers of diamonds to increase the price of diamonds.
   Illustrate your answer with a supply and demand diagram. (15 marks)

The market price for diamonds became so low that it led to state intervention. The provincial government of Henan helped to establish a new diamond association. One of its first measures was to set a minimum price of $15 per carat for rough diamonds weighing between one and 10 carats. This measure aimed to ensure that the price covered the cost of extraction and production of natural diamonds and that some profits could be made. This measure is illustrated in the diagram below:



The market equilibrium price is P_e but the minimum price was set at $15 per carat (0A on the diagram). Unless there was an increase in demand there would be a surplus of BC at the minimum price.

In order to increase demand and to make demand less price elastic, an advertising campaign was launched. This focused 'on the appeal of natural diamonds'. In addition, the diamond-producing nations and De Beers, agreed to contribute 1% sales revenue of natural diamonds to a marketing budget run by the Natural Diamond Council.

However, it seems that neither of these measures will be successful. For example, in the USA, it is predicted that 80% of engagement rings will be lab-grown in 5 years, up from 50% in 2025. Since lab-grown diamonds are so much cheaper in comparison to natural diamonds, more women are buying lab-grown diamond rings themselves. On the other hand, there appears to be little increase in demand for natural diamonds.

Examiner comments: This answer began by explaining the minimum price measure and illustrated it with a minimum price diagram. Data from the extract was used both in the written analysis and in the diagram.

The second method relating to advertising and marketing was explained simply but, importantly, included economic concepts for the rationale of this measure (to increase demand and to make demand less price elastic).

The final paragraph provided evaluative comments making good use of the information provided in the extract to support the points made. There could have been some more development, for example, by considering the most important reason why these strategies would be unlikely to succeed (i.e. that lab-grown diamonds are a 'perfect substitute' for natural diamonds and considerably cheaper to produce).

[Total mark 12/15 – 9KAA + 3Ev]

Additional questions using the full article

https://www.ft.com/content/2a8dca7d-53e8-4d4b-b7f9-44e8a381bf02

With reference to the extract, examine how the contestability of the diamond industry has changed in recent years. (8 marks)

With reference to the extract, discuss why many retailers selling natural diamonds have closed. Illustrate your answer with a cost and revenue diagram. (12 marks)