The stuff of legend: diamonds and development in southern Africa

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Diamonds and development in southern Africa

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Executive summary

THE IMPACT OF diamond mining on economic growth and development – especially in Africa – is attracting considerable international attention. This is occurring in the context of three years of global experience with the Kimberley Process Certification System (KPCS), designed to monitor and regulate the worldwide sales of rough diamonds.

This study establishes four propositions. The first is that the diamond industry has been a positive force for development in southern Africa. It has created jobs, earned foreign exchange, and contributed to the development of infrastructure available to all. Historically, the industry's cartelised structure has extracted rents from relatively wealthy consumers in North America and Europe and transferred them to relatively poor producers in southern Africa. Of course, the owners of the mining giant De Beers are not poor by any stretch of the imagination, but the partial public ownership of corporate assets in Botswana and Namibia, post-apartheid initiatives in South Africa such as the black economic empowerment (BEE) programme, and unionised workforces in all three countries mean that the benefits of diamond mining are increasingly broadly shared.

The second proposition is that jewellery, among the most profitable segments of the industry, is a non-essential luxury, and that consumer concerns over 'conflict diamonds' therefore pose a long-term threat to the industry. Ironically, the non-competitive structure of the industry, and its dominance of a single firm, De Beers, has made it easier to address this emerging threat (and associated third-party ethical concerns) quickly and decisively. Despite the absence of conflict diamonds from southern Africa, these countries have been in the vanguard of addressing this issue.

The third proposition is that the key to 'conflict diamonds' is not diamonds as such, but violent political conflict. Trade in conflict diamonds is a fraction of what it was just a few years ago, partly due to the Kimberley Process, a multilateral effort to eradicate the illicit trade in diamonds, and partly due to progress in resolving political tensions in several African countries. Because political conflict is an enduring feature of the human condition, the conflict diamond problem can never be permanently resolved, but systems can be – and have been – created to diminish substantially the role of diamonds in encouraging conflict and financing political disputes.

The fourth proposition is that the diamond industry, civil society, and the public sector share the challenge to strengthen the Kimberley Process Certification System (KPCS) aimed at eliminating trade in conflict diamonds, and enhancing the related Diamond Development Initiative to regularise artisanal production and bring small diggers into the system. ■

Main report

DIAMONDS ARE THE stuff of legend, swashbuckling fiction, and adventure films. Stories abound about the misfortune that the Hope Diamond is supposed to have caused its numerous owners since the start of its known history in India in the 17th century. Numerous books by the South African adventure writer Wilbur Smith (as well as the films based on them) feature the fictional Courtney family's larger-than-life diamond mining adventures throughout Africa. Two James Bond films, *Diamonds Are Forever* and *Die Another Day*, revolve around the nefarious use of diamonds to produce weapons of mass destruction. And the recent Hollywood blockbuster *Titanic* ends with a giant blue diamond which is saved from the sinking ship but is then cast back into a watery grave.

Then there are many true stories of refugees – during World War Two, Pol Pot's genocidal regime in Cambodia, and other times of turmoil – who survived because they had sewn diamonds, the currency of last resort, into the seams of their clothing – or, as Paul Simon might have entitled it, 'Diamonds in the Seams of her Skirt'.

Diamonds have also been the stuff of strife, violence, and rebellion. 'Conflict' or 'blood' diamonds have caused serious concern among some social activists. These diamonds are mined illegally, often in a brutal manner, and sold illicitly to fund civil and guerrilla wars in some African countries. Conflict diamonds have also been linked to the financial activities of various terrorist groups. Although southern Africa does not generate conflict diamonds, the countries in this region[1] have taken the lead in addressing this issue. The diamond industry is vital to economic and social development in these countries – including the fight against HIV/AIDS – and the implications for them of a shift in consumer preferences away from diamond jewellery in response to ethical concerns over conflict diamonds would be dire.

This study seeks to establish four propositions. The first is that the diamond industry has been a positive force for development in southern Africa. Besides creating jobs, and earning foreign exchange, its historically cartelised structure, though sub-optimal from a global welfare perspective, has acted as a mechanism for extracting rents from relatively wealthy consumers in North America and Europe and transferring them to relatively poor producers in southern Africa. Admittedly, the owners of the mining giant De Beers are not poor by any definition, but partially public ownership of corporate assets in Botswana and Namibia; post-apartheid initiatives in South Africa, such as its black economic empowerment (BEE) programme, and unionised workforces in all three

Box 1: How diamonds are formed

Diamonds are a crystalline form of carbon. They were once believed to have formed inside rocky Kimberlite pipes via volcanic action, but it is now known that they were actually formed in the earth's upper mantle, below the crust, millions of years ago, when high temperatures and pressures caused carbon intrusions to crystallise into diamonds. These diamonds were then brought towards the earth's surface through upward volcanic activity.

While a diamond can be only cut with another diamond, it can be broken with a sharp, accurate blow, due to its tendency to split along inherent cleavage lines. This allows diamond cutters to shape the stones in regular ways. To produce the greatest possible brilliance, facets are cut and polished at exactly the right angles relative to other facets. By the 15th century diamond cutters had learnt how to shape and polish a stone by using an iron wheel coated with diamond dust. Today the most popular cut is the 58-faceted brilliant cut, first designed in the 1600s. In contemporary diamond cutting, diamond saws cut diamond crystals with great accuracy. Cutting and polishing diamonds is a slow, costly process, done by highly trained workers who take years to learn their trade.

Diamonds had previously been found in alluvial deposits in India and South America, but the discovery of diamonds in Kimberlite pipes in South Africa in 1870 changed diamond mining forever, making industrialised, capital-intensive mining the norm. However, even with the richest deposits, large volumes of rock must be extracted and crushed to produce one diamond. Some mines produce about 1 carat (200 milligrams, or 0,007 ounces) of diamonds from every 3 tons (2,7 metric tons) of rock.

Gem diamonds are graded according to weight, clarity, color, and cut, and the unit of weight is a carat. Flaws such as inclusions, bubbles, and small fissures affect the clarity of diamonds. The Cullinan Diamond is the largest stone discovered so far; it was found in 1905 at the Premier mine near Pretoria in South Africa. This stone weighed 3 106 carats, or about 1 1/3 pounds (0,6 kilogram), and the stones cut from it are owned by the British Crown.

Diamonds that cannot be used as gemstones are used in a wide range of industrial processes. Because the supply of natural diamonds does not meet the demand for industrial diamonds, industry increasingly depends on synthetic diamonds. Researchers have now established that adding small amounts of boron to synthetic diamonds during their manufacture makes them electronic semiconductors suitable for use in specialised electronic devices.

In 1994 De Beers, along with General Electric, was indicted in the United States for fixing prices in the synthetic diamond market. Although the case was eventually dismissed, De Beers executives refused to appear in court, and the firm was barred from operating in the United States. In 2004 the company paid a fine of $10 million to resolve the case, and resumed its activities in the United States. ■

countries mean that the benefits from diamond mining are increasingly broadly diffused. Additionally, rents from the diamond industry, together with other mining rents, helped to build the sound infrastructure that is a hallmark of much of southern Africa – and available for use by all.

The second proposition is that jewellery is among the most profitable segments of the industry, and diamonds are a luxury. Accordingly, consumer concern over conflict diamonds and the consequent decrease in demand pose a long-term threat to the industry. Ironically, the non-competitive structure of the industry, and the dominance of a single firm, De Beers, has made it easier to address this emerging threat (and the associated ethical concerns of third-party non-government organisations) quickly and decisively. Despite the absence of conflict diamonds from southern Africa, the countries in this region have been in the forefront of addressing this issue.

The third proposition is that trade in conflict diamonds is a fraction of what it was just a few years ago, partly due to the Kimberley Process, a multilateral effort to eradicate the illicit trade in diamonds, and partly to progress made in resolving political tensions in several African countries. The key to conflict diamonds is *conflict*, not diamonds. The conflict diamond problem can never be irreversibly resolved because political conflict itself is probably an enduring feature of the human condition, but systems can be devised to attenuate further the role of diamonds in encouraging violent political conflict and funding political disputes.

The fourth proposition is that the industry and NGOs share the challenge of strengthening the Kimberley Process Certification System (KPCS), aimed at eradicating trade in conflict diamonds, and the related Diamond Development Initiative, aimed at regularising artisanal production and bringing the diggers into the system.

Diamonds 101

The diamond is the hardest naturally occurring substance in the world (see box 1: **How diamonds are formed**, page 7). Besides their use as gemstones, diamonds are widely used to cut, grind, and bore other hard materials. In 1954 General Electric produced the first synthetic diamond by compressing carbon under high heat, and in 1970 the company produced the first synthetic gem-quality diamonds. Today, most of the world's diamonds are synthetically produced, with natural diamonds making up only 20 to 25 per cent of supply (table 1, page 10). About half of the world's natural diamonds have only industrial use, and only a small percentage is used in jewellery. Only a minority of stones are of gem quality, but they account for most of the industry's profits.

Box 2: The origins of the southern African diamond industry

The southern African diamond industry began when alluvial diamond were discovered near Hopetown in the northern Cape in 1867. A few years later the actual diamond-bearing rock, as opposed to more scattered alluvial diamond deposits, was discovered on a farm some 120 kilometres to the north. A massive diamond rush followed, and the farm became the site of the diamond boom town of Kimberley. This discovery fuelled South Africa's first major mineral rush, the consequent industrialised mineral exploitation of these deposits, and a struggle over who would control the diamond fields – the Boer republic of the Orange Free State, or the British Empire. Miners and fortune-seekers streamed to Kimberley from all over the world. Among other things, it became the first southern African city with electric streetlights.

Because the Kimberley mines were exploiting the actual diamond-bearing ores – or pipes – rather than more dispersed alluvial diamonds, they were characterised by large-scale industrial processes and the mobilisation of international capital virtually from the beginning. Diamond mining had such a massive impact on the entire region that 'within a year of the opening of the mines, every black society south of the Zambezi River, with the exception of the Venda and Cetshwayo's Zulus, was represented at the diamond fields, whether by labourers, artisans, or independent businessmen' (Worger 1987: 72).

Miners were initially only allowed to stake out small, rectangular claims. As they dug deeper into the diamond-bearing pipes and surrounding bedrock, collapses of side walls, in tandem with the need for more elaborate mechanisms to remove rock from the claims, mills to crush the rock into small pieces for further processing, and installations that separated diamonds from their surrounding matrix, led to investment syndicates consolidating these many smaller claims into larger, more economically efficient blocs. This, in turn, led investors and miners to invest new capital from abroad into expanding the diamond diggings.

This early consolidation of diamond claims in Kimberley came to a climax with the struggle between syndicates led by the larger-than-life figures Barney Barnato and Cecil Rhodes. Rhodes and his partners eventually gained the upper hand, bought out Barnato, and created De Beers Consolidated Mines, named after the original owners of the farm-turned-mine.

The experience gained in bringing together mining and engineering technology, men, and capital to achieve sustained diamond mining in the Kimberley area became the template for exploiting the gold deposits discovered on the Witwatersrand a generation later. The raising of capital in Europe, the coercive recruitment of African workers and housing them under near-prison conditions, and the division of jobs into skilled positions for white workers and low-skilled, low-paid jobs for Africans all began on the diamond fields. ■

Table 1: World production of diamonds, natural and synthetic

	2001	2002	2003	2004	2005
Total diamond production (thousand carats)	635 000	670 000	701 000	741 000	746 000
Natural diamond production (percentage share of total diamond production)	20,0	21,0	22,5	24,6	24,5
Gemstones (per cent age share of natural diamond production)	57,4	54,2	55,5	54,9	55,7
Industrial (per cent age share of natural diamond production)	42,8	45,5	44,2	44,6	44,3

Source: United States Geological Survey.

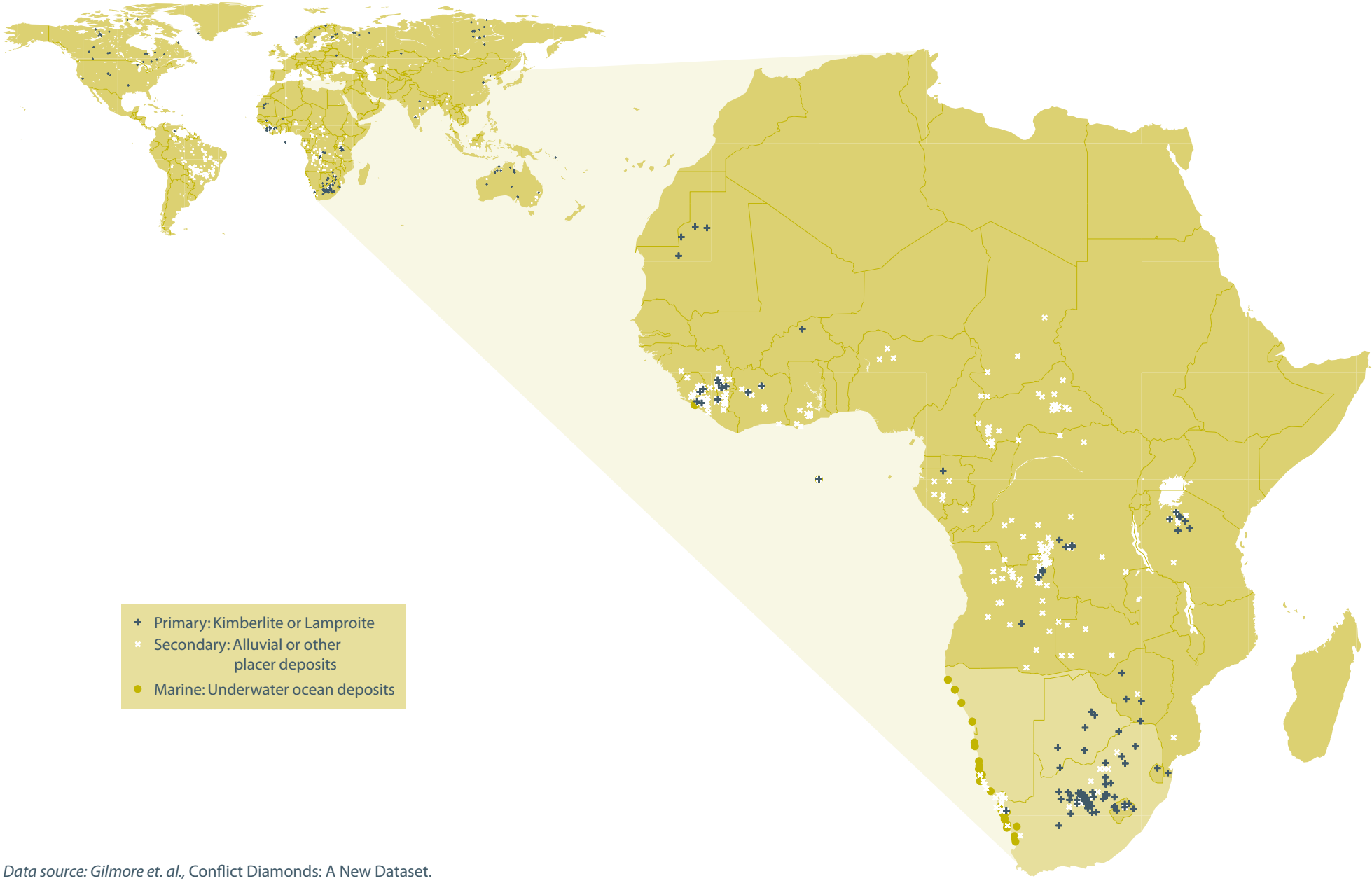
The value-added chain for these gems runs from exploration through mining, sorting, distribution, and the trading of rough stones to processing, grading, jewellery manufacturing, and retailing. Diamonds are an unusual product in that while they are mined like any other bulk mineral, they are highly heterogeneous, and as a consequence the grading, valuing, and marketing of stones are extremely important links in the value chain. To complicate the matter further, different types of diamonds are subject to different price shocks, and miners cannot predict the mix of types in a particular deposit.

Diamond jewellery, among the most profitable segments of the industry, is based on an identification of diamonds with value and luxury, and a reduction in price could have the perverse effect of undermining the product's allure. Hence the industry faces a co-ordination problem of how to reduce price uncertainty on both the demand and supply sides for a highly differentiated product that has some commodity-like attributes. The market response was to create a vertically integrated cartel linking upstream miners with downstream distributors and processors, a process initiated in the 19th century by Cecil Rhodes and carried to its apotheosis in the mid-20th century by Ernest Oppenheimer (Spar 1994, 2006). The industry today reflects both this legacy and its unravelling (see box 2: **The origins of the southern African diamond industry**, page 9).

Natural diamonds occur under various geological conditions, and these differences have profound implications for the political economy of their extraction. Primary, 'deep-shaft', or kimberlite diamonds generally occur in rock formations or 'pipes' in subsoil deposits, though part of the deposit may reach the surface. While such deposits may be a rich source of diamonds, mining them is expensive, requiring significant investments in capital and technology.

Secondary diamonds (including alluvial diamonds, primarily found along riverbeds) have been weathered from primary deposits. Alluvial stones make up less than 10 per cent of the volume of rough stones produced, but more than a quarter of their value, because alluvial deposits yield a higher share of gem quality stones – the better stones survive the tumble through the riverbeds, while erosion destroys flawed stones. These deposits are easily extracted with simpler methods, even a shovel and sieve. This form of alluvial mining is often referred to as 'artisanal' mining, a phrase that conveys an unduly benign or quaint air to what is often a grimly exploitative segment of the industry.

Figure 1: Distribution of primary and secondary diamond deposits



Data source: Gilmore et. al., Conflict Diamonds: A New Dataset.

Box 3: Southern Africa – a concise history

At least one thousand years ago, Nguni and Basutho/Tswana migrants with iron-working and advanced farming and animal breeding skills moved down into southern Africa. In doing so they gradually displaced or subordinated existing aboriginal inhabitants, sometimes referred to as 'Bushmen' but now more usually called Khoi and San (or, in the case of Botswana, the Basarwa).

European penetration into the region began with Portuguese explorers, slave traders, and colonisers in Angola and Mozambique from the 1500s, followed by Dutch settlers at the Cape of Good Hope in the mid-1600s. By the beginning of the 20th century, this scramble for African colonies had coalesced into a Portuguese hold on Angola and Mozambique, German occupation of South West Africa (Namibia), and British domination over the rest of the region.

The British obtained the Cape Colony from the Netherlands at the end of the Napoleonic Wars. The region's political geography became further complicated when, in rejection of the British abolition of slavery, descendants of the Dutch settlers (who came to be known as 'Boers') embarked in 1834 on an exodus into the interior that came to be known as the 'Great Trek', and established two independent republics. Much of the Cape's culture and economy had rested on slavery. The slave population of mixed ethnic heritage gradually coalesced into a distinctive group (the 'Coloured' people) that transformed the Dutch language into a new language which once adopted by the Boers, became known as 'Afrikaans.' White speakers of this language then named themselves 'Afrikaners', to distinguish themselves from the British.

British imperialism collided with the Boer republics in two wars, the first fought in 1881 and the second between 1899 and 1902. This collision was fuelled by Boer desires to maintain the independence of their increasingly racially based societies, and later by competition over newly discovered mineral resources. Concurrently, British expansion was also strongly opposed by Zulu and Xhosa nationalisms, as well as by the inhabitants of other parts of southern Africa.

British expansion northward allowed for the exploitation of additional mineral discoveries, as well as the opening up of large tracts of agricultural land (at the expense of indigenous residents). South Africa's political system became the by-word for the enforcement of policies – codified after the 1948 electoral victory by the Afrikaner-supported National Party – of comprehensive racial segregation, commonly known as 'apartheid', and applied to virtually all aspects of life.

From the 1960s onwards, liberation movements in South Africa, South West Africa (a League of Nations Mandate administered by South Africa), Rhodesia, and the Portuguese colonies began to challenge the status quo politically and militarily. In the context of the Cold War, Western nations, including the United States, sided with the white minority regimes or

backed 'pro-Western' rebel groups in the post-colonial scramble for power. Eventually, the negotiated transfer of power to a black majority in Zimbabwe (formerly Rhodesia) in 1980 and the end of the Cold War facilitated the West's shift in support towards South Africa's liberation movements for a negotiated settlement in Namibia (formerly South West Africa), and the resolution of civil wars in Angola and Mozambique.

Despite its historical advocacy of socialist economic policies, when the African National Congress (ANC) assumed power after South Africa's first non-racial elections in 1994 it did not nationalise the mining, finance, and industrial sectors of the economy. Rather, the new government supported a growth-oriented market economy, coupled with a BEE aimed at giving previously disenfranchised citizens a larger share of the country's economic pie. ■

In geological terms, offshore marine deposits are a subset of alluvial deposits, but from a political-economic perspective they more closely resemble 'primary' kimberlite deposits in that their recovery requires significant corporate investment and advanced technology. Primary and marine deposits are generally expensive to mine, and these segments of the industry are dominated by large multinational companies such as De Beers, BHP/Billiton, and Rio Tinto, which account for about three quarters of total world output.

The distinction between corporate and artisanal mining is very important. Diamonds are easily tradable because of their high value to weight ratio. Because they are a natural resource whose locations of production are geologically determined and are therefore fixed, it is possible to gain physical control over their production, and capture their economic value. In the case of corporate mining, this is role is played by the state, which accrues benefits for society as a whole through taxes, royalties, and other payments. In the case of artisanal alluvial mining, which can be done with unskilled labourers using simple implements, economic barriers to entry are low and potential returns are high, making them an ideal 'contestable' or 'lootable' resource. It is sometimes argued that this characteristic contributes to political instability in countries with artisanal production, a proposition that is examined in some detail below.

After being mined, the rough stones are sent for sorting to one of several world centres. In 2004 De Beers sold $5,7 billion-worth of rough diamonds, accounting for 48 per cent of global sales (Spar 2006).[2] De Beers' London operation, the Diamond Trading Corporation, or DTC (previously the Central Selling Organisation) sorts, values, and trades about half of the world's rough diamonds; the remainder is intermediated in centres such as Antwerp and Tel Aviv. However, De Beers' domination of this segment of the industry has declined over the years: at one time it controlled 80 to 90 per cent of the diamond market, and accounted for two thirds of sales as recently as the late 1990s (Marciano, Porter, and Warhurst 2006). Botswana moved early in its relationship with De Beers to ensure government oversight, establishing the Botswana Diamond Valuing Company (BDVC) in 1974. In 2006 De Beers and the government of Botswana agreed to establish the DTC Botswana, which will sort and value all the diamonds produced in Botswana as well as some stones mined elsewhere.

Box 4: De Beers: a new diversity

Nicky Oppenheimer, chairman of De Beers, and Manne Dipico, chairman of Ponahalo. Source: De Beers.

The most visible of De Beers' new shareholders is Manne Dipico, ANC stalwart and former premier of Northern Cape province. Dipico comes from the 'diamond country' of Kimberley – also the Northern Cape capital – and his association with De Beers began when he started working for the diamond conglomerate as a teenager. After studying at the University of Fort Hare in the eastern Cape (which educated generations of African leaders from throughout the subcontinent), Dipico began organising for the ANC, and was eventually incarcerated along with other ANC leaders. After his release, Dipico became an ANC electoral organiser and eventually premier of the Northern Cape, locus of much of South Africa's diamond mining.

As a result, becoming deputy chair of De Beers Consolidated Mines in South Africa seems almost inevitable. Dipico is soft-spoken, self-effacing, and laughs easily. He apologises for 'not knowing much about diamond mining'. In 2000 he demonstrated a notable independence when he declared that the ANC and South African government should act more quickly and decisively again HIV/AIDS. ■

After being sorted, the stones are distributed for processing. De Beers has 125 authorised clients, or 'sight holders', who account for most of the world demand for rough stones. They satisfy their needs by buying from the DTC as well as other suppliers. While traditionally most diamonds were cut in Antwerp and Tel Aviv, most diamond processing now occurs in India, which in 2000 accounted for 55 per cent of value, 80 per cent of volume, and 90 per cent of stones processed globally (Marciano, Porter, and Warhurst 2006). South Africa, Botswana, and Namibia each have small processing industries.

In 2000 the United States accounted for nearly half of the final demand for gem-quality diamonds (Cook 2003). This means that, today, relatively high-income European and American consumers account for the bulk of final demand for diamond jewellery, though other markets such as the Middle East, India, Japan, and China are growing. Insofar as this is 'created' or non-essential demand, the industry significantly depends on the norms and values of western consumers for a major part of its profits. The industry's great fear is that adverse publicity could affect these consumers' perception of their product and attenuate demand – in short, that diamonds could 'go the way of fur'. In light of the 'Fatal Transactions' campaign launched by a coalition of NGOs in October 1999 over the impact of 'conflict' or 'blood' diamonds, these fears are not unfounded.

The role of diamonds in southern Africa

Geographically, diamonds – and various types of diamonds – are very unevenly distributed (figure 1, page 11). Botswana is the world's largest diamond producer, accounting for about one quarter of global production, with its output derived exclusively from primary kimberlite deposits (table 2). The Botswana mines are unusually fecund, and the country's large volume combined with low production costs makes it the Saudi Arabia of the diamond industry. Russia is the world's second largest producer, and South Africa the third largest. Like Botswana, South Africa's output is derived almost exclusively from primary deposits, and less than 1 per cent from alluvial sources. Most of Namibia's production comes from offshore marine deposits; geologically they are alluvial, but they are still mined by large corporate firms. There are minor deposits in Lesotho. All told, southern Africa accounts for more than 40 per cent of world output by value. Production is dominated by

Table 2: The rough production value of diamonds, 2005

Country	Rough production value ($US billion)	Per cent age share of world rough production value
Botswana	3,3	24,9
Namibia	0,7	5,5
South Africa	1,5	11,4
Southern Africa	5,5	41,8
Australia	0,6	4,3
Canada	1,4	10,9
CAR	0,1	0,8
DRC	1,0	7,7
Russia	2,3	17,1
Sierra Leone	0,4	3,0
Tanzania	0,0	0,2
Angola	1,0	7,8
Others	0,8	6,4

Source: IDEX Online 2006.

Box 5: Conflicts over diamonds versus 'conflict diamonds'

In recent years, increasing attention has been paid to the use of 'conflict diamonds' to fuel civil wards and other intra-national political conflicts. However, there are also important disputes within accepted political systems about how the benefits of diamond mining should best be distributed.

In South Africa, one crucial dispute has pitted the inhabitants of several small towns and villages in the Richtersveld, a remote area in the Northern Cape, against the lingering impacts of the previous apartheid and colonial orders. The Richtersveld community mostly consists of 'Coloured' (mixed-race) people whose rights were systematically diminished after World War One, especially after alluvial diamonds had been discovered in the area. Instead, a government-owned corporation gained exploration and exploitation rights, and consolidated its position under apartheid.

After South Africa's transition to democracy, members of the community went to court to claim back this land and the mineral rights associated with it. Following a decade-long legal contest, they won back ownership of the land, based on their traditional title (even though who exactly qualifies as owners is still unclear). The latest phase in this dispute centres on reparations for past – and the distribution of any future – revenues from diamond mining.

In Botswana, Debswana has been interested in exploring new diamond mining sites. One such site is also claimed by some members of the country's San community (the Basarwa) as their traditional hunting/gathering grounds. The history of this dispute is detailed in Taylor and Mokhawa (2003) as well as Townsend (2004). By ending medical, water, and other services that allow the San to continue occupying this land, the government is attempting to move them out of a prime diamond exploration/exploitation zone.

A spokesman for De Beers has defended the Botswana government, claiming that 'there is no connection between diamonds and the relocation of the San' (Newmarch 2006). Meanwhile, agents for the Basarwa have sought assistance from Hollywood heartthrob Leonardo DiCaprio via a full-page advertisement in the magazine *Variety*. Reprising tactics from the 1990s, one NGO labelled Botswana's diamonds 'conflict diamonds' and called on the supermodel Linda Evangelista to step down as 'the face of De Beers'.

The Basarwa want to remain on the land and also want a direct share of any diamond revenues, rather than having the revenues flow to the state to help fund its development efforts. This dispute crystallises questions about the extent to which a government can compel some of its citizens to alter their lifestyle for the benefit of the broader community.

These controversies highlight dilemmas over how to weigh competing claims in modernising states. Unhappy confrontations between societies with technological and political structures

of differing complexity are not unique to southern Africa, as the experiences of aboriginal people in Australasia and the Western hemisphere attest (Crawley and Sinclair 2003, Lertzman and Vredenburg 2005). Probably the best that can be said is that in the contemporary world, the United Nations, NGOs, and the world press will shine a spotlight on Botswana in a way that will encourage marginally more humane and constructive interaction than occurred in the past. A certain degree of Western humility is in order here: witness the circumstances at Pine Ridge reservation, the Kanesatake reserve, or Arnhem Land, for example. ■

major multinational mining firms employing highly unionised workforces. There is little artisanal production in southern Africa.

The importance of diamond mining to the economies of the three southern African producers varies considerably, however. Botswana is easily the most 'diamond-centric' of the three: in recent years diamonds accounted for roughly 80 per cent of export revenue, half of government revenue, and one third of national income (table 3). (Because the prices of diamonds vary like those any other commodity, the value share of diamonds in the local economy may fluctuate considerably from year to year.)

In contrast, South Africa has a more diversified industrial economy: diamonds account for only 5 per cent of its exports, and less than 2 per cent of its GDP. Namibia occupies an intermediate position. In South Africa the diamond mining industry is privately owned, while in Botswana and Namibia joint public–private public ownership of the industry is the norm.

In South Africa the industry is dominated by De Beers Consolidated Mines, the direct descendant of the firm built by Cecil Rhodes over a century ago. In subsequent years De Beers became a central element of the Anglo American Corporation, which, led by the Oppenheimer family, became one of the largest diversified conglomerates in the world. A key element of the De Beers empire was the CSO, which arranged the sale of gem-quality stones to international buyers and functioned as a near-monopoly for many years. De Beers even established co-operation with diamond mining

Table 3: Value of diamond production and rents

Country	Value of diamond production as a share of exports	Value of diamond production as a share of GDP	Rents as a share of government revenue	Rents as a share of GDP
Botswana	79,8	33,9	66,2	30,4
Namibia	40,8	7,8	11,5	3,2
South Africa	5,1	1,2	5,0	1,4

Sources: IMF; World Bank; South African Department of Trade and Industry.
Note: 'Rents,' following the International Monetary Fund convention, are defined as public entrepreneurial and property income derived from all sources, not solely diamonds.

Box 6: Corporate Social Investment in the diamond mining industry

From the early 1970s onwards the Anglo American and De Beers Chairman's Fund played a pioneering role in developing Corporate Social Responsibility (CSI) in southern Africa. When, in 2001, De Beers was separated from Anglo American, these mining firms created a special purpose, stand-alone South African grant-giving organisation similar to a typical American foundation. This organisation, Tshikululu, now administers De Beers and Anglo American's corporate CSI programmes, among others.

A major thrust of these disbursements is to build synergies between the various grants in a particular community in order to further community economic and social growth and development. Another is to combat HIV/AIDS via projects such as the Field Band Association. The Field Band project recruits at-risk teenagers and younger children throughout the country to join band activities that are also consciously tied to HIV/AIDS prevention efforts and to activities that build self-esteem. In Botswana, in addition to more standard health and community development efforts, the government–corporate partnership has created schools near mining operations that are among the national leaders in education.

Skills development activities are also an important part of corporate social responsibility projects. For example, in a two-year pilot project at Cullinan, east of Pretoria, young adults are being trained in jewellery design, with the most successful students moving on to the Tshwane University of Technology. Also, at the same mine, African women are being trained as diamond cutters. These programmes are harmonised with the South African government's national skills empowerment training initiatives. ■

entities in the Soviet Union, a relationship that, with fluctuating intensity, has continued for several decades.

Following South Africa's transition in 1994 from apartheid to a non-racial political order, its new government adopted policies to encourage a more equitable sharing of the country's wealth (see box 3: **Southern Africa – a concise history**, page 12). Under BEE, the government encouraged the channelling of assets and employment opportunities toward members of 'historically disadvantaged' groups. A new mining charter, signed by mining houses and the government, dictated that increasing shares of the mining industry would be sold to members of the formerly disenfranchised majority. In response, De Beers negotiated an empowerment deal with the Ponahalo consortium, which brought in a number of leading black South Africans as individual shareholders and created several broad-based groups for whom shares were to be held in trust. This empowerment bloc holds 26 per cent of De Beers' South African assets, and the purchase of these shares will be partly financed from the profits generated by the business.

Thirty-five per cent of Ponahalo will be owned by De Beers' 9 600 current employees and 8 700 pensioners, with their interest in the trust allocated equally regardless of race, seniority, or length of service. They will not have to contribute any cash. Another 15 per cent will be owned by the Key Employee Trust, comprising selected current and future employees primarily from historically disadvantaged backgrounds, who will also not have to pay for their interest. Importantly, in its first year, Ponahalo is required to invest at least R10 million (US$1,3 million at current exchange rates) to create jobs and new businesses in communities affected by diamond mining. This amount will escalate by 5 per cent a year over the next nine years.

Ponahalo must also donate at least R5 million (US$0,65 million) a year to trusts for disabled people, disadvantaged women, and communities over the same period. These payments have priority over debt repayment. According to Manne Dipico, former premier of Northern Cape province and chairman of Ponahalo, these investments will be made not only in areas where the mines are situated, but also in the areas in which the diamond industry had transitionally sourced migrant labourers (see box 4: **De Beers: a new diversity**, page 14).[3]

When the BEE deal was announced, Dipico said: 'I think they brought me in as a partner to make a difference, and with my skills in understanding government, from last time as a premier, I think that I understand the policies and would be able to advise what needs to be happening, and I think that that is the part that I'll be playing.'

The development of the diamond industry in Botswana has followed a different trajectory. The national producer, Debswana, was formed in 1969 as a joint venture between De Beers and the Botswana government. As the value of Botswana's diamond deposits became apparent, the government made use of a renegotiation clause in its contract with De Beers to improve the terms of the arrangement. Operating costs in the Botswana mines are low, and estimates of the government's share of profits are in the order of 70 to 80 per cent. It has the right to nominate two members to the DTC and De Beers boards, ensuring in principle that its representatives have access to all relevant information. It also contracts consultants who are not affiliated to De Beers to provide impartial third-party expertise (Harvey and Lewis 1990; Jefferis 1998). Recently the government used its leverage to encourage the establishment of DTC Botswana and the transfer of aggregating activity from London to Gaborone.

The mining of primary and marine diamond deposits is highly capital-intensive, and as a consequence the direct contribution to employment is considerably lower than conveyed by the sector's contribution to GDP. A recent study by the International Monetary Fund (IMF) found that while in one recent year diamond mining had contributed about 40 per cent of Botswana's GDP, it had accounted for less than 4 per cent of employment (Iimi 2006). The miners are unionised, and receive wages and benefits higher than local norms. However, this employment figure significantly underestimates diamond mining's impact on employment. Many ancillary activities such as security, catering, grounds maintenance, and even certain specialised mining activities are outsourced to specialist providers. Due to the way in which the statistics are tabulated, the employees of these contractors are not classified as being employed by the mining sector even though they may be on site on a daily basis. According to local mine managers,[4] this ancillary employment equals between

50 and 100 per cent of directly employed mine workers. It has been claimed that once indirect effects are taken into account, the diamond industry generates a quarter of the country's jobs (Newmarch 2006).

Beyond the direct and ancillary employment effects, income and spending derived from mining contribute significantly to the broader economy. Because of the relatively low labour-intensity of diamond mining after its initial consolidation and development, the South African diamond mining industry made less use of migrant labour than other, more labour-intensive, segments of the mining sector. Today the vast majority of South African diamond mine employees are hired from local communities. The situation is somewhat different in Botswana and Namibia, where mining activities occur in areas with little pre-existing human habitation, and the mining communities have been created from scratch (see box 5: **Conflicts over diamonds versus 'conflict diamonds',** page 16).

From the outset, indigenisation has been a priority of the Botswana government. Debswana has established an active training and localisation programme, and funds Botswana students both at home and abroad. A large majority of Debswana employees are citizens of Botswana. Likewise, the BDVC and DTC Botswana are almost entirely staffed by Batswana (the people of Botswana).

The emphasis on localisation extends beyond employment policies. Debswana's demand for electricity has aided the growth of the Botswana Power Corporation, which has benefited non-mining sectors of the economy in turn. Debswana has further strengthened backward linkages to the rest of the economy by annually targeting selected inputs for local procurement, and working with local producers to develop their capacity for serving these needs (Harvey and Lewis 1990).

There has also been some effort at downstream integration in both Botswana and South Africa, with both countries establishing small diamond cutting industries under the slogan of 'beneficiation'. However, while diamond cutting is more labour-intensive than mining, it is also relatively volatile in terms of profitability and employment. It is estimated that every US$2 million invested in the industry creates 23 jobs in mining and US$4 million in annual sales revenue. For the same investment, diamond-cutting factories generate 170 jobs but only US$3 million in sales, and observers have been cautious in their assessments of government promotion schemes (Harvey and Lewis 1990; Marciano, Porter, and Warhurst 2006).

Although Anglo American and De Beers under the Oppenheimers pursued some enlightened policies, including significant philanthropic initiatives, they shared many of the practices found in the mining industry in general. Black miners were recruited by agents and hired for yearly contracts as low-skilled, low-paid workers. They were usually drawn from remote rural areas, or even from beyond South Africa. Miners' hostels were usually overcrowded, disease-infested, and crime-ridden. When a miner's value to the company had ended, he would be repatriated to his area of origin – usually a remote rural area with little economic activity, and minimal social and health services. As a result, a considerable part of the social cost of mining was transferred to poor rural communities that were least able to bear them. The general judgment that the Southern African mining companies were poor corporate citizens is valid (Herman and Kapelus 2004).

In the 1980s an increasingly powerful trade union movement in South Africa, along with other social and economic forces in that country, began to unravel apartheid. At the same time, newly independent governments in the rest of southern Africa were successfully negotiating more equitable mining arrangements with various mining companies. These same corporations also began to re-examine their social responsibility activities in order to broaden their scope and impact (see box 6: **Corporate Social Investment in the diamond mining industry**, page 18).

Today, revenues from the diamond mining industry fund a broad array of social services beyond this sector. Central to this effort is the sector's response to the HIV/AIDS pandemic. In South Africa, about 5,5 million people (out of a total population of about 45 million) are infected with HIV; in Botswana roughly one quarter of the population are infected (table 4). As a result, socially conscious companies must help to deal with the pandemic. This commitment is both a consequence of a growing sense of good corporate citizenship as well as the recognition by these firms that a stable, healthy workforce is in their best interests in the long term (see box 7: **HIV / AIDS and diamonds**, page 22).

Concurrently, political pressures continue in South Africa for more comprehensive efforts to use the profits from mineral wealth for national development. Recently, government officials suggested that some mining profits should be used to expand the national education system. Similarly, government officials have stated that mining firms in South Africa still need to make greater efforts to share their proceeds from the world commodities boom with their workers and communities located near mines. For example, Sandile Nogxina, director-general of the National Department of Minerals and Energy, recently told a mining conference that companies were focusing on meeting

Table 4: Comparative data

Country/Region	GDP per capita, PPP (constant 2000 international $), 2004	Combined gross enrolment ratio for primary, secondary and tertiary schools (%) 2002/2003	Rule of Law 2004	Control of corruption 2004	Estimated number of people living with HIV: Adult (15–49) rate (%) 2005	
					Estimate	Low / High
Southern Africa						
Botswana	9139,8	70,0	68,9	77,3	24,1	[23,0 - 32,0]
Namibia	6817,8	71,0	56,3	58,0	19,6	[8,6 - 31,7]
South Africa	10286,3	78,0	58,8	65,5	18,8	[16,8 - 20,7]
Sub-Saharan Africa	1781,4	50,0	25,7	23,5	6,1	[5,4 - 6,8]
Middle East						
Algeria	6068,7	74,0	20,2	35,3	0,1	[<0,2]
Bahrain	19078,2	81,0	67,2	72,3	n.a.	[<0,2]
Kuwait	17814,7	74,0	65,5	71,4	n.a.	[<0,2]
Oman	14024,0	63,0	79,0	73,9	n.a.	[<0,2]
Qatar	n.a.	82,0	72,3	67,2	n.a.	[<0,2]
Saudi Arabia	12706,2	57,0	55,5	55,5	n.a.	[<0,2]
UAE	22108,7	74,0	75,6	80,7	n.a.	[<0,2]

Sources: World Bank; UNDP; Kaufmann, Kraay, and Mastruzzi (2005); UNAIDS. Note: n.a. = not available.

Box 7: HIV / AIDS and diamonds

While large corporate diamond mining companies are significantly less labour-intensive than many other mining efforts, they still operate in environments where large numbers of their employees, their families, and their communities must deal with HIV/AIDS itself as well as the disease's social and economic consequences. Accordingly, these corporations have increasingly undertaken comprehensive HIV/AIDS screening, treatment, and aftercare programs. These programmes are increasingly undertaken in partnership with government health care services and facilities.

Inside South Africa, De Beers offers free HIV/AIDS screening for employees and contractors, and treatment and ongoing medical support for employees and life partners. In addition, De Beers has aided a number of company-supported clinics that assist government treatment of HIV-infected individuals not connected with the company but living in communities adjacent to De Beers mines.

In Botswana, the partial public ownership of Debswana has facilitated an even closer coordination between De Beers and the public health authorities. Debswana's anti-HIV/AIDS activities are interwoven with government hospitals and clinics, and HIV/AIDS screening, treatment, and follow-up support via the company extends to miners, their families, mine contractors, as well as the inhabitants of the general communities where Debswana mining activities take place. To a considerable degree, HIV-AIDS efforts of corporate diamond mining companies have been patterned after anti-HIV/AIDS detection/treatment/support programs designed and developed by southern African gold mining companies, which have drawn upon the companies' considerable administrative and managerial capacity. ■

new, broader-based ownership requirements but had yet to focus strongly enough on the community development aspects of the mining charter (Onstad 2006). Even corporate spokesmen echo this view. For instance, Wayne Mundy, CEO of Newmont Mining, has written: 'There has never been a more critical time to ensure that mining contributes to long-lasting development. Soaring metals and minerals prices are bringing billions of dollars in tax revenues to mineral-endowed countries throughout the developing world, enhancing prospects for economic growth. It is essential that these windfall funds are used effectively for community development. This challenge is global.'[5]

The resource curse

Despite this relatively positive picture, it has often been argued that the existence of natural resources may retard economic growth (Auty 1993). There are distinct economic and political channels through which this effect could be manifested.[6]

One possibility is that prices for commodities relative to manufactured goods are subject to secularly declining terms of trade, a hypothesis first advanced by the Argentinean economist Raul Prebisch in 1950. In this view, commodities producers grow slowly because their exports are worth progressively less and less over time. Few today would accept the 'Prebisch hypothesis', at least in its simple form.

A drag on growth might occur more subtly if the existence of natural resources slowed growth in other sectors of the economy. The discouragement of alternative activities outside the extractive sector is sometimes linked to the 'Dutch disease' phenomenon: the tendency for the real exchange rate to appreciate during commodity booms and thereby render other industries uncompetitive in international markets, so named after the experience of the Netherlands following the discovery of natural gas in the 1970s. These concerns are most relevant for Botswana, where the fluctuations in diamond prices pose significant challenges to both macroeconomic policy management and the development of alternative activities outside the diamond sector, and where diversification away from diamonds remains a policy goal. However, no one would seriously argue that the impact of diamond mining has been a net negative, even for Botswana.

Alternatively, the existence of natural resources may retard growth indirectly by encouraging political instability or authoritarianism (which in turn discourages development). This argument has some surface plausibility: the rents derived from natural resources increase the value of capturing control of the state, and control of the resources themselves can fuel rebellion or prolong its duration (Ross 2004; Collier 2006). Similarly, it has been frequently argued that the existence of large rents that can be captured by the state impedes democracy.

Multiple channels for these antidemocratic effects of rents have been identified. First, the existence of rents may absolve governments from taxation and therefore relieve pressure for accountability through what might be called the 'accountability effect'. Second, rents may furnish governments with revenues for patronage and again relieve discontent or undercut the formation of social groups independent of the state. A third channel for rents to impede democracy would be by financially enabling the development and maintenance of institutions of internal control: the 'repression effect.' Yet, as a general proposition, support for the 'resource curse' argument is weak; even in the case of oil, the commodity for which the argument is most plausible, the evidence is ambiguous at best (Noland 2005).

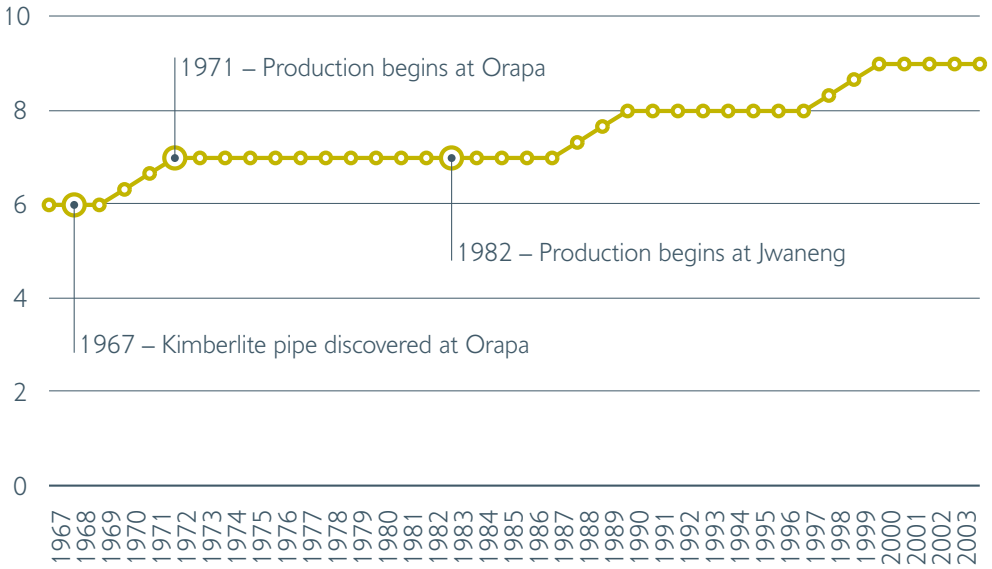
In the case of diamonds, statistical analysis indicates that the existence of primary deposits actually contributes to stability, an argument consistent with the political experiences of the major southern African producers (Lujala, Gleditsch, and Gilmore 2005). The argument that diamonds might be a drag on development would appear more plausible in the case of artisanally produced secondary deposits, and a number of countries where these are found, such as Sierra Leone and Angola, have indeed experienced political instability and civil war. However, other African states with artisanal mining, such as Ghana and Tanzania, have not experienced comparable instability, and the statistical evidence in support of the proposition that secondary diamonds contribute to civil wars is weak at best (Lujala, Gleditsch, and Gilmore 2005).

Yet the impact of diamonds on institutional development and governance is still relevant – even if it is not associated with civil war. The econometric evidence suggests that conditional on good governance (particularly in terms of voice and accountability, government effectiveness, quality of regulation, and anticorruption policies), natural resources contribute positively to development, a characterization consistent with the experience of Botswana, the most diamond-centric economy in the world (Iimi 2006).

Botswana presents an ideal test case both because diamonds play such a central role in its economy and because their discovery is relatively recent. Figure 2 employs the widely used Polity IV measure, which characterizes political institutions on a range from 10 (most democratic) to –10 (least democratic), based *inter alia* on the relative competitiveness of executive recruitment, constraints on the chief executive, and competitiveness of political participation, to depict a timeline illustrating Botswana's political development and that of the diamond industry (Marshall and Jaggers 2004).

Botswana's political institutions were relatively good at the time of independence in 1966, registering a 6 on the Polity IV scale. De Beers had begun prospecting in 1955, but it was not until 1967, the year following independence, that it discovered at Orapa the first major kimberlite pipe. Construction at Orapa began in 1969, and production started in 1971. During this period, Botswana registered increases in its Polity IV score. Further discoveries were made in the mid-1970s, and full commercial operation at Jwaneng, the world's most productive diamond mine, began in mid-1982. As the industry developed, further improvements were registered in Botswana's Polity IV scores. This timeline should not be overinterpreted–many forces within Botswana have contributed to its political development (Acemoglu, Johnson, and Robinson 2001). Nevertheless, at a minimum, the Botswana case stands as a striking refutation of the simple resource curse argument.

Figure 2: Polity score, Botswana, three-year moving average (1966–2003)



Source: Polity IV.

Clearly the major southern African diamond producers exceed their neighbours in sub-Saharan Africa in most indicators of socio-economic development, including per capita income, educational attainment, development of legal institutions, and the absence of corruption, to name just a few (table 4, page 21). But these differences could stem from everything from different climates and geography to different colonial histories – with the exception of Botswana, where diamonds dominate the economy, it is difficult to interpret these outcomes as a causal function of the presence of diamonds. Likewise it is difficult to link the one indicator that the southern African countries score poorly on – HIV infection rates – to the diamond industry, which due to its low labour intensity in recent history made far less use of migrant labour than other segments of the mining industry during the onset of the HIV/AIDS pandemic and which now generally hires its workers from local communities.

From a political economy perspective, another set of comparators would be other economies that are similarly mineral resource– or rent-centric. In the case of Botswana, the only comparable countries are the oil producers of the Arabian Gulf (table 5). To extend this analysis, the more diversified economy of South Africa would be roughly comparable to Algeria. Once again, Namibia would represent an intermediate case. The indicators reported in table 3 (page 17) suggest that in these pair-wise comparisons, the southern African diamond producers do not look bad in relation to other mineral exporters; indeed, they generally score better than the oil producers on these measures.

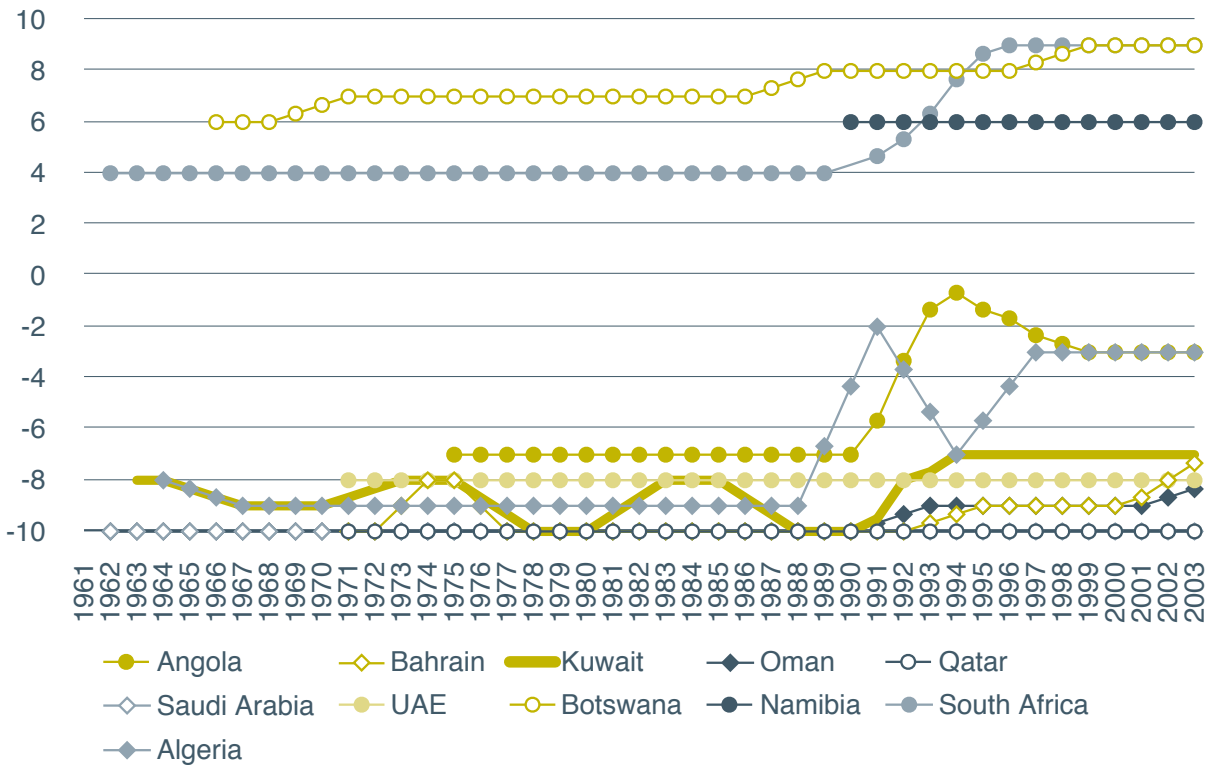
This comparison can be extended to the aforementioned Polity IV indicators of democratization, which shows that the southern African diamond producers are far more democratic than the Middle Eastern oil producers (figure 3, page 26). Data for Angola are also reported in this figure. The Angolan case is interesting in that it has both (secondary, alluvial) diamond deposits and oil, though the value of oil production is more than ten times that of diamonds (IMF 2005, table 2). As seen in figure 3, Angola more closely resembles Algeria in its political development over time than its southern African neighbours, suggesting that analyses that focus exclusively on the role of diamonds in Angola's development may be missing an important, if not decisive, aspect of the story.

Table 5: Resource rents, Middle East

Country	Rents as a share of government revenue	Rents as a share of GDP
Algeria	3,5	1,4
Bahrain	72,9	25,5
Kuwait	85,2	29,4
Oman	83,0	36,6
Qatar	79,2	30,5
Saudi Arabia	83,0	30,3
UAE	74,2	33,0

Sources: IMF; World Bank.

Figure 3: Polity score, three-year moving average (1962–2003)



Source: Polity IV.

Conflict diamonds

While there appears to be no evidence of a 'resource curse' with respect to the southern African diamond producers, diamonds have played a role in civil wars in countries such as Sierra Leone, Angola, and the Democratic Republic of the Congo (DRC) which have been characterised by 'severe human rights abuses, massive internal population movements, and the destabilisation of internationally recognised governments' (Cook 2003: 2). Beyond the obvious humanitarian concerns, conflict diamonds have also been linked to the financial activities of al Qaeda and other terrorist groups (Farah 2004; Zarate 2005).

The United Nations defines conflict diamonds as 'diamonds that originate from areas controlled by forces or factions opposed to legitimate and internationally recognised governments, and are used to fund military action in opposition to those governments, or in contravention of the decisions of the Security Council'.[7] In this regard, there is a need to distinguish carefully between several concepts that are frequently conflated. Artisanal production refers to the mining of alluvial diamonds using relatively simple techniques. This artisanal production can be divided further into two categories: (1) licit mining carried out within the law; and (2) illicit mining, undertaken outside legal strictures, typically involving unlicensed activities or cross-border smuggling.

There are many reasons unrelated to conflict why artisanal miners might engage in extralegal activities – the expense of obtaining the legally required licences, the desire to obtain better prices than those offered by local oligopsonist middlemen, or the desire to evade export taxes, to name a few. Conflict or 'blood' diamonds, by contrast, are a subcategory of illicit diamonds, those mined illegally for the purpose of supporting political rebellion. Key here is that conflict diamonds are *politically* determined; the critical factor is the existence of conflict. Without conflict, a blood diamond is just another illicitly traded gem – undesirable, to be sure, but not a contributor to mayhem.

Because of progress made in eradicating the trade in conflict diamonds, and resolving conflicts in which diamonds play a role, estimates of the prominence of conflict diamonds in the world market have dropped dramatically in recent years. According to a study sponsored by the NGO Global Witness in the mid-1990s the share of world trade of illicit diamonds may have been as high as 25 per cent, and that of conflict diamonds as high as 15 per cent, but by 2006 it had fallen to less than 1 per cent (Wexler 2006). Another analyst has reached the same figure, while yet another study has estimated blood diamonds at 0,2 per cent of African rough diamonds (Wright 2004; Herbst and Mills 2006).

While the figures on the conflict diamonds have improved enormously in recent years, the outbreak of new conflicts in countries with alluvial diamond deposits could at least partly reverse these gains. Political uncertainties in the DRC are one source of concern, as is the situation in Côte d'Ivoire. But these examples simply underline the political nature of the issue. As a result, some argue that the United Nations peacekeeping operations that have contributed to stability in Liberia and the DRC are politically and financially unsustainable, and hence unable to halt trade in conflict diamonds in the long term. The problem could therefore re-emerge in these countries as well (Global Witness 2004).

The Kimberley Process

In the late 1990s the NGO Global Witness began a campaign to expose De Beers' 'collusion in purchasing illegal Angolan rough diamonds', culminating in the 1999 'Fatal Transactions' campaign which, among other efforts, included an Amnesty International initiative entitled 'Did someone die for that diamond?' and a World Vision campaign under the slogan 'Dying for a diamond? So are thousands of innocent children' (Grant and Taylor 2004: 389; Taylor and Mokhawa 2003). One *ex post* analysis of these events concluded that the firms operating in Angola benefited from the status quo insofar as stock markets perceived the death of rebel leader Jonas Savimbi, the subsequent ceasefire, and resolution of the war as bad for firms operating in Angola. This was ascribed to perceptions that the lower standards of transparency associated with the ongoing conflict permitted relatively profitable unofficial dealings. As a result, the conclusion of hostilities meant a strengthening of the government's bargaining power vis-à-vis the incumbent producers, and an anticipation of improved access to diamonds for rival producers in the post-conflict period (Guidolin and La Ferrara 2005).

A Kimberley Process Certificate. Source: De Beers.

De Beers responded by announcing that it would stop buying Angolan diamonds, issued commercial guarantees that it would not buy or sell diamonds from conflict zones, and suspended all outside buying of diamonds with the exception of a few partners with which it had long-standing formal agreements (Cook 2003; Marciano, Porter, and Warhurst 2006). The credibility of De Beers' actions was called into question, however, and the United Nations attempted to impose 'smart sanctions' on conflict diamonds in Angola (1998), Sierra Leone (2000), and Liberia (2002).[8] In the latter two cases, neighbouring West African countries such as Guinea and Côte d'Ivoire tried to protect themselves against collateral damage by introducing national certification systems to distinguish licit from sanctioned diamonds, but the patchwork of inconsistent national systems proved inadequate. The current international system for dealing with conflict diamonds, the Kimberley Process Certification System (KPCS), grew out of this milieu.

In May 2000 three large southern African producing countries – South Africa, Botswana, and Namibia – initiated talks with three major importing countries – the United States, Belgium, and the United Kingdom – and, along with industry (including De Beers) and NGO (including Global Witness) representatives began talks on an international certification scheme. The initial meeting was convened in Kimberley, the historic centre of the South African diamond mining industry. An agreement was concluded in November 2002, remarkably quickly by the standards of multilateral negotiations.

Contrary to common understanding, the talks did not occur under the auspices of the United Nations, though the General Assembly and Security Council did pass resolutions endorsing the group's work (Wright 2004). Gary Ralphe, then managing director of De Beers, was quoted as saying that the Kimberley Process 'started out with some hostility [but] had led to a pretty extraordinary coming together of industry, the NGOs, and governments' (Innocenti 2003). When

the protocol was signed, the then United States Assistant Secretary of State for Africa, Walter Kansteiner, called it 'good news for Africa' because the protocol sought to end the trade in conflict diamonds that had helped to fuel unrest in several countries on the continent. He added that it also meant 'bad things won't happen' because the process was also a 'preventive strategy'.[9]

In short, while the major southern African producers have no conflict diamond problems, the potentially adverse externalities associated with this phenomenon were so profound that they took the lead in dealing with the problem. Ironically, the oligopolistic nature of the industry, led by a single dominant firm, De Beers, undoubtedly facilitated this rapid and forceful industry response. A more decentralised industry would surely been slower to grasp the threat posed by this issue, and would have taken longer to organise a response.

Initiated on 1 January 2003, the KPCS is a non-binding international accord among signatory governments aimed at 'eradicating trade in "conflict diamonds" and thus addressing the negative consumer perceptions around all diamonds, which could damage diamond demand' by ensuring the legitimate pedigree of rough diamonds from their mined sources through to the cutting room to the customer (Kaiser Associates 2005: 45). The system is based on two underlying principles: that participants will not import or export diamonds without the necessary certification, and that participants will not trade diamonds with non-signatory countries.[10] The implication is that countries that haven't jointed the system cannot sell diamonds to signatories such as the United States, or trade with diamond-processing countries such as Belgium, India, and Israel.[11] Participants in the Kimberley Process produce almost all the rough diamonds in the world.

In terms of the process, rough diamonds have to be shipped in sealed containers, accompanied by a uniquely numbered Kimberley Certificate issued by a duly authorised body within the exporting country stating that the diamonds are conflict-free (see photo). Imports may be processed only if a shipment arrives with a Kimberley Certificate. The warranties system requires a declaration on the invoice accompanying every transaction of rough diamonds, polished diamonds, and diamond jewellery that the diamonds are 'not involved in funding conflict and are in compliance with United Nations resolutions'. These warranties and declarations are subject to audit and oversight by the relevant national authorities. The system relies on national laws and enforcement systems for its implementation. As such, it may require implementing legislation by national governments, and implementation is partly dependent on the institutional capacities of local authorities.

America's obligations under the KPCS have been implemented via the Clean Diamond Trade Act. The act requires comprehensive government monitoring and reporting via annual and semi-annual reports, as well as a Government Accountability Office report that monitors problems with the KPCS process and includes information on countries not participating in the process that are still attempting to export diamonds to the United States (cf GAO 2006). The act also calls for the monitoring of countries attempting to circumvent the certification process by polishing rough diamonds themselves. When the United States Congress passed the law, Richard E Stearns, president of World Vision, a Christian humanitarian NGO that had helped to spearhead the legislation, stated: 'This will be a day long remembered not just for those in Washington, but more importantly for the victims of African diamond warlords who have suffered physically and emotionally for years.'[12]

These mandates are implemented through a State Department-led inter-agency group including the State Department's conflict diamonds team, the Treasury Department, the Office of the United States Trade Representative, and the Departments of Commerce and Homeland Security as part of the Energy, Sanctions, and Commodities (ESC) deputate.[13]

Given its centrality to the diamond market, De Beers plays a significant role in the KPCS. Its invoices contain the following wording: 'The diamonds herein invoiced have been purchased from legitimate sources that are not involved in funding conflict and are in compliance with United Nations resolutions. The seller hereby guarantees that these diamonds are conflict free based on personal knowledge and/or written guarantee provided by the supplier of these diamonds.' Its invoices are audited and reconciled by independent auditors (De Beers 2006).

Retailers of De Beers diamonds are urged to provide the relevant information to purchasers, and they require suppliers who provide diamonds to De Beers to certify that the merchandise they supply will be manufactured under working conditions consistent with international guidelines, primarily the UN's Universal Declaration of Human Rights and International Labour Organisation conventions, particularly those relating to child labour.

Yet the proof of the pudding is in the eating: according to one NGO-affiliated observer, 'quite simply Kimberley is driving the illicit part of the diamond industry above ground' (Wexler 2006: 4). Its impact can be seen in rising 'legitimate' diamond exports: Sierra Leone registered a more than five-fold increase in official diamond exports from $26 million to $142 million between 2001 and 2005, and in 2003, the first year of the system's implementation, the DRC reported a 62 per cent increase in a single year. As an unanticipated side impact, the UN peacekeeping operations in Liberia and the DRC may be succeeding precisely because the KPCS has reduced the revenues of those trafficking in conflict diamonds, thus depriving the fire of oxygen.

Nevertheless, the system does have its weaknesses. In lieu of an independent monitoring system, in October 2003 the participants adopted a voluntary scheme of 'review visits'. Participation in these visits has been good, though not perfect; Namibia is the only major producing participant that has not volunteered to receive a review visit, and there are concerns that the reviews have not delved as deeply as they could have. There have been problems with late or inadequate data submissions by national authorities. While participants are required to implement the Kimberley Process in their respective territories, sharing information and insight is an integral part of making the certification scheme work.

To take the United States as a case in point about the actual challenges of implementing the KPCS mandates, it initially did not record data from Kimberley Certificates, but continued to employ its existing customs procedures instead. Given that the United States is the largest consumer of diamond jewellery , this was a significant issue. In 2006, however, the United States began collecting data from the Kimberley Certificates, harmonising its approach with the vast majority of other participants. It has also introduced new procedures and technologies to improve the accuracy of its tracking and the identification of anomalies. Discrepancies in the trade data have dropped

by roughly 90 per cent. Since 2003 the United States government has seized seven shipments of diamonds for violating the rules.

Nevertheless, a report by the Government Accountability Office (GAO) has identified a number of weaknesses in its system for tracking and physically inspecting consignments. For the most part, the United States has still not complied with the KPCS standard for confirming rough diamond import receipts with the relevant export authority in exporting countries, though the confirmation rate is increasing. America has not fully complied with the KPCS confirmation standard on the export side, and foreign authorities also report quality control problems with United States KPCS export certificates, though implementation appears to be improving. In response to these findings, the GAO report recommends a series of improvements in the domestic diamond surveillance system, enhanced capacity for tracking the activities of United States certified licensees abroad, and expanded diamond-related assistance for the most heavily affected countries in West Africa (GAO 2006).

Beyond issues of implementation at the national level, there is an absence of clear criteria and procedures for determining which countries are eligible for participation, which are in or out of compliance, and how non-compliance should be handled. The Central African Republic was suspended in March 2003, and – following rectification of its policies – readmitted, though some participants expressed unease about how this had played out (Wright 2004). The Republic of the Congo (ie Congo-Brazzaville), which admitted involvement in improperly 'legitimising' smuggled diamonds, was suspended in 2004 and is making an active effort to gain readmission. For the most part the threat of expulsion has been sufficient to gain compliance, but better criteria and procedures for expulsion and readmission are still needed. Something more calibrated than the 'nuclear option' of expulsion is probably required to handle issues such as late or inadequate data submissions. In 2005, concerned by developments in Côte d'Ivoire, participants in the KPCS specified a series of measures aimed at preventing the introduction of conflict diamonds into Côte d'Ivoire legitimate trade.

Building on the Kimberley Process

The Kimberley Process thus represents a unique international co-operative arrangement among governments, the diamond industry, retail jewellers, and NGOs such as Global Witness and Partnership Africa Canada. Annual plenary meetings are held to give participants opportunities to meet one another, and improve the effectiveness of the regulatory regime. Participants and industry and civil society representatives work together in Monitoring, Statistics, and Diamond Experts Working Groups as well as Participation and Selection Committees to ensure that the integrity of the certification scheme is upheld and that the KPCS moves closer to stopping the trade in conflict diamonds. Diamond mining companies such as De Beers have pledged that every diamond they sell is conflict-free and child labour-free, and that it has taken measures to guarantee that no conflict diamonds enter its supply chain or its jewellery.

Yet addressing the industry's challenges requires going beyond the existing KPCS in three dimensions. First, the KPCS itself needs to be strengthened. Second, since the problem of conflict diamonds is ultimately tied to practices in artisanal mining, the problems of the artisanal sector need to be directly addressed through the Diamond Development Initiative to regularise the sector, thus hopefully making diamonds a less contestable or lootable resource. Finally, as in the past, parallel to the policy process, De Beers and its affiliates can craft a direct business response.

Strengthening the KPCS

In the long term, the KPCS can be strengthened in various ways. Because the threat of conflict diamonds is ultimately driven by political factors, a rapid response mechanism needs to be developed to deal with emerging political crises such as the outbreak of civil war in Côte d'Ivoire. There is also scope for collaboration with the multilateral Financial Action Task Force, an intergovernmental body established in 1989 to combat money laundering, prevent diamonds from being used for this purpose (Reuter and Truman 2004), and work with other complementary initiatives such as the Extractive Industries Transparency Initiative (Global Witness 2005). More broadly, the major industry players need to help build the capacity needed in the worst affected countries to actually implement the new control measures (GAO 2006).

Second, the existing system relies on certification because it is the only technologically feasible tracking system at this time. But in the long term the paper trail system could be complemented with alternative approaches such as 'geo-chemical' identification or tagging through identifying marks. These approaches have yet to be perfected, and are still prohibitively expensive, but could become viable in the future (Cook 2003).

Lastly, in the case of conflict diamonds (as distinct from the more general phenomenon of illicit diamonds), some have mooted using the International Criminal Court to prosecute firms, groups, and individuals whose actions, including trafficking in conflict diamonds, contribute to crimes against humanity (Orogun 2004).

The Diamond Development Initiative

Artisanal miners, of which there may be one million in Africa, produce perhaps 10 per cent of gem diamonds (Smillie 2005). Many lead lives of almost Hobbesian grimness. In certain respects the KPCS has had the unintended impact of increasing the costs to producers of exporting, which has fallen heavily on small diggers. As one pair of observers characterise the situation, 'The problem with artisanal mining activities is that the activities are largely illegal (not licensed), and the diamonds produced therefore have to be sold to intermediaries outside of formal frameworks' (Herbst and Mills 2006). As a result of their illicit status, these diamonds then trade at a discount, depressing the winnings earned by the diggers.

Meeting this challenge will require an extensive mix of microeconomic and regulatory interventions, which will probably require the intervention of national governments, public and private donor organisations, and ultimately the major mining houses. For legal and reputational reasons, the response of some large multinationals has been to abandon production in countries where governance is weak. But this understandable private response does not constitute a fully adequate solution – it simply clears the field for less reputable operators, ultimately lowering the prices the diggers receive.

Such schemes are subject to regulatory capture in which incumbent producers use regulation to deter new entry. The airline industry is the classic case. It has been argued (Spar 2006) that initiatives such as the Diamond Development Initiative (DDI) will solidify De Beers' eroding position in the diamond market. Such concerns about regulatory capture by De Beers and other large multinationals are understandable. However, these apprehensions must be set against the fact that the competitive fringe includes some fairly unsavoury characters. Sir Freddie Laker they are not.

Precisely because of its prominence, De Beers internalises reputational considerations to a greater extent than other producers. As one first-hand witness of Sierra Leone's civil war trenchantly observed, 'The quick re-establishment of legitimate mining operations should be seen as a positive development, and it would be a welcome investment if the country continued to stabilise enough for De Beers to play a role once again. … Some critics will baulk [at the fact that] that a partnership between De Beers and Sierra Leone will add yet more decimal points to the company's wealth, but it's a far cry better than the utter anarchy that dominated the 1990s. If De Beers' greed for diamonds leads Sierra Leone's leaders to be greedy for the good of the nation, then who loses, other than those who may be paying too much for their jewellery downstream? In terms of free market economics they are already paying too much. The only difference would be that they would be paying legally employed miners, not men who cut off arms with machetes' (Campbell 2002: 207–8).

Given the hellish existence of many artisanal diggers under the status quo, a more coherent and developmentally focused set of policies and practices could significantly improve their welfare. As specifics vary from country to country, these programmes will have to be devised and implemented on a country-specific basis – there is no 'one-size fits all' solution to this nexus of problems. However, there are commonalities and opportunities for learning, which underlie the Diamond Development Initiative launched in Accra, Ghana, in 2005.

The ultimate goal of the interventions should be to regularise the artisanal sector in a way that generates increased earnings to the diggers. To work, a reformed system has to provide more income to the diggers than they get under the status quo organisation of the supply chain. It has to embody a marketing system that permits the government to observe, regulate, and tax diamonds before they are exported, bringing them under the KPCS and generating revenue for the state.

At its root, the status quo in this area reflects a failure of the capital market – the formal banking sector shies away from extending credit to diggers, who are instead financed by middlemen, who

act not only as oligopsonist purchasers of rough stones but also as oligopolist suppliers of digging implements, food, and other household items (Even-Zohar 2005). Under such arrangements the potential for exploitation and abuse is vast.

Addressing this situation will require reducing the costs of acquiring licenses and doing business more generally; resolving uncertainties surrounding property rights, and undertaking a proper cadastre; forming co-operatives or other collectives to make the diggers more attractive borrowers to banks or other lending institutions; and encouraging the formal financial system to begin extending credit to these entities. The implementation of such a programme would obviously erode the rents currently captured by the middlemen and is therefore likely to provoke opposition from them and their political allies. Regularisation will probably also mean a consolidation of the artisanal sector, and, as a consequence, alternative opportunities will have to be fostered for redundant diggers (Diamond Development Initiative 2005).

From the standpoint of local governments, it would be advantageous to increase the role of the formal financial system, which would both serve their own regulatory and taxation aims as well as enhance their compliance with anti-money laundering regulations. In this respect their interests align with the foreign policy objectives of the major consumer countries such as the United States, and as such it is appropriate that they have lent political and financial support to the Diamond Development Initiative both directly and via the international financial institutions.[14]

Besides these financial sector reforms, at the local level there is need for improved due diligence rules in allocation of exploration licenses and strengthened disclosure laws with respect to local politicians (Even-Zohar 2005). At present, Ghana appears to have made the greatest progress in addressing these issues. Smillie describes its Precious Minerals Marketing Company (PMMC), which pays sellers by cheque with funds placed on deposit by registered buyers, as 'simple, open, and secure' (Smillie 2005: 5), while another analyst describes the Ghanaian diamond bourse as having 'increased transparency significantly and contributed to reducing illicit dealings in the region' (Olsson 2006: 1148).[15]

Making this work will almost certainly require an expanded presence by reputable investors who have the financial, technological, and managerial resources that many African governments lack. De Beers, for example, appears to be constructively engaging with artisanal producers in places such as South Africa and Tanzania. For example, at the 2006 Clinton Global Initiative De Beers announced the De Beers–Mwadui Community Diamond Partnership in Tanzania. This initiative includes both the introduction of 'smart wallet' technology as a means of financial inclusion and third-party verification, facilitating fair prices paid to diggers by cutting out the middlemen, as well as provisions for malaria and HIV/AIDS prevention and treatment.

The market response

The diamond market today is characterised by a situation in which the most important consumers – jewellery buyers in the United States and Europe –potentially care deeply about ethical issues

associated with the production of their purchase. Retailers, who are on the frontline in dealing with these consumers, care more about assuring their customers about the provenance of their diamonds than the middlemen.

De Beers' evolving approach attempts to deal with both these issues and its own eroding rents by a combination of branding and reintegrating the supply chain. As characterised by Marciano, Porter, and Warhurst (2006), this multifaceted strategy involves marketing to stimulate final demand; improving the efficiency and margins of its own operations; branding through its tie-up with Louis Vuitton Moet Hennessy, De Beers LV; and the formation of the 'supplier of choice' concept to align De Beers' interests with those of its sight-holders.

In turn, the 'supplier of choice' campaign has four components. The first is to increase value-chain efficiency by selling more rough stones to vertically integrated sight-holders. The second is to provide more value-added services (training, marketing support, market intelligence, etc) to sight-holders in order to increase the benefits to them of aligning with De Beers. Next is the establishment of the *Forevermark* brand, signifying the 'highest professional and ethical standards'. And, finally, sight-holders are required to comply with Best Practices Standards, including no child labour. This provision is significant insofar as much of the cutting is done in India, where substandard labour practices are widely said to occur.[16] Were this initiative to succeed, one of the implications would be a strengthening of the rich-to-poor transfer associated with the industry's supply chain in which best practice labour standards in the processing segment of the industry would parallel the unionisation of mining – meaning that a larger share of industry rents would be funnelled to labour.

The Kimberley Process now regulates a vast proportion of the international rough diamond trade. Potential individual purchasers can still contribute significantly to this continuing international effort if they buy diamonds from reputable retailers. If they are concerned in any way about the provenance of the stones they are thinking of buying, they should feel comfortable about asking where the diamonds were imported from, where they were mined, and finally, assuring themselves that the stones they are buying were traded under the auspices of the Kimberley Process.

Conclusions

The contemporary diamond industry is a fascinating encapsulation of both the good and bad in human nature. Historically cartelised, the industry has been an instrument for transferring income from relatively wealthy consumers in the North to relatively poor producers in the South. In recent decades changes in the industry in southern Africa have led to the benefits being increasingly broadly shared, though a decline in De Beers' market dominance also implies a likely diminution of those rents.

Among the most profitable segments of the industry is diamond jewellery , which is a non-essential, 'created' need. A long-term threat to the industry is a shift in consumer preferences away from diamond jewellery in response to ethical concerns over conflict diamonds. Ironically, the industry's

non-competitive structure has made it possible to address this emerging threat quickly and decisively, and, despite the absence of conflict diamonds from southern Africa, these countries have played a leading role in addressing this issue.

The ongoing challenges – for both the industry and the NGOs taking an interest in this issue – are to strengthen even further the KPCS and the Diamond Development Initiative. The latter in particular will require sustained engagement by governments, multilateral institutions, NGOs, and the private sector. The challenge this poses should not be underestimated. As the market leader, De Beers is not only participating actively in these policy initiatives, but is also developing a business strategy that attempts to address both immediate concerns about the erosion in its market share as well as the long-term threat posed by the conflict diamond phenomenon.

In this regard, what is vital about conflict diamonds is politics, not geology. Today trade in conflict diamonds is a fraction of what it was just a few years ago, partly due to the KPCS and partly because of progress made in resolving political tensions in several African countries. Through the Diamond Development Initiative, what is an illicit – and potentially conflict – diamond today can in fact become a development stepping-stone tomorrow. While the conflict diamond problem can never be irreversibly resolved – political conflict is likely to remain a feature of the human condition – systems can be constructed or refined to attenuate further the role of diamonds in providing an incentive for violent conflict and funding ongoing political disputes. The countries of southern Africa are in the vanguard of this effort.

And this is as it should be. Make no mistake – for southern Africa, the stakes are high. From a southern African perspective, it is worth considering the counterfactual of what the region might look like without a diamond industry, or one that has been significantly impaired: the budgetary implications for the government of Botswana, the country with the world's second-highest HIV infection rate, would be severe, and the corporate social investments of De Beers, Debswana, and their counterparts would be significantly curtailed. Today Debswana pays for antiretroviral treatment for its miners and dependents, and it works in partnership with the government of Botswana to support a medical infrastructure that makes treatment available to all citizens. Given the health, education, and social status of mining communities in southern Africa, the implications of a significant contraction in the diamond industry would be dire, and the possible unintended consequences associated with boycotts or other otherwise admirable initiatives should be kept clearly in mind. As Archie Palane, then deputy secretary general of South Africa's National Union of Mineworkers, has put it: 'A boycott of De Beers or diamonds will not resolve the problem, because this will lead to job destruction and poverty in those countries where formal or legal mining activities are taking place and such countries are economically dependent on diamonds like in South Africa' (2001: 2).

Endnotes

1 For the purposes of this study, southern Africa is taken to mean the diamond producers participating in the Southern African Customs Union, namely South Africa, Namibia, Botswana, and Lesotho.

2 De Beers has a complex corporate structure. In 1990, possibly fearing nationalisation by a post-apartheid political regime, it shifted the bulk of its assets to a Swiss-based firm, De Beers Centenary AG, with the original South African mining assets remaining as De Beers Consolidated Mines. In 2000 its London-based downstream operation, the Central Selling Organisation, was renamed the Diamond Trading Company. In 2001 De Beers Consolidated Mines delisted from the Johannesburg Securities Exchange, selling 45 per cent of its shares to Anglo American, a publicly traded company with long-standing links with De Beers and the Oppenheimer family; 45 per cent to Central Holdings Limited, a private firm owned by the Oppenheimer family; and 10 per cent to the government of Botswana. (The Central Holdings stake was subsequently reduced to 40 per cent and the Botswana government stake increased to 15 per cent.) In 2002 the Luxemburg-based DB Investments, the holding company for De Beers Consolidated Mines and De Beers Centenary AG, changed its name to De Beers Société Anonyme. For the same of convenience these organisational differences are ignored in this study, and these entities are simply referred to as 'De Beers'. In 2006 a portion of De Beers Consolidated Mines was sold to new black economic empowerment partners.

3 Authors' interview, 4 August 2006.

4 Authors' interviews.

5 Wayne Mundy, 'Developing the Art of Benefit Extraction' *Business Day,* 20 September 2006, 15.

6 Alence (2005) provides an accessible introduction to these issues as well as the associated problems of governance and conflict.

7 See 'Conflict Diamonds: Sanctions and War,' www.un.org/peace/africa/diamond.html.

8 See www.diamondfacts.org for a useful time line of these developments.

9 Charles W Corey, 'Kimberley Process 'Good News' for Africa, says Kansteiner,' http://usinfo.state.gov/xarchives/display.html?p=washfile-english and y=2003 and m=April and x=20030416170657yeroc0.1897852.

10 'Participant' is the term used to describe states and/or regional economic integration organizations that have met the minimum requirements of the KPCS and are eligible to trade in rough diamonds under the auspices of the Kimberley Process. Applicants are those states that have expressed their commitment to the Kimberley Process but have yet to meet the minimum requirements of the KPCS. Observers refer to industry and civil society groups that play an active role in monitoring the effectiveness of the certification scheme and who provide technical and administrative expertise to the Secretariat, Working Groups, applicants, and participants. There are three main Kimberley Process observers: the World Diamond Council representing industry and Global Witness and Partnership Africa Canada representing civil society.

11 The World Trade Organization issued a waiver permitting this restriction on trade.

12 See 'Congress Approves Conflict Diamond Legislation,' www.worldvision.org/worldvision/wvususfo.nsf/stable/globalissues_conflictdiamonds_billpass.

13 Information on the international Kimberley Process Secretariat is available at www.kimberleyprocess.com:8080.

14 See GAO (2006) for a description of United States efforts in this regard.

15 Details can be found at http://www.pmmcghana.com/.

16 The use of child labour in the industry appears to be declining, and now accounts for less than one per cent of industry employment, down from four per cent a decade ago. See the United Nations Development Programme's condensation of the book by the former Indian minister of labour, Lakshmidhar Mishra, *Child Labour in India*, Oxford University Press, 2000, at http://www.undp.org.in/hdrc/childrenandpoverty/CHILDPOV/THEYWORK.HTM#Surat and 'Defining the Seasons,' *idexmagazine*, 197, 3 September 2006.

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