SOUTH AFRICA'S GOLD AND DIAMOND TRADE

by
David J. Koistinen
and
John E. Lind

January 1988

CANICCOR RESEARCH
P.O. Box 6819, San Francisco, CA 94101, USA
415-885-5102

SOUTH AFRICA'S GOLD AND DIAMOND TRADE

by
David J. Koistinen
and
John E. Lind

Revised February 1988

CANICCOR RESEARCH
P.O. Box 6819, San Francisco, CA 94101, USA
415-885-5102

TABLE OF CONTENTS

INTRODUCTION

Gold, coal, and diamonds are among South Africa's largest exports, accounting for 54% of the export total in 1986 as Table I shows. The U.S. and a number of European countries instituted sanctions against coal imports from South Africa that went into effect at the beginning of 1987. The other EEC countries and Japan may also enact sanctions against South African coal.

Table I. South Africa's Principal Exports (mil of US$)

	1985	%	1986	%
Gold (1)	7,056	43.0%	7,370	40.3%
Coal (2)	1,460	8.9	1,390	7.6
Diamonds (3)	321	2.0		
Total (1)	16,396	100.0	18,305	100.0

Sources:
1. **Quarterly Bulletin**, South African Reserve Bank.
2. 1985 estimated from **Financial Mail**, 24 July 1987; 1986 from **Financial Mail**, 26 June 1987.
3. Estimate based on production figure from **Bulletin of Statistics**, Central Statistical Services, R.S.A.

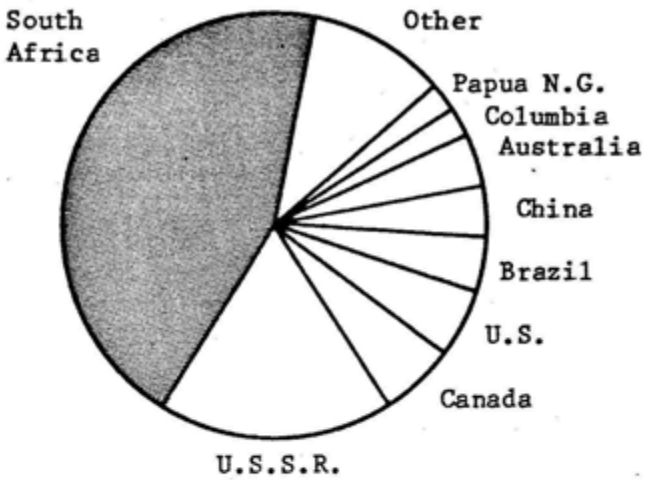
South Africa's earnings from gold and diamonds are less easy to attack because of the country's huge role in the production of gold and the distribution of diamonds, and because of the secretive nature of the markets for these highly valuable commodities. This report analyzes the production, marketing, and financing of South Africa's trade in gold and diamonds.

PART I: GOLD

PRODUCTION

Gold production is the mainstay of the South African economy. In 1986, the country exported $7.4 billion worth of gold-- 40% of that year's total exports of $18.3 billion.

Figure 1. World Gold Production, 1985



South Africa is the largest gold producer in the world. The 640 to 680 metric tons it mines a year make up roughly 45% of the world's annual production, as shown in Figure 1 and Table II. South Africa's relative postion in the world market is declining as a jump in prices has led producers in Australia, Canada and the U.S. to open new mines while the South African output has remained relatively stable.

Since gold plays an all-important role

Table II. World Gold Production, 1985

	metric tons	% of total
South Africa	665 (1)	44.3%
U.S.S.R.	271	18.0
Canada	85	5.7
U.S.	77	5.1
Brazil	62	4.1
China	61	4.0
Australia	57	3.8
Columbia	36	2.4
Papua New Guinea	33	2.2
Other	156	10.4
Total	1500	100.0

Sources: **Minerals Yearbook**, 1985, U.S. Bureau of Mines.
1. **Bulletin of Statistics**, Central Statistical Services, R.S.A.

in the South African economy, the country's gold sales present an obvious point for putting pressure on the government. First it is necessary to identify the buyers and handlers of South African gold. This is a difficult task since the world gold market is highly secretive. However, it is possible to put together a rough picture of marketing patterns from trade statistics and sources within the commodities industry. Movements of South African gold will be analysed in detail for the year 1985 since 1986 information is incomplete. Figure 2a. illustrates the results.

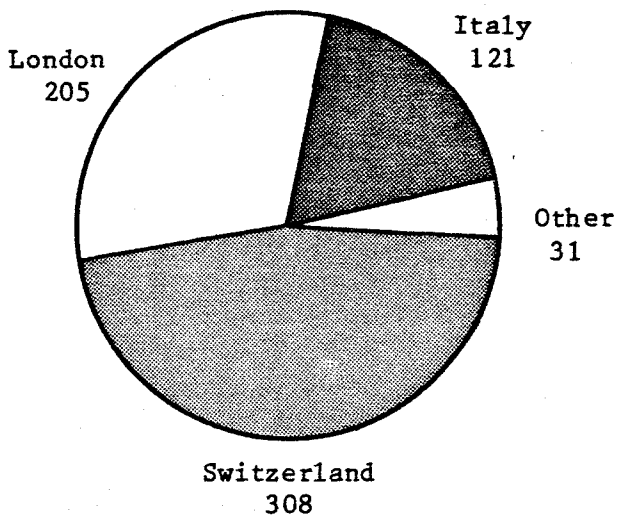
South Africa produced 665 metric tons of gold in 1985 (**Bulletin of Statistics**, Central Statistical Services, R.S.A.). This figure is probably very close to the amount of South African gold exported in that year. Total world production in 1985 was 1500 tons (**Minerals Yearbook**, U.S. Bureau of Mines). South African mines sell all the gold that is to be exported to the country's Reserve Bank, which resells the metal abroad. Most of the South African gold moves through the markets in London and Zurich, but a certain amount is sold directly to other European countries.

GOLD MARKETS

Italy imported 120.6 tons of gold from South Africa in 1985 (**Statistica mensile del commercio con l'estero**, Instituto Centrale di Statistica, Italy). This represented a marked increase from imports from South Africa of 64.4 tons in 1983 and an estimated 104 tons in 1984. In 1986 Italian purchases of South African gold fell to 113.5 tons. Table IV on page 4 gives Italian gold imports in the 1980s.

Aside from Italy, direct purchases of South African gold by industrialized countries were small. West Germany bought 7.4 tons of gold directly from South Africa in 1985 (**Aussenhandel nach Waren und Laendern**, Statistiches Bundesamt, F.R.G.). France declared imports from South Africa of 1.6 tons for the same year (**Statistiques du Commerce Exterieur**, Direction Generale des Douanes de Droits Indirects, France). Other countries purchased an estimated 22 tons.

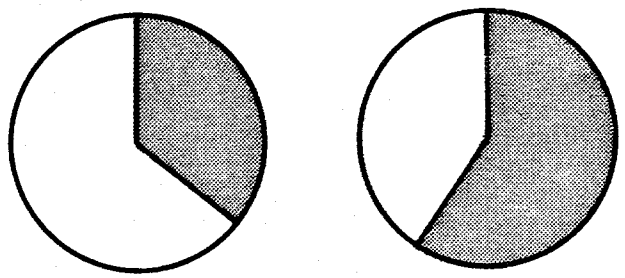
Figure 2a. Purchasers of South African Gold by Country, 1985



Amounts are in metric tons. Total South African gold production in 1985 was 665 tons, a good estimate for exports. Distribution of South African gold between the London and Zurich markets was assumed to be in the ratio 60:40.

Figure 2b. Estimated Sales of S. African Gold on the London and Zurich Markets as a Fraction of Total New Gold Sales, 1985

SOUTH AFRICAN GOLD IS SHADED



Zurich		London
879 tons	Total (1)	348 tons
308 tons	S. Africa	205 tons

1. Sources: **Statistique annuelle du commerce exterieur de la Suisse**, Direction Generale des Douanes, Switzerland; **Overseas Trade Statistics of the United Kingdom**.

The remaining South African gold, approximately 513 tons in 1985, was sold on the London and Zurich markets. Gold dealers in these markets do not release figures on trade volume, and varying estimates of the division of South African gold between the two markets exist. A 60/40 breakdown between the Zurich and London markets is used here. It is thus assumed that 60% of the remaining South African gold, or 308 tons, moved through the Zurich market, and the other 40%, or 205 tons, was sold in London. The breakdown between the London and Zurich markets is illustrated in Figure 2b.

A number of major international banks with substantial ties to South Africa exert a significant degree of control over these gold markets. Indeed, in Zurich the three largest Swiss banks-- Union Bank of Switzerland, the Swiss Bank Corp. and Credit Suisse-- form a pool that completely controls the market. These three banks have about $1.3 billion in loans outstanding in South Africa, and all three most likely arrange trade credits for South African imports and exports.

As part of their gold dealing business, the Swiss banks hold huge stocks of gold. At the end of 1985, the domestic offices of all Swiss banks held "precious metal assets" of SwFr29.3 billion (US$14.1 billion). The five largest banks-- the three mentioned above together with the Swiss Volksbank and Bank Leu-- held SwFr23.0 billion (US$11.1 billion), or 78%, of this total (**Monatsbericht**, Schweizerischer Nationalbank). Assuming that all of the precious metal holdings are gold, these assets comprised about 1400 tons of gold for all Swiss banks, equal to nearly one year's worldwide gold production. The five largest banks held about 1100 tons of this total.

These precious metal assets are balanced by precious metal liabilities, leaving net assets of about 200 tons of gold for Swiss banks as a whole and 155 tons for the five largest banks at the end of 1985. Thus the Zurich gold market, controlled by Union Bank of Switzerland, the Swiss Bank Corp. and Credit Suisse, is backed by up to 155 tons of gold owned outright by these three banks.

In London, five firms led by N.M.

Table III. Major Participants in the Zurich and London Gold Markets by Country of Origin

(parent companies in parentheses)

Zurich Market:

Swiss Institutions
- Union Bank of Switzerland
- Swiss Bank Corporation
- Credit Suisse

London Market:

British Institutions
- Mocatta & Goldsmid (Standard Chartered-- U.K)
- Samuel Montagu (Midland Bank-- U.K.)
- Sharps Pixey (Kleinworth Benson Lonsdale-- U.K.)
- Mase Westpac (Westpac Banking-- Australia)
- N. M. Rothschild

North American Institutions
- Bank of Nova Scotia
- Chase Manhattan *
- Citicorp *
- Drexel Burnham Lambert
- Goldman, Sachs & Co.
- Morgan Guaranty
- Saloman Bros.
- Shearson Lehman Bros.

Swiss Institutions
- Credit Suisse
- Union Bank of Switzerland *

Japanese Institutions
- C. Itoh & Co. *
- Mitsui & Co. *
- Sumitomo Corp. *

Others
- Deutsche Bank *
- Italian International Bank (Monte dei Paschi di Sienna-- Italy) *

* joining the London market in 1988

Sources: **Financial Times**, 5 December 1986; **Asian Wall St. Journal**, 7 July 1987

Rothschild have guided the market for decades. The four other firms are Mocatta & Goldsmid (wholly owned by Standard Chartered Plc., the British bank with the largest exposure in South Africa), Samuel Montagu (owned by Midland Bank Plc.), Sharps Pixey (Kleinworth Benson Lonsdale Plc.), and Mase Westpac (the Australian-based Westpac Banking Corp. Plc.). The five "fix" the London gold price twice a day at a closed door meeting.

In addition to these five firms, a number of prominent banks participate in London gold trading as market makers. The American presence includes Morgan Guaranty, Shearson Lehman Brothers, Drexel Burnham Lambert, Goldman, Sachs & Co, and Philip Brothers, a unit of Saloman Bros. Canada's Bank of Nova Scotia and Switzerland's Credit Suisse and Union Bank of Switzerland also trade gold in London.

Recent reforms have loosened the control of the five firms that "fix" the gold price, and the newly formed London Bullion Market Association will now administer the market. In addition to major banks and trading companies, the Association's membership of 58 consists of jewellers, refiners, and small-scale dealers (**Financial Times**, 5 December 1986). Additional banks are taking this opportunity to begin trading gold as market makers in London. They include Citicorp and Chase Manhattan from the U.S., Sumitomo Corp., Mitsui & Co. and C. Itoh & Co. from Japan, Deutsche Bank from Germany, and the Italian International Bank from the island of Guernsey which is a subsidiary of Monte dei Paschi di Sienna from Italy.

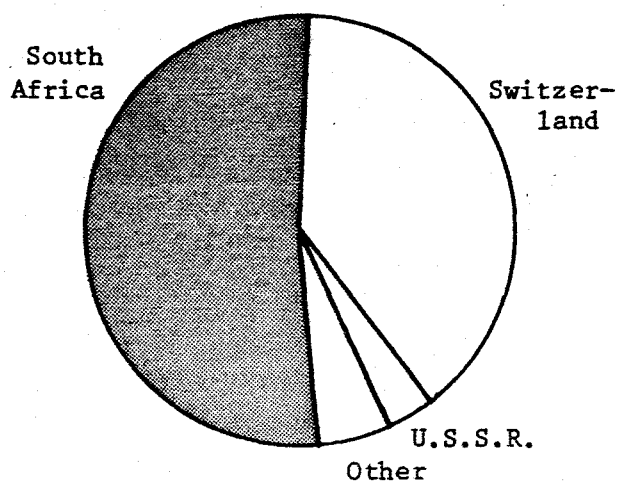
Table IV. Italian Gold Imports by Country of Origin, 1981-86 (in metric tons)

	S. Africa	Switz	Total
1981	76.2	51.0	139.3
1982	94.4	86.3	201.3
1983	66.4	69.4	150.3
1984	104 *		
1985	120.6	90.4	231.4
1986	113.5	75.9	215.8

* estimate

Source: **Statistica del commercio con l'estero**, Instituto Centrale di Statistica, Italy.

Figure 3. Italian Gold Imports, 1985



SOUTH AFRICAN GOLD SALES TO ITALY

It was noted above that Italy imports large quantities of gold directly from South Africa each year. These purchases are worth over $1 billion, 15-20% of South African gold exports and more than 5% of total South African exports. It is thus worthwhile to examine the role of South African gold in the Italian economy more closely.

Italy is a world center for the fabrication of jewelry, and is the world's leading maker of gold chain. Recorded imports of gold bullion total 150 to 200 tons a year. The **Financial Times** (9 September 1987) reported that Consolidated Gold Fields of South Africa claims that another 40 to 60 tons of gold are smuggled into Italy each year.

Although the exact figures vary from year to year, roughly 45% of legal gold imports come directly from South Africa, another 45% is purchased on the Zurich gold market, and other countries provide

Figure 4. Italian Jewelry Exports, 1985

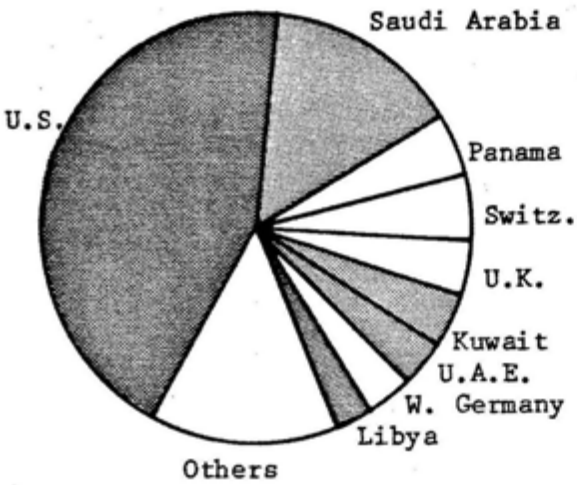


Table V. Italian Jewelry Exports in 1985 (mil of US$)

United States	1,026
Saudia Arabia	330
Panama	131
Switzerland	116
United Kingdom	97
Kuwait	97
United Arab Emirates	84
West Germany	78
Libya	69
Rest of the World	335
Total	2,363

Source: OECD, **Import-Export Microtables, Trade Statistics by Commodity**

the remainder. Wholesalers in Milan purchase the gold from abroad and distribute it to jewelry manufacturers in the Northern cities of Arezzo, Vicenza, Valenza, Bassano del Grappa, and Florence.

A major part of the jewelry industry in these cities is dedicated to the fabrication of gold chain. Making the chain is a modern industrial process-- high speed machines in large factories churn it out by the mile. The workers in these factories are organized in active unions, and there was a high incidence of labor unrest in the early 1980s (Timothy Green, **The New World of Gold**, 1984). The unions of jewelry workers in these cities could thus provide an important source of pressure in a campaign to halt Italian imports of gold directly from South Africa.

Italian exports of gold jewelry are, not surprisingly, quite large. OECD statistics show total exports of jewelry from Italy in 1985 of $2.36 billion. The OECD figures do not break these exports down by metal, but trade statistics from the Italian government show that about 95% of the country's total jewelry exports are gold jewelry.

The U.S. is the largest buyer of Italian gold jewelry, purchasing 43% of the 1985 total. Four oil-exporting Arab countries-- Saudi Arabia, Kuwait, U.A.E., and Libya-- also buy large quantities, taking 25% of the total in 1985. Figure 4 and Table V illustrate the breakdown. U.S. import statistics show that about 45% of this country's imports of jewelry from Italy is gold chain, with other kinds of jewelry, mostly gold, making up the remainder (**U.S. Imports for Consumption and General Imports**, FT246).

SUMMARY

South African gold, which makes up 45% of the world's production, is principly shipped to the Zurich and London gold markets for resale and to Italy for jewelry production. Forty three percent of Italy's jewelry production is then shipped to the U.S.; it represents the only major flow of South African gold into the U.S. A discussion of the effects of possible sanctions against South African gold is given in the conclusion to this report following the discussion of diamonds.

PART II: DIAMONDS

South Africa exports about $320 million of rough diamonds each year, 2% of total exports. Diamonds have a more important place in the South African economy than these figures suggest because of the overbearing role of South Africa's De Beers Corporation in the world diamond market.

De Beers, a subsidiary of the mammoth Anglo-American conglomerate, controls diamond mining within South Africa, where 20% of the world's supply is produced. Furthermore, the corporation buys up the production of almost all other diamond-producing countries so that it controls the sale of 80-85% of all rough stones. The De Beers monopoly feeds the rough diamonds onto the world market slowly to keep prices high. De Beers directs this monopolistic marketing operation through its Central Selling Organization which is based in London.

THE SOUTH AFRICA-U.S. DIAMOND TRADE

South Africa appears to have sold a substantial portion of its diamond production directly or through transshipments to dealers in New York until recently. Almost all of these stones were cut, finished and sold in the U.S., rather than being reexported. U.S. trade figures show imports of $226.5 million (c.i.f.) in rough stones from South Africa in 1986, 52% of total U.S. imports of uncut diamonds. South Africa also sold $93.2 million in cut stones and $37.8 million in industrial diamonds to the U.S. that year.

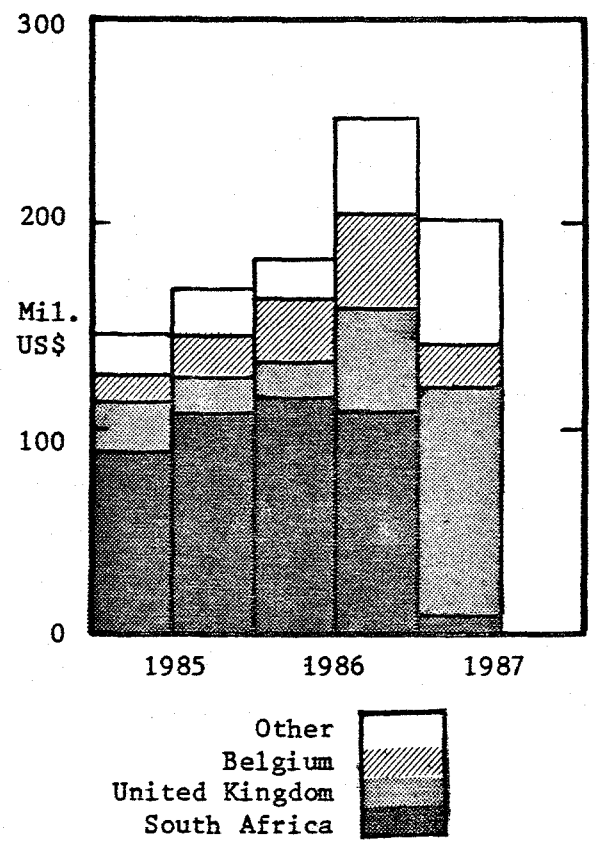
Sales to the U.S. were somewhat lower in 1985: rough stones totalled $189.8 million, cut stones $94.7 million, and industrial diamonds $44.8 million. (See Appendix I for a discussion of inconsistencies in trade statistics involving U.S. diamond imports.)

U.S. imports of rough diamonds from South Africa dropped off abruptly in late 1986. Thus, during the first half of 1987, the latest period for which figures are available, purchases from South Africa totalled only $9.1 million. The U.K. picked up most of the slack. The U.S. imported $66.1 million worth of rough stones from the U.K. in 1986, 15% of the total. Even at that point, U.S. trade statistics noted that almost all of these rough stones originated in the U.K., but had a "country of origin unknown." This suggests that these diamonds were purchased by the CSO from other countries and shipped to the U.K. before being reexported to the U.S.

In the first half of 1987, the U.K.'s share in the total U.S. imports of uncut diamonds rocketed to 55% on sales of $110.5 million. Figure 5 demonstrates the sudden change in the source of uncut diamonds for the U.S. market.

Figure 5. U.S. Semi-Annual Imports of Rough Diamonds by Country of Origin, January 1985- June 1987

(mil of US$)



Sources: **U.S. Imports for Consumption and General Imports**, FT246; **U.S. General Imports and Imports for Consumption**, FT135.

This change appears to involve the transshipment of South African diamonds rather than a real change of supplier. The redirection of rough stones from South Africa occurred in late 1986, the same time that the U.S. Congress voted to impose sanctions against some imports from South Africa.

The CSO seems to have decided to maneuver around the possibility of future sanctions against imports of diamonds from South African by setting up an alternative route of shipping diamonds to the U.S. market ahead of time. At the same time, shipping documents would have been manipulated to hide South Africa as the point of origin of these diamonds. The fact that U.S. imports of uncut stones from the U.K. replaced shipments from South Africa suggests that this alternative route passes through the London-based CSO's European distribution network.

THE DIAMOND DISTRIBUTION NETWORK

The De Beers empire and the diamond dealing it oversees are highly secretive. Tracing the movements of rough stones from the producing countries to the diamond cutting centers is quite difficult. Nevertheless, some general patterns emerge from 1985 statistics on the production, import and export of diamonds. The following description of the diamond trade is based on the trade statistics that the OECD receives from member governments and publishes on microfiche as **OECD Import-Export Microtables, Trade Statistics by Commodity.** These diamond flows are illustrated in Figure 6.

The OECD trade figures show a general pattern of diamonds moving through three groups of countries on the way to the final market. First, diamonds are mined in South Africa and other producing countries. Table VI shows world diamond production for 1985. Second, the rough stones are shipped and transshipped between the three diamond centers of the U.K., Switzerland and Belgium. Some of these rough stones undergo initial cutting by cleaving or sawing and then bruting in Belgium at this stage. Third, stones that are not fine cut after being cleaved in Belgium are sent to the centers of New York, Tel Aviv and Bombay where they are fine cut. A more detailed account of these diamond flows follows.

South African mines controlled by De Beers produced $321 million worth of rough diamonds in 1985 according to the quarterly **Bulletin of Statistics** of the South African Central Statistical Services.[1] The U.K., home of the CSO, imported a total of $1.58 billion in rough stones in 1985 according to the OECD figures. These imports are labelled "secret" and are not broken down by country of origin. However, subtracting $321 million in South African stones from the U.K. import total leaves $1.26 billion in diamonds from other producing countries. De Beers procured these stones through the buying agreements it maintains with most diamond producers in the world. Its principle clients include Australia, Zaire, Botswana and the U.S.S.R.

De Beers is generally credited with control of 80-85% of the market in rough diamonds. OECD figures confirm this figure since they show that Belgium, home of the world's most important cutting center in Antwerp, imported an estimated

Table VI. World Production of Gem[1] Quality Diamonds by Country, 1985

(in thousands of carats)

Botswana	6,318
Zaire	5,493
South Africa	4,550
USSR	4,400
Australia	4,242
Namibia	865
Angola	464
Central African Republic	245
Sierra Leone	243
Brazil	233
Tanzania	207
China	200
Others	321
Total	27,781

1. Includes near-gem and cheap-gem qualities.

Source: **Minerals Yearbook 1986 preprint,** U.S. Bureau of Mines.

$349 million in rough stones directly from producers in 1985.[2] This $349 million makes up 18% of the combined imports of the U.K. and Belgium-- leaving 82% under the control of the CSO in London in 1985. Antwerp procures its non-De Beers stones from Zaire and smaller producers such as Sierra Leone, Liberia and the Ivory Coast.

De Beers built up a huge stockpile of rough stones during the world depression in the diamond market in the first half of this decade. The CSO held many of its rough stones off the market during this period of low prices, and was forced to repurchase others from bankrupt dealers and cutters. The company's stockpile peaked at $1.95 billion worth of stones at the end of 1984 (**Financial Times**, 4 July 1986) and was worth $1.85 billion as late as the end of 1986 (**Financial Mail**, 10 July 1987).

An American banker intimated to CANICCOR Research that De Beers maintains its diamond stockpile in Switzerland. The existence of a Swiss stockpile is borne out by OECD statistics that show $1 billion in diamonds cycling in and out of that country in 1985.[3] Furthermore, the bulk of these diamond shipments involved the U.K., where the CSO is based: Switzerland reported imports of $733 million from the U.K. and exports of $559 million to it in 1985.

The CSO declared sales of $1.84 billion in rough diamonds in 1985 (**Financial Times**, 4 July 1986). This constitutes a substantial profit compared to the $1.58 billion in diamonds that the CSO brought into the U.K. in that year. Shipments to Belgium from the U.K. of $1.27 billion in rough stones made up the bulk of these sales. The remainder of the CSO's rough stones were accounted for by sales of about $150 million from London to cutting centers in the U.S., Israel and India, and by sales of about $415 million from Switzerland-- presumably from the CSO's stockpile-- mainly to Belgium, the U.S. and Israel.[4] (See Appendix I regarding sales of rough diamonds to the U.S.)

In Antwerp, the $1.27 billion in rough CSO stones as well as the $349 million in rough diamonds that Belgium imported directly from producing countries were cleaved or sawed in preparation for fine cutting. The Belgians appear to have sent $495 million worth of these cleaved stones back to the U.K.[5]; the CSO presumably reexported these cleaved stones to the U.S., Israel, India and other diamond centers. The Belgians proceeded to fine cut and market some of the remaining stones themselves. Another $1.06 billion in cleaved stones were sold to the U.S., Israel and India and other cutting centers.

FINANCING THE DIAMOND TRADE

Pinpointing the sources of finance for the diamond trade is even more difficult than tracing the movements of the diamonds themselves; however, some information is available.

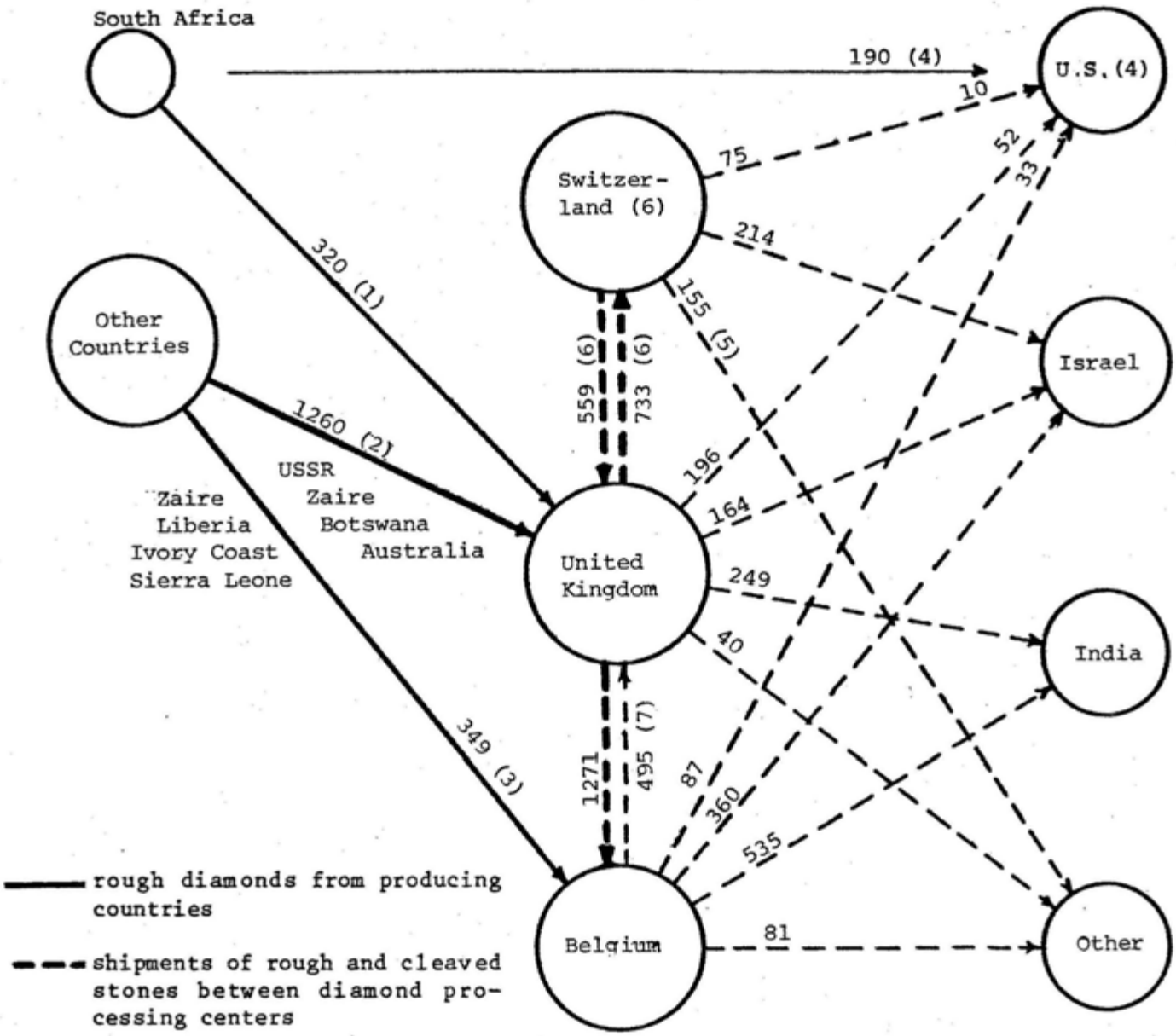
Since the CSO purchases rough diamonds from producers around the world and holds them off the market for years at a time, it needs very large amounts of credit. The company's credit needs have been especially great in this decade due to the $1.95 billion stockpile of rough stones it built up during the diamond slump of the early 1980s.

Since De Beers appears to keep a huge stockpile of stones in Switzerland, it seems logical that Swiss banks are lending De Beers large amounts to finance maintenance of the stockpile. Indeed, it is possible that De Beers had to put up the diamonds as collateral to obtain the needed credit from Swiss banks.

Additionally, American banking sources intimated to CANICCOR Research that the three largest Belgian banks-- Societe Generale de Banque, the Banque Bruxelles Lambert, and the Kredietbank-- as well as Dutch institutions have a role in financing the diamond trade.

It is particularly likely that the Societe Generale de Banque has links to the Belgian diamond business since the bank's holding company, the Societe Generale de Belgique, has a large interest in that industry. The Societe Generale de Belgique derived 7% of 1986 income from the diamond business and 35% from financial services (presumably the earnings of the Societe Generale de Banque) according to the **New York Times** (19 January 1988).

Figure 6. World Trade in Rough Diamonds in 1985 in Millions of U.S. Dollars



1. Estimate based on South African production reported in **Bulletin of Statistics**, Central Statistical Services, R.S.A.
2. Estimate based on total imports reported by the U.K. minus estimated South African imports.
3. Estimated by subtracting Belgian imports from non-producing countries from total Belgian imports.
4. U.S. import figures from **U.S. Imports for Consumption and General Imports**, FT246. See Appendix I for a discussion of inconsistencies in reported shipments of rough diamonds to the U.S.
5. Includes $54 million in stones to Belgium.
6. Includes shipments of cut diamonds as reported by Switzerland (classification 6672-).
7. Probably cleaved stones; see note 5, page 11.

Source: All figures from **OECD Import-Export Microtables, Trade Statistics by Commodity** classifications 66721 and 66722 except as noted.

It is known that a number of so-called "diamond banks" serve the diamond community in Antwerp. The Banque Diamantaire Anversoise, the most important, is jointly owned by the three Belgian banks mentioned above and De Beers. These "diamond banks" and their parents probably provide trade credits for importing rough stones from the U.K.

CONCLUSION

South Africa's trade in gold and diamonds makes up an important part of the country's economy, and thus provides an additional point where pressure can be applied to force political change. Any campaign by the anti-apartheid movement to hinder South Africa's exports of these commodities will be based on the following realities:

1. South Africa's gold trade involves some of the largest financial institutions in the U.S. and Europe since these firms control the markets in London and Zurich where the bulk of South Africa's gold is sold. A campaign to stymie the sale of new South African gold would have to be directed against these institutions.

2. Italian imports of gold for jewelry-making account for most of the remaining South African metal. Active trade unions in the jewelry-making industry in Italy and large imports of Italian gold jewelry by the U.S. and the U.K. provide means of pressuring Italian jewelry makers to stop buying South African gold.

3. The easiest way to attack the secretive diamond empire controlled by the South Africa-based De Beers group is to stop the sale of uncut South African stones to the U.S. Until recently these stones were shipped directly from South Africa to the U.S., or shipped indirectly with South Africa identified as the country of origin. Now the South African diamonds appear to pass through the U.K. without identification of the country of origin on their way to the U.S. market. South African diamonds could be replaced by stones from the other producing countries. This would not be difficult to implement since these countries provide about 80% of the world supply of uncut dimaonds.

4. Sanctions against South African gold and diamonds could have a beneficial effect for South Africa if they caused the prices for these commodities to rise. Ian Lepper and Peter Robbins have suggested that the central banks of countries imposing sanctions could guard against this effect by selling some of their gold reserves if gold prices trend upward.

This strategy could be feasibly implemented since the the world's central banks hold huge gold reserves, totalling 29,434 tons at the end of 1984. These reserves dwarf a single year's production of about 1500 tons by a factor of 20. The U.S. alone has reserves of 8185 tons, more thatn five times one year's production (**International Financial Statistics**, IMF).

Sanctions against South African diamonds would cause a smaller rise in diamond prices than in the case of gold because South Africa produces only 20% of the world's diamonds as compared with 45% of the world's gold. However, it would be more difficult to stop a rise in diamond prices since there is no public stockpile from which diamonds could be sold.

NOTES

1. While the **Bulletin of Statistics** reports South African production of rough diamonds of $321 million in 1985, the **Monthly Abstract of Trade Statistics** published by the Republic of South Africa puts diamond exports for the same year at $797 million in uncut stones and $178 million in worked stones. However, the latter publication reports the trade of the "common customs area of Botswana, Lesotho, South Africa and Swaziland," and it appears that diamonds mined in Botswana account for the discrepancy.

It is assumed that South African cutters doubled the value of the stones that were worked in the country; thus half the value of the $178 million in worked stones that were exported in 1985, or $89 million, is used as an estimate of the value of these stones before they were cut. Adding this $89 million to the $797 million in uncut stones that were exported from South Africa gives a total of $886 million in rough stones to be accounted for.

Subtracting the $321 million in diamonds produced in South Africa in 1985 from the $886 million figure leaves $565 million in rough stones. This exactly equals the $565 million in diamond exports from Botswana in 1985 reported in the IMF's **International Financial Statistics.** Thus the $975 million in diamond exports reported by the **Monthly Abstract of Trade Statistics** of the South African government appears to include stones mined in Botswana.

2. OECD statistics group shipments of rough and cleaved stones together under the classification "diamonds, sorted, rough/simply sawn, cleaved/bruted" (#66722), so sales of rough stones must be estimated. Belgium shows total imports of rough and cleaved diamonds of $1.80 billion in 1985, but the bulk consists of stones entering from the other diamond centers, primarily the U.K. Subtracting imports from U.K., the U.S., Switzerland, Israel, the Netherlands and India from the total leaves $349 million as an estimate of rough stones that entered Belgium directly from producing countries. These stones came from a wide range of producers, including $11 million from South Africa and Lesotho.

3. Swiss diamond imports totalled $1.03 billion and exports $1.00 billion in 1985. The Swiss did not break these shipments down into uncut (rough and cleaved) and cut categories as other countries do, and some of these shipments were doubtlessly of cut stones for jewelry or investment purposes. Nevertheless, the huge shipments of $1 billion indicate the existence of a stockpile.

4. CSO sales of $1.838 billion of rough stones in 1985 minus $1.271 billion in sales of rough stones to Belgium leaves $567 million in rough stones to be accounted for. The CSO presumably sold these stones either from its London headquarters or from its Swiss stockpile. Besides shipments to Belgium, the U.K. declared exports of $648 million in rough and cleaved stones to India, the U.S., Israel and other countries in 1985. Reimports of cleaved stones from Belgium totalled $495 million the same year. Subtracting this $495 million in cleaved stones that were presumably reexported from the U.K. by the CSO from the $648 million in exports of rough and cleaved stones declared by the U.K. leaves $153 million as an estimate of British exports of rough diamonds to countries other than Belgium.

Subtracting this $153 million from the $567 million in rough stones unaccounted for leaves $414 million as an estimate of CSO-controlled rough stones exported from Switzerland, the other point from which the CSO would have sold diamonds. This seems quite accurate since Switzerland reported total diamond exports (uncut and cut) to countries other than the U.K. of $444 million in 1985.

5. Belgium reported $1.271 billion in imports of rough and cleaved diamonds from the U.K. and $495 million in exports of the same type of stones to the U.K. in 1985. However, the U.K. only reported $785 million in exports of rough and cleaved diamonds to Belgium. One explanation for this inconsistency is that the CSO reimports about a third of the stones it ships to Antwerp after cleaving. Indeed, De Beers set up a firm in Belgium in the 1970s to cleave a portion of its rough stones (David Koskoff, **The Diamond World**, 1981). Thus it appears that the CSO shipped $1.271

billion in rough stones to Antwerp where they were sawn, cleaved or bruted, and then reimported $495 million worth of these stones for sale to other countries. The British authorities would likely not include shipments to Belgium of stones that were to be reimported from that country in their figures for exported diamonds.

The hypothesis of CSO reimports from Belgium can be tested by subtracting the $495 million in stones reimported from Belgium from the $1.271 billion in total British shipments to Belgium. This calculation leaves $776 million as an estimate of rough stones that were exported from the U.K. to Belgium and not reimported from Belgium. This figure is extremely close to the $785 in rough and cleaved diamonds that the U.K. reported as exports to Belgium, indicating that the hypothesis of CSO reimports from Belgium is sound.

APPENDIX I

An inconsistency exists in the figures given for diamond shipments to the U.S. in Figure 6 and in the text. Switzerland, Belgium and the U.K. together reported exports of uncut diamonds to the U.S. of $357 million while the U.S. reported imports of uncut diamonds from those countries of only $95 million.

There are two possible explanations for this inconsistency. First, it is quite likely that the $190 million in South African stones reported as imports to the U.S. by the U.S. government passed through the U.K. en route to their final destination. Similarly, some of the South African stones could have passed through Switzerland on the way to the U.S. If these transshipments occurred, then the same diamonds could have been counted by the British and Swiss authorities as British and Swiss exports and by U.S. customs as South African exports. This would account for the gap between reported British exports to the U.S. of $195 million and reported U.S. imports from the U.K. of $52 million, and for the gap between reported Swiss exports to the U.S. of $75 million and reported U.S. imports from Switzerland of $10 million.

A second, less likely, explanation for the inconsistency is that diamond smuggling was involved. Smugglers could have reported diamonds as exports to the U.S. when leaving Switzerland, the U.K. or Belgium with them. They could have then diverted the diamonds to a third country, or not declared the stones when they entered the U.S.