

September 1988

# SOUTH AFRICA

## Summary Report on Trade, Lending, Investment, and Strategic Minerals



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United States  
General Accounting Office  
Washington, D.C. 20548

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National Security and  
International Affairs Division

B-226687

September 7, 1988

The Honorable Edward M. Kennedy  
The Honorable Lowell P. Weicker, Jr.  
United States Senate

This report is in response to your request that we review several issues related to trade with South Africa. The report summarizes our two earlier interim reports to you—South Africa: Trends in Trade, Lending, and Investment (GAO/NSIAD-88-165) and Strategic Minerals: Extent of U.S. Reliance on South Africa (GAO/NSIAD-88-201)—and provides additional information on these subjects.

Unless you announce its contents earlier, we plan no further distribution of this report until 10 days after its issuance. At that time, we will send copies to the Secretaries of Commerce, Interior, State, and Treasury and to other interested parties upon request.

A handwritten signature in cursive script that reads "Frank C. Conahan".

Frank C. Conahan  
Assistant Comptroller General

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# Executive Summary

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## Purpose

Senators Edward M. Kennedy and Lowell P. Weicker, Jr. requested that GAO examine several issues related to the Comprehensive Anti-Apartheid Act of 1986—trade with South Africa and changes in that trade over the past 5 years; public and private credit available and changes in availability; the status of U.S. disinvestment and how it has been implemented; and U.S. dependence on South African strategic minerals.

In response to that request, GAO has issued two interim reports—one providing data on trade, lending, and investment and one on the extent of U.S. reliance on South African strategic minerals. This summary report updates these earlier reports and provides additional information.

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## Background

The Comprehensive Anti-Apartheid Act, among other things, provides for economic sanctions against South Africa. Proposed legislation now being considered in the Congress would expand economic sanctions to prohibit U.S. lending, investment, and most trade with South Africa. (See pp. 8 and 9.)

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## Results in Brief

World trade with South Africa has declined considerably over the past several years despite a substantial increase in world trade overall. South Africa's trade remains concentrated among the six major world trading nations, including the United States. South Africa, however, has lost substantial sales in products under U.S. sanction and has been unable to replace those lost sales in other markets.

In the financial arena, lending to South Africa has decreased in recent years although the lending climate may be improving. About half of U.S. firms in South Africa have withdrawn since 1984, but there has been an increase in the value of U.S. direct investment between 1984 and 1987 when adjusted for the fluctuations in the exchange rates during this time period. Reinvested earnings, that have partially offset other U.S. disinvestment, have contributed significantly to this increase.

According to the U.S. Bureau of Mines, there are alternative suppliers of most of the strategic minerals produced by South Africa, although at a higher cost. U.S. industry users of strategic minerals believe the Bureau's assessment to be overly optimistic.

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## Principal Findings

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### Changes in Trade Patterns

Most of South Africa's trade remained with six nations—Japan, Italy, France, the United States, the United Kingdom, and West Germany—from 1982 to 1987. Among 26 nations that include South Africa's major trading partners, these six countries accounted for 81 percent of South Africa's imports and 78 percent of its exports in 1987. Among these countries, however, there has been a shift in their shares of imports from and exports to South Africa. (See pp. 12 and 13.)

A comparison of trade data for the first three quarters of 1986 and 1987 shows that South Africa's total exports of the major commodities under U.S. sanctions have declined. During this time, GAO estimates that U.S. sanctions cut South African exports by \$417 million. South Africa not only was unable to recover these losses by redirecting trade to other countries but also lost additional trade in these markets, resulting in a total trade reduction in goods under sanction of \$469 million. (See pp. 19 and 20.)

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### Lending to South Africa

The United States, the United Kingdom, West Germany, and Switzerland account for almost half of South Africa's \$23 billion in foreign debt. Lending to South Africa by foreign banks has decreased in recent years in reaction to South Africa's perceived political instability, poor economic performance, and 1985 freeze on debt repayment. However, the lending climate in South Africa may be improving. (See pp. 26 to 30.)

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### U.S. Investment in and Disinvestment From South Africa

Despite more than half of U.S. companies withdrawing since 1984, the value of U.S. direct investment in South Africa, adjusted for exchange rate fluctuations, has increased 4 percent. This increase is largely the result of significant reinvested earnings of U.S. companies in South Africa—about \$199 million between 1984 and 1987—that have offset U.S. disinvestment. (See pp. 31 and 32.)

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### Strategic Minerals

Section 303 of the Comprehensive Anti-Apartheid Act prohibits imports from organizations owned, controlled, or subsidized by the South African government but exempts strategic minerals for which the President has certified that "quantities essential for the economy or defense of the United States are unavailable from reliable and secure suppliers." The

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Department of State certified 10 such strategic minerals based on several factors, including whether the absence of the South African mineral would affect U.S. competitiveness.

Except for two of the platinum group metals (platinum and rhodium), andalusite, and a specific type of industrial diamond and grade of chrysotile asbestos, alternative supply sources exist for the certified strategic minerals according to Bureau of Mines data and Commerce and Defense Department officials, albeit at a higher cost. The Bureau of Mines report in 1988 estimated the 5-year cumulative direct economic cost of a U.S. import embargo on 6 of the 10 certified minerals at \$9.25 billion, or \$1.85 billion annually. U.S. industrial users of strategic minerals believe that the report understated the economic costs and overstated the ability of other mineral-producing nations to replace the South African exports. (See pp. 40 to 44.)

Competitiveness was a principal basis for State's certification of half of the minerals, as it concluded that U.S. users would have to pay higher prices to replace the South African minerals. Because new information has become available since the time of State's original certification of the 10 minerals, the certification list may not be current. Proposed legislation on South African sanctions would require a certification, and because of the new information, any new list of certified minerals could differ from the original list prepared by State. (See pp. 39 and 40 and 44 to 46.)

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## Recommendations

GAO is making no recommendations.

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## Agency Comments

As requested, GAO did not obtain official agency comments on this report. It did discuss drafts of its two interim reports with officials from the Departments of Commerce, Interior, State, and Treasury and considered their comments in preparing those reports, which form the basis for this report.

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**Abbreviations**

GAO	General Accounting Office
BIS	Bank for International Settlements
DRI	Data Resources Incorporated
IMF	International Monetary Fund
PGM	Platinum group metal

# Introduction

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The Congress enacted the Comprehensive Anti-Apartheid Act of 1986, as amended (Public Law 99-440, 22 U.S.C. 5001 *et seq.*) in response to South Africa's policy of apartheid. The act (1) provides guidelines for U.S. policy in southern Africa and economic sanctions against South Africa, (2) provides impetus for the President to obtain foreign cooperation for the sanctions, (3) authorizes measures to assist the victims of apartheid, and (4) calls for reporting requirements by the administration on certain political, economic, social, and legal issues concerning South Africa. The act was preceded by Executive Orders 12532 and 12535, which imposed more limited sanctions against South Africa. Executive Order 12571, dated October 27, 1986, designates the agencies responsible for administering the act's provisions.

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## U.S. Sanctions Against South Africa

The sanctions ban the imports of certain products from South Africa, exports of certain products to South Africa, various financial transactions, and other activities. The ban on U.S. imports from South Africa encompasses (1) gold coins (South African Krugerrands), (2) uranium, (3) iron and steel, (4) coal, (5) agricultural products (including sugar), (6) textiles, (7) military articles, and (8) products, including U.S. government procurement of goods, from parastatals (i.e., companies owned, controlled, or subsidized by the South African government), except strategic minerals certified by the President. The ban on U.S. exports to South Africa encompasses (1) oil, (2) many items on the U.S. Munitions List (except items used for commercial purposes), (3) nuclear materials and technology, and (4) computers to apartheid-enforcing agencies (for example, the police and the military).

The ban on financial transactions encompasses (1) new U.S. loans to South Africa (to both government and private entities), (2) new U.S. investment in South Africa (except in firms owned by black South Africans), and (3) South African government and parastatal deposits in U.S. banks. Other terminated activities are (1) air transportation to and from South Africa, (2) the treaty between the United States and South Africa preventing double taxation, (3) U.S. government promotion of tourism in South Africa, (4) the use of U.S. government funds to subsidize trade or investment in South Africa, and (5) U.S. military cooperation with South Africa (except intelligence gathering).

Bills have been introduced in the Congress that would further tighten sanctions against South Africa. The House passed a bill, H.R. 1580, which would expand the ban on trade with South Africa and would prohibit all imports except strategic minerals certified by the President,

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publications, and imports from black and other non-white owned businesses. It would also prohibit all exports to South Africa except publications, donations of articles intended to relieve human suffering, and commercial sales of agricultural commodities and products. The bill would permit assistance for certain specified, principally non-white, groups in South Africa. It would prohibit all lending and investment in South Africa, which would require all U.S. firms to disinvest from South Africa. A similar bill (S. 2378) has been introduced in the Senate and is awaiting committee action.

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## Objectives, Scope, and Methodology

In an October 28, 1987, letter, Senators Edward M. Kennedy and Lowell P. Weicker, Jr., asked us to examine trade with South Africa and changes in that trade over the past 5 years; public and private credit available and changes in availability; the status of U.S. disinvestment and how it has been implemented; and U.S. dependence on South African strategic minerals. As agreed with the requesters, we have issued two interim reports. One provided data on trade, lending, and investment (GAO/NSIAD-88-165, Apr. 1988) and the other addressed the extent of U.S. reliance on South African strategic minerals (GAO/NSIAD-88-201, June 1988). On June 24, 1988, we testified on U.S. sanctions against South Africa before the Senate Committee on Foreign Relations. This report updates and summarizes our interim reports and provides additional information on South Africa's trade, international lending, and strategic minerals and on U.S. investment in South Africa.

To review trade with South Africa, we obtained and analyzed trade statistics from several sources, including the International Monetary Fund (IMF) and the United Nations. We used IMF statistics from 26 countries to identify South Africa's major trading partners and trace changes in trading patterns over the past several years. We also discussed trade and investment with State Department officials to identify recent patterns.

In examining the effect of sanctions on South Africa's trade, we used quarterly data from the United Nations. We obtained a list of products under U.S. sanction from the Department of Commerce and compared South Africa's trade with 23 industrialized (including the United States) and newly industrializing countries in these products from the first three quarters of 1986 to the first three quarters of 1987. We used only data from this time period because various U.S. sanctions took effect at different times during the fourth quarter of 1986. The comparison allowed us to measure the amount of exports South Africa lost to the

United States because of sanctions and to determine whether South Africa was able to increase its exports to the other 22 industrialized and newly industrializing countries to compensate for this lost trade. We also compared changes in imports of the other 22 countries from South Africa to the changes in their imports from the rest of the world to put changes in trade with South Africa in the context of market conditions for the products under sanction. We used prices for the products to indicate the state of the world market.

We used the first three quarters of 1986 as a base year before sanctions rather than the first three quarters of 1985 because we could better establish the value of lost South African exports caused by U.S. sanctions and because we found little trade redirection or evidence of stockpiling by Western importers in anticipation of sanctions that would cause 1986 to be a poor base year.

To describe private and public credit available to South Africa, we obtained and analyzed lending statistics from the (1) Federal Financial Institutions Examinations Council, an interagency group in the U.S. government made up of agencies that regulate banks (2) Bank of England, (3) Bank for International Settlements, an organization that promotes cooperation among central banks and collects data on debt owed to banks in industrialized nations, (4) South African Reserve Bank, and (5) several private organizations that follow lending to South Africa. We used these data to report South Africa's foreign debt and changes to it, identify major lending countries, and provide a profile of that debt, including its maturity and public and private components among South African borrowers.

For information on U.S. disinvestment from South Africa, we reviewed statistics on the total value of U.S. direct investment in South Africa published by the Department of Commerce and on portfolio investment published by the Department of the Treasury. We also obtained information on the number of U.S. companies that have either withdrawn from or remain in South Africa from the Investor Responsibility Research Center, an organization that compiles and analyzes information on business activities in society and is financed primarily by annual fees paid by more than 300 institutional investors.

To identify the common methods used to disinvest, we interviewed experts at the Investor Responsibility Research Center and reviewed several disinvestment studies. We then selected a large U.S. company to

serve as a case study for each of the five principal methods. We interviewed each company about its business activities in South Africa, factors that led to the decision to disinvest, how disinvestment was implemented, the impact of its disinvestment on its black employees, and any continuing business relationships with South Africa. These interviews were all conducted in the United States. We also discussed disinvestment in general with representatives of several U.S. companies remaining in South Africa and companies purchased by South Africans to determine general trends.

To determine the extent of U.S. dependence on South African strategic minerals, we obtained and analyzed data on U.S. imports of the 10 minerals certified as strategic pursuant to Section 303 of the Act from the commodity specialists at the U.S. Interior Department's Bureau of Mines. Data on country mine production and reserve base for the minerals were principally obtained from the Bureau's publication, Mineral Commodity Summaries 1988. To identify alternative sources of supply, we relied on the import data collected and on various Bureau publications. We interviewed officials at the Departments of Commerce and Defense in an effort to further clarify any defense applications of the minerals. To assess efforts of U.S. users to locate alternative supply sources, we interviewed representatives of the industries most reliant on the minerals and their industry associations—the iron and steel industry, including the specialty steel industry, and the automotive industry. We also interviewed international commodity traders of several of the minerals about alternative sources. Finally, to assess the certification of minerals as strategic, we interviewed State Department officials responsible for making the certification.

As requested, we did not obtain official agency comments on this report; however, we obtained the views of responsible officials from the Departments of Commerce, Interior, State, and Treasury on two 1988 interim reports, which we summarize and update in this report.

Our review was performed in accordance with generally accepted government auditing standards between November 1987 and June 1988.

# Trade With South Africa

Although the dollar value of world trade increased substantially from 1982 to 1987, South Africa's exports declined slightly and imports declined substantially. During the period, the United States declined in rank from second to fourth as a provider of South African imports and from first to third as a market for South African exports. The biggest decline in U.S. imports came from 1986 to 1987 at least partially as a result of U.S. sanctions. South Africa has not been able to replace sales of products under U.S. sanction by redirecting trade to 22 other industrial and newly industrializing nations we studied and has suffered further losses in exports to these countries. South Africa has been unable to redirect its exports because other countries have actively reduced their imports from South Africa and because weak markets for many of the products reinforced the effect of the sanctions by making alternative markets harder to develop.

## Major Trading Patterns and Partners

Trade data for South Africa come from its government and its trading partners. In recent years, South Africa stopped publishing specific data on its trade with individual countries, and, because of a long history of economic sanctions, its data prior to this suspension of publication might not be accurate. Therefore, in this report we use data obtained from computerized submissions by South Africa's trading partners to multilateral organizations, such as the United Nations and International Monetary Fund. These data are expressed in U.S. dollars and are computer-based for easy manipulation. We verified the accuracy of U.N. data through Data Resources Incorporated (DRI), which obtains its data directly from South Africa's major trading partners.

The trade data that countries submit to multilateral trade data systems do not have the effect of fluctuations in values of national currencies in relation to one another removed. It is difficult to remove the effects of such fluctuations, because the currencies in which individual trade transactions are conducted are unknown. Using the market share of South Africa's trading partners rather than the absolute numbers, however, can partially compensate for currency distortions due to fluctuations and provide a better basis for time series comparisons.

## Trading Patterns Since 1982

Although world trade of 26 countries that reported consistently to the IMF increased substantially from 1982 to 1987, South Africa's exports to these 26 trading partners decreased slightly and imports declined by almost \$2 billion. World exports to these countries increased from about \$1.27 trillion to about \$1.89 trillion from 1982 to 1987, while world

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imports increased from about \$1.19 trillion to about \$1.79 trillion. In contrast, South Africa's exports to these countries decreased slightly, from about \$11.1 billion in 1982 to about \$11 billion in 1987, while its imports decreased from about \$11.9 billion to about \$10.1 billion during the same period.

From 1982 through 1987, most of South Africa's trade remained with its six major trading partners—Japan, Italy, France, the United States, the United Kingdom, and West Germany—but the market shares changed. Among the 26 trading partners, these six major partners accounted for 82 percent of South Africa's imports and 80 percent of its exports in 1982; in 1987, they accounted for 81 percent of the imports and 78 percent of the exports.

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### Sources of South African Imports

From 1982 through 1987, the United States, the United Kingdom, and France generally decreased their shares of South Africa's imports, Japan, West Germany, and Hong Kong generally increased their shares, and Italy's share remained fairly constant. (See table 2.1 for suppliers of South African imports.)

**Table 2.1: Leading Suppliers of South African Imports**

Market Share of the Top 10 Countries, by Rank <sup>a</sup>					
1982	Percent	1983	Percent	1984	Percent
1. West Germany	21.3	1. United States	20.3	1. West Germany	20.4
2. United States	19.9	2. West Germany	18.6	2. United States	19.7
3. United Kingdom	17.5	3. Japan	16.6	3. Japan	16.0
4. Japan	13.8	4. United Kingdom	16.0	4. United Kingdom	14.0
5. France	5.4	5. France	4.7	5. Italy	4.5
6. Italy	4.6	6. Italy	4.5	6. France	4.4
7. Switzerland	2.2	7. Netherlands	2.2	7. Netherlands	2.4
8. Netherlands	2.0	8. Switzerland	2.2	8. Australia	2.4
9. Belgium-Luxembourg	1.9	9. Belgium-Luxembourg	2.1	9. Belgium-Luxembourg	2.2
10. Zimbabwe	1.6	10. Zimbabwe	1.8	10. Switzerland	2.0

The U.S. export market share generally decreased from 19.9 to 12.7 percent and its ranking among the six nations dropped from second in 1982 to fourth place in 1987. The dollar value of U.S. exports generally decreased from \$2.4 billion in 1982 to \$1.2 billion in 1986 but increased to \$1.3 billion in 1987. Its exports to South Africa as a percentage of its world total dropped from 1.12 percent in 1982 to 0.51 percent in 1987. (See table 2.2 for individual countries' exports to South Africa as a percentage of their exports worldwide.)

The United Kingdom's market share fluctuated but generally decreased from 17.5 to 15.5 percent, while its ranking fluctuated but began and ended the period in third place. The dollar value of its exports decreased from 1982 to 1986 but increased somewhat during 1987. Its exports to South Africa as a percentage of its world total dropped by almost half during the period.

France's market share fluctuated but generally decreased from 5.4 to 4.6 percent but retained a fifth place ranking for most of the period. The dollar value of its exports generally declined from 1982 to 1985 but has increased through 1987. Its exports to South Africa as a percentage of its world total dropped by over half during the period.



**Chapter 2**  
**Trade With South Africa**

<b>1985</b>	<b>Percent</b>	<b>1986</b>	<b>Percent</b>	<b>1987<sup>b</sup></b>	<b>Percent</b>
1. West Germany	22.4	1. West Germany	23.7	1. West Germany	25.3
2. United Kingdom	17.2	2. Japan	16.7	2. Japan	18.7
3. United States	16.0	3. United Kingdom	15.3	3. United Kingdom	15.5
4. Japan	13.6	4. United States	14.2	4. United States	12.7
5. France	5.1	5. France	5.0	5. France	4.6
6. Italy	4.4	6. Italy	4.3	6. Italy	4.5
7. Netherlands	2.8	7. Netherlands	3.1	7. Netherlands	2.9
8. Switzerland	2.6	8. Switzerland	3.0	8. Belgium-Luxembourg	2.8
9. Belgium-Luxembourg	2.4	9. Belgium-Luxembourg	2.6	9. Switzerland	2.7
10. Australia	1.5	10. Zimbabwe	1.6	10. Hong Kong	2.5

<sup>a</sup>In the IMF system, reported trade with South Africa includes the Customs Union countries of Botswana, Lesotho, and Swaziland but their trade is marginal.

<sup>b</sup>Of the 26 nations, 23 submitted complete data for 1987. Data for part of the year were used to estimate a full-year total for Chile, Zimbabwe, and Sri Lanka.

Source: IMF Direction of Trade Statistics.

West Germany's market share fluctuated but generally increased from 21.3 to 25.3 percent. West Germany was ranked as one of the top two countries supplying South Africa's imports for the entire period from 1982 through 1987. The dollar value of West Germany's exports fluctuated while generally declining from 1982 to 1985 but then increased through 1987, exceeding the 1982 value. Its exports to South Africa as a percentage of its world total generally dropped by almost half during the period.

Japan's market share fluctuated but generally increased from 13.8 to 18.7 percent, which increased its rank from fourth to second. The dollar value of its exports increased from 1982 to 1984, declined sharply from 1984 to 1985, and increased from 1985 to 1987, exceeding the 1984 value. Its exports to South Africa as a percentage of its world total generally dropped from 1982 to 1985 and then increased through 1987.

Italy's market share generally decreased slightly from 4.6 to 4.5 percent, while it retained a sixth place ranking for most of the period. The dollar value of its exports fluctuated while declining from 1982 to 1985 but increased from 1985 through 1987. Its exports to South Africa as a percentage of its world total generally declined by almost half during the period.

Hong Kong generally increased its market share from 1.4 percent in 1982 to 2.5 percent in 1987, when it first appeared as one of the top 10 sources of South African imports. The dollar value of Hong Kong's exports fluctuated while generally declining from 1982 to 1986 but doubled from 1986 to 1987. Its exports to South Africa as a percentage of its world total decreased from 1982 to 1985 and then increased through 1987.

**Table 2.2: Individual Countries' Exports to South Africa as a Percentage of Their Exports Worldwide**

Country	1982	1983	1984	1985	1986	1987
United States	1.12	1.06	1.04	0.57	0.53	0.51
United Kingdom	2.16	1.83	1.72	1.28	1.16	1.19
France	.67	.52	.52	.38	.32	.32
West Germany	1.44	1.15	1.36	.92	.80	.87
Italy	.74	.65	.71	.42	.36	.39
Japan	1.19	1.28	1.08	.58	.65	.81
Hong Kong	.78	.70	.66	.31	.34	.51

Source: IMF Direction of Trade Statistics.

**Table 2.3: Leading Markets for South African Exports**

Shares of the Top 10 Countries, by Rank <sup>a</sup>					
1982	Percent	1983	Percent	1984	Percent
1. United States	18.5	1. United States	21.5	1. United States	24.2
2. Japan	16.9	2. Japan	16.6	2. Italy	16.0
3. Italy	14.4	3. Italy	13.2	3. Japan	15.3
4. United Kingdom	11.9	4. United Kingdom	11.9	4. West Germany	9.8
5. West Germany	11.5	5. West Germany	11.0	5. United Kingdom	9.2
6. France	6.7	6. France	6.0	6. France	6.4
7. Belgium-Luxembourg	3.5	7. Belgium-Luxembourg	3.2	7. Belgium-Luxembourg	2.7
8. Zimbabwe	3.3	8. Zimbabwe	2.9	8. Hong Kong	2.1
9. Canada	1.8	9. Hong Kong	1.8	9. Zimbabwe	1.9
10. Denmark	1.7	10. Canada	1.8	10. Canada	1.8

## Recipients of South African Exports

From 1982 through 1987, the United States and the United Kingdom generally decreased their shares of South African exports, Japan and Italy generally increased their shares, West Germany decreased its share early in the period and increased it later in the period, and France generally decreased its share from 1982 to 1986 but reversed this trend in 1987. (See table 2.3 for South African export markets.)

The U.S. share fluctuated from 1982 to 1986 while it maintained its number one ranking but declined from 20.3 percent in 1986 to 12.7 percent in 1987, when it dropped to third place. The dollar value of U.S. imports fluctuated from 1982 to 1986 but dropped significantly from \$2.5 billion in 1986 to \$1.4 billion in 1987. Some of the decrease was attributable to U.S. sanctions on imports of selected South African products. U.S. imports from South Africa as a percentage of its world total generally declined from 0.80 percent in 1982 to 0.33 percent in 1987. (See table 2.4.)

1985	Percent	1986	Percent	1987 <sup>b</sup>	Percent
1. United States	19.8	1. United States	20.3	1. Japan	22.3
2. Japan	17.0	2. Japan	18.5	2. Italy	16.3
3. Italy	16.7	3. Italy	15.7	3. United States	12.7
4. United Kingdom	11.4	4. West Germany	11.3	4. West Germany	11.4
5. West Germany	9.8	5. United Kingdom	10.0	5. United Kingdom	9.8
6. France	5.8	6. France	4.0	6. France	5.3
7. Hong Kong	2.7	7. Belgium-Luxembourg	2.9	7. Belgium-Luxembourg	3.5
8. Belgium-Luxembourg	2.5	8. Hong Kong	2.8	8. Hong Kong	3.0
9. Spain	1.9	9. Spain	2.3	9. Spain	2.9
10. Zimbabwe	1.7	10. Canada	2.2	10. Switzerland	2.4

<sup>a</sup>In the IMF data system, reported trade with South Africa includes the Customs Union countries of Botswana, Lesotho, and Swaziland but their trade is marginal.

<sup>b</sup>Of the 26 nations, 23 submitted complete data for 1987. Data for part of the year were used to estimate a full-year total for Chile, Zimbabwe, and Sri Lanka.

Source: IMF Direction of Trade Statistics.

The United Kingdom's share fluctuated but generally decreased from 11.9 to 9.8 percent. The dollar value of its imports fluctuated from 1982 to 1987 but generally declined. Its imports from South Africa as a percentage of its world total fluctuated during the period but generally decreased.

Japan's share declined from 1982 to 1984 but increased to 22.3 percent in 1987, thus moving from a third place ranking in 1984 to first place. The dollar value of its imports declined from 1982 to 1983 but then increased substantially through 1987. Its imports from South Africa as a percentage of its world total declined from 1982 to 1984, increased from 1984 through 1986, and then decreased again from 1986 to 1987.

Italy's share fluctuated but generally increased from 14.4 to 16.3 percent. The dollar value of its imports generally increased substantially from 1982 to 1986 but decreased somewhat from 1986 to 1987. Its imports from South Africa as a percentage of its world total fluctuated from 1982 to 1986 but declined significantly in 1987.

France's share generally decreased from 6.7 percent in 1982 to 4 percent in 1986 and increased to 5.3 percent in 1987. The value of its imports generally declined from 1982 to 1986 but increased from 1986 to 1987. Its imports from South Africa as a percentage of its world total fluctuated during the period but generally declined by almost half.

West Germany's share declined from 11.5 percent in 1982 to 9.8 percent in 1984 and 1985 and increased to 11.4 percent in 1987. The value of its imports fluctuated from 1982 to 1987, with the 1987 value approximately equal to the 1982 value. Its imports from South Africa as a percentage of its world total generally decreased during the period, particularly from 1986 to 1987.

Spain entered the top 10 markets for South African exports in 1985 and almost doubled its market share, from 1.5 percent in 1982 to 2.9 percent in 1987. The dollar value of its imports decreased from 1982 to 1983 but then more than doubled from 1983 to 1987. Its imports from South Africa as a percentage of its world total generally increased from 1982 to 1986 but declined during 1987.

Hong Kong more than doubled its market share from 1982 to 1987. The dollar value of its imports more than doubled from 1982 to 1986 but

declined slightly through 1987. Its imports from South Africa as a percentage of its world total increased from 1982 to 1986 but declined during 1987.

**Table 2.4: Individual Countries' Imports From South Africa as a Percentage of Their Imports From the World**

Figures in percent						
Country	1982	1983	1984	1985	1986	1987
United States	0.80	0.78	0.76	0.60	0.64	0.33
United Kingdom	1.32	1.17	.94	1.16	.96	.70
France	.64	.56	.65	.60	.38	.37
West Germany	.82	.70	.69	.68	.72	.55
Italy	1.85	1.60	2.03	2.03	1.92	1.43
Japan	1.42	1.28	1.20	1.44	1.78	1.63
Spain	.54	.48	.57	.79	.81	.65
Hong Kong	.57	.75	.78	.99	.99	.67

Source: IMF *Direction of Trade Statistics*.

## Effect of Sanctions on South Africa's Trade

We examined U.N. trade data from 23 industrialized and newly industrializing nations on their imports from South Africa of major products under U.S. sanction. Most U.S. sanctions involve imports from rather than exports to South Africa. Aggregate trade data may not provide much insight into the effects of Western export sanctions on arms, oil, nuclear materials and technology, and computers to apartheid-enforcing agencies. Because arms, oil, and nuclear materials and technology are strategic items, data on these products are not fully reported. Because all computer sales are not banned, it is difficult to use aggregate data on computer exports to South Africa to measure the effect of sanctions. The total value of computer exports could change because of decreased sales in computers under sanction or because of changes in the market for computers not under sanction.

U.N. data on South African exports to 23 industrialized and newly industrializing countries that are major trading partners or potential alternative markets for South African goods—representing the market for over 97 percent of such exports—show that for the first three quarters of 1987, South Africa's total exports of the major commodities under U.S. sanction have declined. South Africa has not been able to replace its former exports to the United States of these commodities by redirecting trade to the other 22 nations and has suffered further losses

in exports to these countries as well (see table 2.5).<sup>1</sup> During this time, we estimate that U.S. sanctions cut South African exports by about \$417 million. South Africa not only was unable to recover these losses by redirecting trade to the other 22 countries but also lost additional trade in these markets, resulting in a total trade reduction in goods under sanction of \$469 million.

In June 24, 1988, testimony before the Senate Foreign Relations Committee, we testified that South Africa lost a total of \$624 million in exports. Subsequently we were able to obtain import data from three additional countries—Taiwan, Australia, and New Zealand. As a result, we revised our estimate of South Africa's dollar loss in exports downward to \$469 million. Most of the difference is accounted for by Taiwan increasing its imports by \$164 million during the period.

In markets where South Africa lost exports, the losses appear to be caused, at least in part, by other nations making efforts to reduce imports from South Africa. Imports of U.S. sanctioned commodities by most of the other 22 countries from South Africa have declined at a greater rate or increased at a slower rate than their imports from the rest of the world.

**Table 2.5: Changes in South African and World Exports—First Three Quarters of 1986 to First Three Quarters of 1987**

Dollars in thousands

Product	South Africa's Loss of Exports to the U.S.	Change in South Africa's Total Exports to 22 Other Countries	Net Change in South Africa's Exports	Percent Change in South Africa's Exports to 22 Other Countries	Percent Change in World Exports (Exclusive of South Africa) to 22 Other Countries
Coal	-\$35,794	-\$296,372	-\$332,166	-28.1	-8.3
Iron and steel	- 121,934	- 29,523	- 151,457	- 4.9	6.8
Uranium	- 119,677	- 38,924	- 158,601	-25.2	19.5
Textiles	- 29,203	3,147	- 26,056	1.0	28.4
Agricultural products	- 110,435	310,075	199,460	28.4	15.7
<b>Total</b>	<b>-\$417,043</b>	<b>-\$51,597</b>	<b>-\$468,640</b>	<b>-1.6</b>	<b>17.7</b>

<sup>1</sup> Although these 23 countries buy the bulk of South Africa's exports, South Africa could have redirected some trade to other nations outside this bloc. Recent data is not available from some countries, such as South Korea and many African nations, that are smaller potential alternative markets. In addition, over time South Africa may be more successful in redirecting its trade by offering incentives, such as price discounts.

Changes in Individual Countries' Trade With South Africa in Products Under U.S. Sanction

Of the 22 other industrialized and newly industrializing countries we examined, those shown in table 2.6 had the largest percentage decrease in the value of their imports from the first three quarters of 1986 to the first three quarters of 1987 of the major commodities under sanction (that is, coal, textiles, uranium, agricultural products, and iron and steel).

Table 2.6: Countries With the Largest Percentage Decrease in Imports From South Africa of Products Under U.S. Sanction

Dollars in thousands

Country	First Three Quarters		Net change	Percent change
	1986	1987		
Denmark	\$4,044	\$969	\$-3,075	-76.0
Canada	94,101	31,474	-62,627	-66.6
New Zealand	4,100	1,978	-2,122	-51.8
Australia	25,272	18,768	-6,504	-25.7
West Germany	442,074	372,349	-69,725	-15.8
Italy	244,976	211,158	-33,818	-13.8
Hong Kong	190,921	167,213	-23,708	-12.4
Spain	148,173	130,194	-17,979	-12.1
Japan	757,553	693,827	-63,726	-8.4

Other than the United States, Denmark and Canada, both of which have extensive sanctions, had the largest percentage decreases in imports. Denmark, however, had a low level of trade with South Africa initially. Australia<sup>2</sup> and New Zealand had large percentage decreases but had fairly low values of trade initially. West Germany, Italy, Hong Kong, Spain, and Japan have sanctions only on iron and steel but nevertheless reduced their imports from South Africa of products under U.S. sanction while increasing them from the rest of the world.

West Germany, Japan, Canada, Italy, and Hong Kong, in descending order, had the largest decreases in values of imports of products under U.S. sanction. Japan's large decrease during the period occurred despite increases in the dollar value of its total imports from South Africa from 1986 to 1987; its decreased imports of coal and iron and steel were larger than its increased purchases of textiles and agricultural products. West Germany's uranium, coal, and iron and steel imports declined and

<sup>2</sup> Australia did not report its coal imports for the first three quarters of 1987. This is unlikely to greatly affect its overall percentage change because its coal imports from South Africa for the first three quarters of 1986 were low.

were not offset by increases in textiles and agricultural products. Canada decreased its imports in all five products, but its largest declines came in uranium and agricultural products.

Italy's major reduction in coal imports and minor decrease in textile purchases exceeded its increased purchases of agricultural products and iron and steel. Hong Kong's major decrease in coal purchases and minor reduction in iron and steel imports more than offset increased imports of South African textiles and agricultural products.

Table 2.7 shows the countries that had the largest percentage increases during the period in the value of imports of products under U.S. sanction.

**Table 2.7: Countries With the Largest Percentage Increase in Imports From South Africa of Products Under U.S. Sanction**

Dollars in thousands				
Country	First Three Quarters		Net change	Percent change
	1986	1987		
Taiwan <sup>a</sup>	\$154,737	\$318,779	\$164,042	106.0
Finland	1,106	1,726	620	56.1
Israel	48,226	72,406	24,180	50.1
Norway	991	1,371	380	38.3
Sweden	2,417	3,257	840	34.8
Singapore	73,265	93,212	19,947	27.2
Switzerland	44,137	53,381	9,244	20.9
France	256,472	288,436	31,964	12.5

<sup>a</sup>Because U.N. data were unavailable for Taiwan for the first three quarters of 1987, we compared DRI data from this period with U.N. data for the first three quarters of 1986. As noted before, we analyzed the series of DRI and U.N. data and found their values to be very close.

Taiwan, Israel, Singapore, and Switzerland increased their imports from South Africa more than from the rest of the world. Finland, Norway, and Sweden also increased their imports from South Africa more than from the rest of the world but had low levels of imports from South Africa initially. The comprehensive trade bans enacted by Finland, Norway, and Sweden did not take effect until near the end of the period, thus trade may decrease in the future because of these sanctions. Although France had the second largest gain in value of imports from South Africa, its percentage increase was less than that of its imports from the rest of the world.

Taiwan, France, Israel, Singapore, and Switzerland, in descending order, had the largest increases in the dollar value of imports. Taiwan's



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increase in imports from South Africa was caused primarily by a 414.7-percent increase in agricultural imports and a 121.2-percent increase in iron and steel purchases. Increased purchases of agricultural products contributed heavily to the gains in imports by Israel and Singapore, 127.5 percent and 29.2 percent, respectively. Switzerland's gain in imports was caused by a 27.3-percent increase in purchases of agricultural products, 66.1 percent in iron and steel and 16.8 percent in coal. France's increase in imports was caused by an increase of 45.9 percent in purchases of agricultural products and 45.8 percent in uranium.

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### South Africa's Ability to Redirect Trade Varied by Product

Although South Africa's exports of products under U.S. sanction declined overall, its ability to redirect exports varied from product to product. It was unable to redirect coal, uranium, and iron and steel exports to the other 22 countries and experienced even further losses in these nations' markets. An apparent effort by others to reduce trade in these products with South Africa helped prevent South Africa from finding new markets for such exports.

South Africa's inability to redirect coal exports was caused by additional losses apparently resulting from French and Canadian sanctions and decreases in purchases by 10 other nations. Most of these other nations—especially Japan, West Germany, and Italy—decreased their imports from South Africa at a greater rate than they decreased imports from the rest of the world. Hong Kong decreased its imports from South Africa while increasing its imports from the rest of the world. Turkey and Austria increased their imports by over 200 percent. Spain increased its volume of imports from South Africa at about the same percent as its volume increase from the rest of the world. The Netherlands had a moderate volume increase despite a voluntary ban on coal imports from South Africa by Dutch utilities since 1983. Most Nordic countries have put coal imports under sanction but none had any imports prior to the imposition of their sanctions.

South Africa was also unable to redirect its trade in the iron and steel market, for which more nations have imposed sanctions than for any other product. Japan, West Germany, Austria, and Turkey had the largest volume decreases in iron and steel imports from South Africa; all but Turkey had imposed sanctions and Turkey nevertheless decreased its imports from South Africa while increasing them from the rest of the world. Despite sanctions, Italy, France, and the United Kingdom increased the volume of their imports. This may, however, result from

the fact that the European Community sanctions honor existing contracts. Taiwan had the largest gain in dollar value (\$54 million) and increased its imports from South Africa by 121 percent, more than double the rate it increased its imports from the rest of the world. Israel had a substantial gain in dollar value but its rate of increase was approximately equal to its rate of increase from the rest of the world.

South Africa's inability to redirect its uranium trade was caused by losses apparently resulting from Canadian sanctions and by decreased West German imports. France had the only major gain, increasing its imports from South Africa while decreasing them from the rest of the world.

Losses in textile exports were caused by U.S. sanctions and other countries' apparent efforts to reduce their imports from South Africa. The heavy losses in exports to the United States, combined with smaller value losses in exports to other nations, especially Taiwan, the United Kingdom, Switzerland, Spain, and Belgium-Luxembourg, were greater than the gains in sales to other nations, especially, West Germany, Japan, France, and Hong Kong. All countries that reduced their imports from South Africa did so while increasing them from the rest of the world. Even most of the countries that increased their imports from South Africa did so at a rate below the increase from the rest of the world. Although Denmark was not a major importer of South African textiles initially, by imposing sanctions it reduced its trade by nearly 68 percent. Although Singapore imposed a ban on imports of all South African products in 1965, it purchased \$2.1 million worth of textiles from South Africa during the first three quarters of 1986 and \$1.2 million worth during the first three quarters of 1987.

Only in the agricultural products market was South Africa able to offset losses from U.S. sanctions and to actually increase its total exports. Other nations increased their imports of South African agricultural products which offset apparent losses from sanctions imposed by the United States, Canada, New Zealand, and Denmark, as well as a reduction in imports by the United Kingdom. The countries with the largest gains were Taiwan, Italy, Japan, France, West Germany, Israel, and Singapore. Although Singapore has had a total ban on imports from South Africa since 1965, it actually increased its imports of South African agricultural products by 29.2 percent, from \$71 million during the first three quarters of 1986 to \$92 million during the first three quarters of

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1987. The other 22 nations together increased their imports of agricultural products from South Africa at a greater rate than from the rest of the world.

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## Conclusion

The available price data on sanctioned commodities lead us to conclude that market conditions influence the effectiveness of sanctions. When markets for sanctioned commodities were weak and world prices were low—as was the case for most of the major markets under U.S. import sanction—market conditions reinforced the sanctions and South Africa's total exports of the sanctioned commodities declined. Conversely, South Africa was able to increase its exports of sanctioned commodities that were traded in tighter markets with rising prices—such as agricultural products, for which overall prices increased 34 percent from 1986 to 1987.

# Lending to South Africa

Although data on lending by individual countries to South Africa are scarce, aggregate data show that lending by foreign banks has decreased in recent years. According to bankers and anti-apartheid groups, the decrease is a reaction to South Africa's perceived political instability, poor economic performance, and initial freeze on debt repayment. However, the lending climate in South Africa may be improving.

## Profile of South Africa's Foreign Debt

Most of South Africa's approximately \$23 billion in foreign debt is short term and is owed by the private sector.

In 1986, the last year the South African Reserve Bank published a detailed breakout of the total South African foreign debt to all creditors (that is, debt to foreign banks, foreign nonbanks, international institutions, and bond issues), about 72 percent of the debt was short term (that is, loans came due in less than 1 year) and 28 percent long term (repayment periods of 1 year or more). South Africa borrows money short term because international banks have been reluctant to make long-term loans.

June 1987 semiannual data from the Bank for International Settlements (BIS), an organization of central banks of industrialized nations, show that 68 percent of Western bank lending to South Africa is payable in 1 year or less.

According to the Federal Financial Institutions Examination Council, an interagency group in the U.S. government made up of agencies that regulate banks, 53 percent of the total value of U.S. bank loans to South Africa in March 1988 will come due in 1 year or less, 24 percent in 1 to 5 years, and 23 percent in more than 5 years. From March 1987 to March 1988, loans coming due in 1 year or less continued to decline from previous years but loans in the two other categories increased, especially those due in more than 5 years. This may indicate a willingness on the part of U.S. banks to roll over existing short-term loans into longer term debt.

The 1986 South African Reserve Bank breakout of total debt showed that about 62 percent was incurred by the private sector, including 11 percent by the banking sector, while 38 percent was incurred by the government and public corporations. About 57 percent of the public debt was long term, while about 90 percent of the private sector's debt was short term.

BIS semiannual data for June 1987 show that 78 percent of South Africa's debt to Western banks is owed by the private sector—45 percent by banks and 33 percent by nonbanks—and 20 percent by the public sector, with the remaining 2 percent unallocated between the public and private sectors.

U.S. bank lending was more heavily weighted toward South African banks. In March 1988, 67 percent of U.S. bank loans were made to banks, 11 percent to private nonbanks, and 23 percent to public borrowers.

While the BIS and several countries publish data on the maturity of South African debt and the principal borrowers, little data identifying South Africa's creditors are published by international organizations. A private researcher from the California-Nevada Interfaith Council on Corporate Responsibility has developed information on sources of credit for South Africa's debt at year end 1986. Table 3.1 is adapted from this information. As can be seen, the United States, United Kingdom, West Germany, and Switzerland account for almost half of South Africa's international debt.

**Table 3.1: Sources of Credit for South Africa, Year End 1986**

Dollars in billions		
<b>Creditor</b>	<b>Amount</b>	<b>Percent of Debt</b>
United States	\$3.0	13.3
United Kingdom <sup>a</sup>	3.6	15.9
West Germany	1.9	8.4
Switzerland <sup>b</sup>	1.8	8.0
Other banks	5.82	25.8
<b>Total Bank Debt</b>	<b>16.12</b>	
Bonds	3.1	13.7
IMF	0.5	2.2
Other	2.88	12.7
<b>Total</b>	<b>\$22.60</b>	<b>100.0</b>

<sup>a</sup>The previous figure cited for lending to South Africa by banks located in the United Kingdom included British-owned banks and foreign-owned banks located in the United Kingdom. This figure is the private researcher's estimate for lending only by British-owned banks.

<sup>b</sup>This is a year end 1984 figure, the latest figure available for Swiss lending to South Africa.

Source: Adapted from information developed by the California-Nevada Interfaith Council on Corporate Responsibility.

## Trends in Lending

Since South Africa's freeze on repayment of principal on its short-term debt in the third quarter of 1985, international lending to South Africa has declined. According to BIS quarterly statistics, lending to South Africa had been generally decreasing until recently, as shown in table 3.2. The estimated changes for each quarter, adjusted for currency fluctuations, are given. The \$130-million increase in lending in the 4th quarter of 1987, however, is one more indication that South Africa's lending climate may be improving.

**Table 3.2: Changes in Lending to South Africa, 1984 to 1987**

Dollars in millions	
Time Period	Change in Lending
<b>1984:</b>	
1st Quarter	-\$143
2nd Quarter	101
3rd Quarter	- 573
4th Quarter	- 803
<b>1985:</b>	
1st Quarter	72
2nd Quarter	24
3rd Quarter	- 258
4th Quarter	- 152
<b>1986:</b>	
1st Quarter	- 858
2nd Quarter	- 293
3rd Quarter	- 739
4th Quarter	- 137
<b>1987:</b>	
1st Quarter	- 195
2nd Quarter	3
3rd Quarter	- 411
4th Quarter	130

Source: BIS quarterly data.

U.S. bank lending to South Africa has also declined in recent years. From June 1982 through September 1984, U.S. loans generally increased from about \$3.7 billion to about \$5 billion, but from September 1984 to March 1988, they generally decreased to less than \$3 billion. However, during this period of overall decline, a small increase in lending occurred during the first 6 months of 1987. The ban on most forms of new U.S. lending took effect in mid-November 1986, and we have not been able to

explain this small increase. The Treasury Department is attempting to find out the reason.

Like total Western lending to South Africa, lending from banks in the United Kingdom also decreased in value and then rebounded. Between the end of June 1985 and the end of December 1986, lending declined about 6.3 percent, from \$4.5 billion to \$4.2 billion, but during 1987 it increased to \$4.4 billion.<sup>1</sup>

One measure of the burden placed on South Africa by its foreign borrowing is the ratio of its foreign debt to gross domestic product. As borrowing as a proportion of all that is produced within a country's borders increases, paying the interest and principal on the loans becomes more of a burden on an economy. From 1980 to 1985, South Africa's foreign debt increased from 20.3 percent to 50 percent of gross domestic product, then dropped to 26.5 percent in 1987, probably as a result of decreased lending from Western nations while South Africa's gross domestic product was rising.

Decreases in lending by Western banks to South Africa have been attributed to the political and economic situation in South Africa. Also, the U.S. ban on new loans to the South African public sector initiated by an Executive Order in September 1985, the addition of a ban on new loans to the South African private sector by the Comprehensive Anti-Apartheid Act of 1986, and bans on new loans by some other Western nations decreased lending.

In August 1985, Western banks, motivated by political instability in South Africa, did not extend existing loans and began to withdraw them as payment came due. South African banks could not repay the debt. Banking experts said that South Africa had the ability to pay the interest on its debt but not the principal. In September 1985, the South African government declared a moratorium on the repayment of principal on short-term debt totaling \$14 billion of the \$24 billion owed by South Africa at the time. The moratorium did not cover bonds, IMF credits, trade credits, and credits granted to the South African Reserve Bank.

<sup>1</sup>It is difficult to determine the extent to which changes in the United Kingdom's lending data are the result of currency fluctuations. One private researcher, however, believes most loans from banks in the United Kingdom are denominated in dollars, which might lessen the problem. Taking out currency fluctuations is not a problem with U.S. data, because the amount of U.S. loans denominated in foreign currencies is low.

After the moratorium, a committee composed of representatives of Western banks negotiated with South Africa the rescheduling of its debt. An agreement, called Interim I, was reached that required that 5 percent of the principal on current short-term loans be repaid between April 1985 and June 1987. The successor to Interim I, Interim II, requires repayment of another 13 percent of principal from July 1987 to June 1990. The negotiations to reschedule the remaining debt will be held when the Interim II agreement expires in 1990. Researchers in both Europe and South Africa knowledgeable about Western sanctions against South Africa stated that Western banks' recall of loans has been the most effective measure to date to pressure South Africa economically.

In recent years, South Africa's credit rating declined substantially and only in the last 6 months has it increased slightly. Institutional Investor, a leading international financial magazine published in New York, semi-annually ranks 100 countries according to their credit reliability, based on anonymous ratings from about 100 of the world's largest international banks. From September 1981 to September 1987, South Africa's credit rating dropped on the 100-point scale from 61.9 to 31.3, a decline of 49 percent, with a drop of 9.9 points after the debt moratorium in 1985 and 7.8 points while the Comprehensive Anti-Apartheid Act was being passed (4th quarter 1986). From September 1987 to March 1988, South Africa's rating increased by one point to 32.3 but is still below the average rating of 38.9 for the 100 countries.

Representatives from international banks, anti-apartheid groups, and private researchers we spoke with said that because of the moratorium in 1985 and the slow growth rates of the South African economy, international banks have been reluctant to make loans to South Africa. But representatives of some British banks, some anti-apartheid groups, and private researchers said that loans to South Africa are still profitable and that they are seeing more willingness by international banks to lend as the South Africa lending climate improves. This may be reflected in the BIS quarterly data, which showed Western lending to South Africa increasing in the 4th quarter of 1987.



# U.S. Investment in and Disinvestment From South Africa

Although more than half of U.S. corporations doing business in South Africa have withdrawn from that country since 1984, U.S. direct investment increased 4 percent between 1984 and 1987, when adjusted for fluctuation in the exchange rate during this time period. This increase is largely the result of significant reinvested earnings that have offset U.S. disinvestment. U.S. holdings of South African stocks and bonds decreased moderately from 1982 to 1987. From our five case studies of U.S. corporate withdrawals from South Africa, it appears that there are often continuing business relationships between the former owners and the successor companies and little or no change in the availability of the U.S. companies' products in South Africa.

## U.S. Investment in South Africa

U.S. investment takes two forms: direct investment and portfolio investment. Direct investment is the ownership or control of 10 percent or more of a foreign business by a U.S. company or individual. Portfolio investment generally refers to the purchase of stocks and bonds without acquiring more than 10 percent of an individual company.

The Comprehensive Anti-Apartheid Act bans new investment in South Africa but does not prohibit the reinvestment of profits earned from existing investments that have majority U.S. ownership or the secondary market sales of South African stocks and bonds (i.e., stocks and bonds issued prior to passage of the act).

## Direct Investment

Measured in dollars, the U.S. direct investment in South Africa declined from \$1.99 billion in 1983 to \$1.59 billion in 1987.<sup>1</sup> However, it appears that all of this decline can be attributed to the sharp decline in the value of the rand, the South African national currency. The decline resulted from converting the book value of U.S. investments in 1987 at the substantially devalued exchange rate for the rand prevailing in that year.

Despite the beginning of the U.S. corporate withdrawal movement in 1984, the value of U.S. direct investment in South Africa, adjusted for exchange rate fluctuations, increased nearly 10 percent from 1984 to 1986, from \$2.04 billion to \$2.23 billion. Since the enactment of the Comprehensive Anti-Apartheid Act in 1986, U.S. direct investment in South Africa declined about 5 percent, to \$2.12 billion in 1987.

<sup>1</sup> All Department of Commerce investment data for 1986 and 1987 are subject to revision in future years when better data become available, and thus should be considered preliminary.

Reinvested profits of U.S. corporations remaining in South Africa contributed significantly to the increase in direct investment from 1984 to 1986 and reduced the amount of the decline in investment from 1986 to 1987 despite passage of the act, which banned new investment in South Africa. Historically, about 80 percent of all foreign direct investment in South Africa has come from the reinvestment of profits. From 1984 to 1986, U.S. corporations reinvested \$105 million in profits; in 1987 they reinvested \$94 million.

**Portfolio Investment**

U.S. investment in South African stocks and bonds decreased moderately in the past 2 years after a large increase in 1984 and no net change in 1985. Table 4.1 shows the annual change in U.S. transactions from 1982 through 1987. This figure is not the total value of U.S. holdings of South African stocks and bonds but rather the purchases or sales of those assets. No reliable benchmark figures are available from which to ascertain the aggregate value of U.S. holdings.

**Table 4.1: Net U.S. Purchases of South African Long-Term Securities, 1982-1987<sup>a</sup>**

Dollars in millions			
Year	Bonds	Stocks	Combined net change
1982	\$-22	\$5	\$-17
1983	1	-118	-117
1984	13	137	150
1985	-8	8	0
1986	-10	-26	-36
1987	8	-20	-12

<sup>a</sup>Does not include transactions which occur through third countries, which would appear in the data for that third country. The extent of transactions through third countries in South African stocks and bonds is unknown.

Source: U.S. Treasury Department, Treasury Bulletin.

**U.S. Corporate Withdrawal From South Africa**

Since 1984, 162 U.S. companies have withdrawn from South Africa. (See table 4.2.) As of July 1988, 149 U.S. companies still have direct investments or employees in South Africa, but 9 of them have announced their intention to withdraw.

**Table 4.2: Number of U.S. Companies That Have Withdrawn From South Africa Since 1984 and Number of Employees Affected**

	1984	1985	1986	1987	1988	Total
Companies	7	40	50	55	10 <sup>a</sup>	162
Employees <sup>b</sup>	70	5,885	9,395	13,070	515 <sup>c</sup>	28,935 <sup>d</sup>

<sup>a</sup>As of July 1988.

<sup>b</sup>Employee numbers are approximations.

<sup>c</sup>This employment figure relates to the 4 companies that had left South Africa as of March 29, 1988. Employment data for the other 6 companies are not available yet.

<sup>d</sup>This employment figure relates to the 156 companies that had left South Africa as of March 29, 1988. Employment data for the other 6 companies are not available yet.

Source: Investor Responsibility Research Center.

According to the Investor Responsibility Research Center, the number of employees working for U.S. companies in South Africa dropped to about 82,940 as of February 1988.

## Case Studies of Corporate Withdrawal

The principal methods that U.S. companies have used to withdraw from South Africa are (1) closing down their operations, (2) selling the company to local management, (3) selling the company to a South African company, (4) selling the company to a non-South African company, and (5) transferring the company assets to a trust fund.

The five U.S. companies we use as case studies of U.S. corporate withdrawal from South Africa are The Coca-Cola Company, Eastman Kodak Company, International Business Machines Corporation, Marriott Corporation, and Sara Lee Corporation. All five companies completed their withdrawals, using different methods, between October 1986 and June 1987. The case studies are presented in depth in our report SOUTH AFRICA: Trends in Trade, Lending, and Investment (GAO/NSIAD-88-165) and are summarized below.

## Reasons for Withdrawal

The reasons most cited for withdrawing from South Africa were (1) forecasts of decreased business opportunities there and (2) selective purchasing laws by state and local governments in the United States that penalize firms doing business with South Africa when government contracts are awarded.

Three of the five companies said their South African operations were meeting both profit and volume goals, the fourth had met profit but not volume goals, and the fifth had met neither profit nor volume goals.

While only one of the companies said that its South African operations had been unprofitable in the years prior to the decision to withdraw, four companies cited business reasons, primarily the forecasting of decreased business opportunities, for their decisions.

There may be a legal incentive to cite business reasons for withdrawing. According to an attorney employed by one of our case study firms, a company could be subject to a shareholder suit if it acknowledged other than sound business reasons for its withdrawal from South Africa. This could be an incentive for companies to under-emphasize the effect of political pressures and over-emphasize the business considerations for their decisions.

Three companies gave specific examples of selective purchasing laws imposed by municipalities which influenced their decisions, while two others said that such laws did not affect them since they relied on distributors to market their products in the municipalities instead of doing it themselves and therefore did not run into conflict with the laws.

Shareholder actions, the President's Executive Order of 1985, and passage of the Comprehensive Anti-Apartheid Act appeared to be less significant to the companies' decisions to withdraw. There was, however, one strong exception, where pressure from stockholders was identified as the principle reason for the decision.

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## Implementation of the Withdrawal

An important consideration for the companies in implementing their withdrawal decisions was the dual currency rate instituted by the South African government to stem the outflow of capital: (1) the commercial rand rate, used for repatriating dividends and profits and for conducting trade and (2) the financial rand rate, used for lending, investing, and disinvesting in South Africa. The financial rate is less advantageous because it has a lower rate of exchange.

Two companies were able to structure their withdrawal transactions so that complete or partial payments were made in the form of dividends or consulting fees, which could be repatriated at the commercial rand rate. These companies have largely removed the proceeds from the asset sales from South Africa. Other companies have used or plan to use the proceeds of their withdrawal transactions within South Africa to avoid withdrawing their money from South Africa at the less favorable financial rand rate.

In one case, the U.S. company closed down its South African subsidiary and its assets there were generally sold off to the highest bidders, which often meant very low prices. Most of its assets were sold to white South African companies or investors. One sizable portion of its operations was purchased by a white South African company in the same business, which now operates the facility.

A second U.S. company sold its assets to the local management of its subsidiary's South African branch operations. The U.S. company does not plan to remove the proceeds of the sale from South Africa but to use them for its ongoing social responsibility commitments in South Africa or to pay for miscellaneous services performed for it within South Africa. The principal act of disinvestment for this company was the shutting down of its plant in South Africa, which manufactured components used by others to produce a final product. The company then opened a similar plant in Swaziland, which now supplies these components to the South African producers.

A third U.S. company sold its two South African operations to two different South African companies. The smaller of the two operations was sold to a white-owned South African company in the same business. The larger operation involved a contract to supply a service to a South African government company, which bought back the contract rights and purchased some of the U.S. company's assets, thus releasing the U.S. company from its commitment.

A fourth U.S. company sold its South African operation, through an investment firm in London, to British investors. The British investors are passive owners and the company is run by its own management, which has been left intact since the sale. The British investor company is white-owned.

In the final case, an offshore trust fund was established which became the owner of a newly independent company. The trust was to pay the purchase price plus interest to the U.S. company over a 10-year period; however the U.S. company has been completely paid off earlier than expected. The newly formed independent company is composed of all the former employees of the U.S. company's subsidiary.

Three of the five companies told us that they retained no option to repurchase their assets or business in South Africa. One company that did retain this option has not formally defined the circumstances under which it might repurchase the assets. However, we were told that the

company's board of directors has decided that a repurchase would require the removal of apartheid or involve circumstances in South Africa satisfactory to the U.S. government. The fifth company was unwilling to provide this information.

Concern for employees and doing what was best for business, which often resulted in selling to the highest bidder, were most often cited as the reasons why each company chose its particular method of withdrawal. For two companies sold as going concerns, the sale price was below book value in one case and at book value in a second. A third company, which closed down its operations, sold off its assets at what it described as "firesale prices." The fourth company's selling price was greater than book value. The fifth company, which sold its South Africa operations to local management, was unwilling to say whether the sale price was above or below book value. One company stressed that its choice of withdrawal method was driven by a concern for the interests of its existing customers.

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### **Business Relationships After Withdrawal**

Four of the five companies have maintained some relationship with successor companies in South Africa. Royalty fees for the use of trademarks or ongoing consulting services have been maintained in three cases. In one case, a newly formed independent company became the sole approved consignee of the U.S. company's products in South Africa.

Another U.S. company signed a contract with the newly formed independent company to supply marketing and advertising services for the U.S. company in South Africa. In effect, the same people will be providing these same services for the U.S. company as before the withdrawal, but now they work for the independent company rather than the U.S. company. Additionally, components used in the final product which were previously supplied from a plant in South Africa are now supplied to this company's South African customers from a newly built plant in Swaziland. The South African plant was shut down as part of the disinvestment.

In all five case studies, the products or services the U.S. companies were selling were not covered by sanctions. In three of the four cases where there were company products, there has been no change in the availability of the products as a result of the companies' withdrawals. In a fourth case, the only instance in which the company closed its operation in

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South Africa and severed all business relationships, the product is available through third parties, though not with the company's approval. The fifth company provides a service, not a product.

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## Employment Impact

The five U.S. companies had a combined workforce in South Africa of about 2,800 at the time of their withdrawals, of which roughly 45 percent, or about 1,270, were non-white. There were some lost jobs due to the companies' withdrawals. Most of the lost jobs occurred in the company which simply shut down its South African operations. According to company officials, about 30 percent of the non-white employees, or approximately 85 persons, lost jobs. A second company was unable to provide a racial breakdown of the 30 persons whose jobs were terminated. A third company provided continued employment for all of the previous employees. While no direct information was available for the remaining two companies, officials assumed that the new employers kept the existing workforce.

Based on interviews with disinvesting companies for our case studies, to the extent that U.S. companies sell their South African operations intact, the new owners apparently continue to operate the business with the same workforce. The impact on black employment consequently is minimal. However, when a company simply shuts its doors, there is an adverse employment impact.

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## Status as Sullivan Signatories

All five U.S. parent companies were Sullivan Principle signatories.<sup>2</sup> The Sullivan Principles comprise a voluntary business code of social responsibility for companies doing business in South Africa. In 1986 there were 165 U.S. signatories of the Sullivan Principles but this number dropped by about 45 percent in 1987, principally due to U.S. disinvestment. As of October 30, 1987, there were 90 U.S. signatories.

According to the 11th Report of the Signatory Companies, only one U.S. subsidiary that was sold to a non-U.S. owner between 1986 and 1987 continued on as a signatory. None of the successors to the companies in our case studies continued as signatories. Two of the four companies which had successor companies in South Africa negotiated Sullivan-type obligations with the new owners, while two did not.

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<sup>2</sup>Reverend Leon Sullivan ended his participation in the Sullivan Principle process in 1987; consequently they are now formally referred to as the Statement of Principles for South Africa. The signatories continue to follow the same code of principles. Arthur D. Little, Inc., continues to evaluate the signatories' performance in South Africa consistent with the standards of prior years.

Each of the five case study companies cited social or educational programs that they had funded in the black community prior to their withdrawal. They have essentially continued to honor any funding commitments that extended beyond the dates of their withdrawals but are making no new commitments. In particular, two of the companies had established large funds, totaling \$15 million and \$10 million, respectively, to which they will continue to contribute through 1989 and 1990. A third company will honor certain commitments through 1988 but has ended any other funding. The remaining two companies have terminated programs they had previously supported.



# Strategic Minerals

South Africa is rich in mineral wealth and the United States has long imported significant amounts of these strategic minerals for domestic use. South Africa is an extremely efficient and reliable supplier of these minerals. With several important exceptions, however, it appears from U.S. Bureau of Mines analyses and information that there are present or potential alternative suppliers of most of these minerals, although at a higher cost, if South African minerals became unavailable. Industry users believe the Bureau's assessment is overly optimistic.

This chapter summarizes the information presented in our report STRATEGIC MINERALS: Extent of U.S. Reliance on South Africa (GAO/NSIAD-88-201) June 1988, and provides additional information.

## Background

Section 303 of the Comprehensive Anti-Apartheid Act prohibits imports from parastatal organizations (corporations or partnerships owned, controlled, or subsidized by the South African government) but exempts strategic minerals for which the President has certified that "quantities essential for the economy or defense of the United States are unavailable from reliable and secure suppliers." On February 11, 1987, the Department of State certified 10 such strategic minerals and published them in the Federal Register. These minerals, hereinafter referred to as the "certified minerals," are

1. andalusite,
2. antimony,
3. asbestos, chrysotile,
4. chromium (including ferrochromium),
5. cobalt,
6. industrial diamonds (natural),
7. manganese (including ferromanganese and ferrosilicomanganese),
8. platinum-group metals,
9. rutile (including titanium-bearing slag), and
10. vanadium (including ferrovandium).

In preparing this list of 10 strategic minerals, State considered several factors, including (1) whether the absence of the specified minerals would adversely affect the peacetime economy of the United States, its competitiveness, or its defense, and (2) whether the minerals are available in sufficient quantities from alternative reliable and secure suppliers. The Soviet Union and the Eastern European bloc were not considered to be reliable and secure suppliers within the meaning of the act.

Section 303 applies only to imports of strategic minerals from parastatals. According to State officials, both at the time of State's certification and as of August 1988, however, there are no known imports to the United States of any of the 10 certified minerals from parastatals. Rather, these minerals have been imported from private South African organizations not covered by the act's sanctions. The original certification was made in the event of South Africa exporting to the U.S. through parastatals. Since State's certification, the list has become the basis for public debate on which South African minerals could be put under any future sanction without adversely affecting the United States. As noted earlier, the House has passed a bill, H.R. 1580, that would, among other measures, prohibit all imports from South Africa except strategic minerals certified as exempt from the sanctions by the President.

## Extent of U.S. Dependence on South African Strategic Minerals

South Africa is a major world producer of strategic minerals. In 1986, it led the world in the quantities mined for 3 of the 10 certified minerals, (chromium, rutile, and vanadium) and ranked second in 2 others (manganese and platinum-group metals). South Africa also contains the largest reserve base (minerals in the ground that are currently or potentially economical to mine) for 4 of the 10 minerals (chromium, manganese, platinum-group metals, and vanadium), including 84 percent of the world reserve base for chromium and 89 percent for the platinum-group metals. According to a U.S. Bureau of Mines mineral specialist, South Africa is also believed to rank first in world production and reserve base for andalusite, but comprehensive worldwide data on andalusite are not available.

The extent of South Africa's role as a supplier of the certified minerals to the United States has varied over the past 5 years. (See table 5.1.) Between 1983 and 1987, the percent of U.S. imports of platinum-group metals and rutile from South Africa increased significantly and the percent of imports of chromium and manganese first increased and then declined, with 1987 imports somewhat higher than 1983 imports. South Africa has been the sole U.S. supplier of andalusite throughout the period. Import statistics for vanadium, which show a large increase in the percentage from South Africa between 1983 and 1984, do not represent a sudden increase in the demand for the mineral. It reflects irregular shipments to the United States prior to 1984 rather than a sudden surge in U.S. imports from South Africa.

Antimony, chrysotile asbestos, and industrial diamond imports from South Africa decreased as a percent of total U.S. imports of these minerals between 1983 and 1987. Direct imports of industrial diamonds have virtually ceased, with the United States importing most industrial diamonds from countries that serve as transshipment and marketing points for diamonds mined elsewhere. Imports of antimony fell by 50 percent. South Africa provided almost no cobalt to the United States throughout the period, but generally more than half of U.S. imports, which came from Zaire and Zambia, were shipped through South Africa.

**Table 5.1: Selected Statistical Information on South African Strategic Minerals**

Figures in percent

Mineral	South Africa's Proportion of					World Mine Production (1986)	Current World Reserve Base
	U.S. Imports for Consumption						
	1983	1984	1985	1986	1987		
Andalusite	(a)	100	100	100	100	(b)	(c)
Antimony	28	30	14	19	14	13	5
Asbestos, chrysotile	6	7	8	4	4	2	1
Chromium	56	62	64	62	58	34	84
Cobalt	1	1	2	(d)	1	1	(e)
Diamonds, industrial	21	18	10	9	(d)	11(f)	8
Manganese	22	25	26	29	27	17	74
Platinum-group metals	38	42	46	43	46	46	89
Rutile	17	27	49	58	56	44	17(g)
Vanadium	4	40	34	37	34	53	47

<sup>a</sup>Withheld to avoid disclosing company proprietary data.

<sup>b</sup>There are no comprehensive worldwide data on andalusite. The two largest producers are South Africa, with estimated 1986 mine production of 203,900 short tons, and France, with estimated production of 57,300 short tons.

<sup>c</sup>South Africa has known reserves of 56 million short tons.

<sup>d</sup>Less than one-half of 1 percent.

<sup>e</sup>Data unavailable, yet described by a Bureau of Mines specialist as negligible.

<sup>f</sup>Natural industrial diamonds only.

<sup>g</sup>Includes rutile and ilmenite suitable for making rutile substitutes.

One major alternative producer of strategic minerals is the Soviet Union. The Soviet Union is not now nor has it been a major supplier to the United States of any of the 10 minerals since at least 1983. The United States has imported no andalusite, chrysotile asbestos, cobalt, manganese, rutile, or vanadium from the Soviet Union since 1983 and has

imported only a small percentage of antimony, chromium, and industrial diamonds in any one year. In 1987, the Soviet Union provided 10 percent of U.S. imports of platinum-group metals, down from a 5-year high of 13 percent in 1983.

## Alternatives to South African Strategic Minerals

Except for two of the platinum-group metals (platinum and rhodium), a specific type of industrial diamond and grade of chrysotile asbestos, and andalusite, alternative supply sources exist for the certified strategic minerals imported from South Africa according to Bureau of Mines data and to officials of the Bureau and Commerce and Defense Departments. The other minerals could remain available to the United States in the case of a U.S. unilateral embargo, although, according to a recently issued Bureau of Mines report<sup>1</sup> there would probably be supply disruptions and increased economic cost to the United States.

The Bureau of Mines report estimates the economic impact of a U.S. import embargo on 6 of the 10 certified minerals<sup>2</sup> and concludes that there are sufficient alternative sources for manganese, chromium, palladium (one of the principal platinum-group metals), titanium (rutile) and vanadium to meet U.S. industrial demand in the event of an embargo, but not for platinum and rhodium (two other platinum-group metals). The report also states that cobalt supplies would remain available with the use of alternative routes for transporting cobalt from Zaire, the U.S. principal supplier. Cobalt from Zaire and Zambia is presently shipped via South African rail to South African ports for export.

The report estimates the 5-year cumulative direct economic cost of a U.S. embargo on South Africa for the six minerals at \$9.25 billion, or \$1.85 billion annually. These direct economic costs include higher prices paid by U.S. consumers for the minerals, reduced consumption of the minerals or the use of substitutes, and resources spent developing low-grade domestic ores or using more expensive recovery techniques.

<sup>1</sup>Estimated Direct Economic Impacts of a U.S. Import Embargo on Strategic and Critical Minerals Produced in South Africa, Bureau of Mines, OFR 19-88, Jan. 1988. The report estimates only the direct economic impact of an embargo and not the indirect effect on the U.S. gross national product.

<sup>2</sup>The impact analysis is made for the years 1988-92, and among its major assumptions are that (1) the United States does not import strategic minerals that were mined in, refined in, or transported through South Africa, including South African minerals processed in other countries, (2) the embargo is unilateral, i.e., South African minerals will remain available to other countries, (3) non-South African supplies of the embargoed materials that were formerly exported to countries other than the United States can be made available to the United States, and (4) releases of strategic minerals from the National Defense Stockpile will not be considered.

We discussed the Bureau of Mines report with U.S. industrial users of strategic minerals. Their general reaction, especially regarding chromium, was that the report understated the economic costs of an embargo and overstated the ability of other mineral-producing nations to replace South African exports to the United States.

Representatives of the U.S. specialty steel industry, the largest consumer of ferrochromium in the United States, have strongly disagreed with the conclusion of the Bureau of Mines study that chromium exports to the United States could "continue uninterrupted" in the case of an embargo on South African chromium. They emphasize that any trade pattern adjustments would take 3 to 5 years, as alternative ferrochromium production capacities are not now available. Additionally, the industry questions the cost analysis of the Bureau of Mines study, which had estimated that the 5-year cumulative cost to the United States of an embargo on South African chromium would be \$150 million. The industry notes that the current price of contained chromium is significantly higher than the \$0.45 per pound price used by the Bureau of Mines in its model (to which a 15-percent premium was applied to estimate the cost impact). Ferrochromium is now selling at \$0.67 to \$0.71 per pound under long-term contracts and over \$1 per pound on the spot market.

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## Platinum-Group Metals

The platinum-group metals (PGMs) include platinum, palladium, rhodium, ruthenium, iridium, and osmium, with the first three accounting for about 95 percent of U.S. domestic PGM consumption from 1984 to 1986. The PGMs have several extraordinary properties, such as chemical inertness and excellent catalytic activity. Between 1984 and 1986, about 40 percent of domestic U.S. consumption of PGMs was used in the production of automobile catalytic converters, with other major U.S. uses in petroleum refining, chemical production, and the electronics industry. Presently there are no feasible substitutes for PGMs in most catalytic applications.

According to the Bureau of Mines report, rhodium and platinum alone account for 94 percent of the cost of a U.S. embargo on South African minerals. The few available alternative suppliers of rhodium and platinum are unable to meet U.S. import needs. In 1986, the Soviet Union and South Africa accounted for 49 and 46 percent, respectively, of the world's mine production of PGMs. However, South Africa alone holds 89 percent of the world's reserve base of PGMs. The Soviet Union has virtually all the remainder. A U.S. embargo on South African PGMs would inevitably result in an increased dependence on the Soviet Union as a

replacement supplier. No such shortage was predicted for palladium, as domestic supply, recycling, and increased U.S. imports from alternative suppliers, primarily the Soviet Union, were seen to be able to offset a loss of South African palladium supplies.

Representatives of the U.S. automobile industry told us that private economic stockpiling might help in the short term and that recycling was a potentially important source of PGMS for the longer term, albeit insufficient to replace South African supplies.

A representative of the petroleum refining industry, which uses platinum and palladium as catalysts in making gasoline and jet and diesel fuel, said that the industry recycles almost all of its PGMS, therefore its demand for these metals is low.

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## State Certification of Strategic Minerals

As previously noted, the State Department certified 10 South African minerals as being exempt from sanction under section 303 of the act, which prohibits imports from parastatals but exempts strategic minerals for which the President has certified that “quantities essential for the economy or defense of the United States are unavailable from reliable and secure suppliers.” State based its certification on the factors discussed at the beginning of this chapter. One of these factors—whether the absence of the mineral would affect U.S. competitiveness—was a principal basis for State’s certification of half of the minerals—that is, andalusite, antimony, manganese, rutile, and vanadium. The certification basis for the other minerals was either the unavailability of alternative sources or the need to transport minerals produced in other countries through South Africa. For those minerals certified on the basis of competitiveness, State concluded that U.S. users would have to pay higher prices to replace the South Africa supply, thus adversely affecting U.S. competitiveness. State did not develop specific standards to determine how much of an increase in cost constituted a threshold beyond which there was an unacceptable adverse effect on U.S. competitiveness.

At the time State made its certification, it did not have cost estimates of the economic impact of a U.S. embargo on any of the certified minerals. State subsequently requested the Bureau of Mines to undertake an economic impact study, the results of which are summarized earlier in this chapter. The Bureau of Mines report contains detailed cost data which could prove helpful in assessing the effects of an embargo on competitiveness. The Bureau’s report addresses 6 of the 10 certified minerals.

Bureau officials told us that the other 4 certified minerals—antimony, andalusite, industrial diamonds and chrysotile asbestos—were not addressed because they believed the economic impact of a U.S. embargo would be very small. However, State's certification of 3 of these 4 minerals is based primarily on the competitiveness criteria or the dependence on South Africa for the transport of a mineral mined in Zimbabwe. Certification of the fourth mineral—industrial diamonds—is based on the unavailability of a particular form of industrial diamond, type II-B, which has a unique defense application and is produced in a single mine in the world, which is in South Africa.

South Africa has 1 percent of the world reserve base of chrysotile asbestos and supplied only 4 percent of U.S. imports of chrysotile asbestos in 1987. Chrysotile asbestos was certified because a special grade is presently mined only in Zimbabwe and exported via South Africa. However, the volume of this special grade of asbestos that the United States obtains from Zimbabwe is very small, about 9 tons in 1987, valued at \$21,500. The Bureau of Mines report indicated that Zairian cobalt could remain available to the United States if transported by air, and this also appears to be a possible approach for transporting Zimbabwe's chrysotile asbestos.

Antimony imports from South Africa accounted for only 14 percent of total U.S. antimony imports in 1987. China was the principal U.S. supplier in 1987, with 41 percent of U.S. imports. The most recent data show that China accounted for 26 percent of 1986 world mine production, Bolivia 18 percent, and South Africa 13 percent. State's justification for certifying antimony acknowledges China's role as a principal supplier and identifies several other alternative suppliers but states that using these other suppliers "would impose significantly higher costs and competitive disadvantages." State, however, has not quantified the cost.

South Africa is the world's predominant producer of andalusite, the fourth mineral not discussed in the Bureau of Mines report. Andalusite is used to make the temperature-resistant linings of blast furnaces, producing linings that do not expand and contract as much as those made with bauxites or clays. Andalusite has been increasingly used by the U.S. blast furnace industry since about 1983, supplanting the use of bauxites and clays. Only about 8 to 10 U.S. companies use andalusite.

U.S. users and traders told us that if andalusite became unavailable, the U.S. refractory industry, which produces these linings, could return to using bauxites and clays, though some increased cost would be incurred.

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State's justification discusses the use of bauxite as a substitute for andalusite but concludes that no alternative to South African andalusite exists "which is technically equivalent and available at a comparable price." No further evidence is provided to support State's conclusion that andalusite is essential to the competitive health of the U.S. refractory industry.

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## Conclusion

Because new information has become available since the time of State's original certification of the 10 strategic minerals, the certification list may no longer be current. After State's original certification, the Bureau of Mines provided data on the cost of a U.S. embargo on six of the minerals but did not address the other four because its analysts believed the economic effects of a U.S. embargo on these minerals would be small. In addition, our analysis raised some questions about the certification of three of the four (chrysotile asbestos, antimony, and andalusite).

Questions about the certification have not created problems under the act because there have been no known imports of any of the 10 minerals from South African parastatals. However, new legislation under consideration by the Congress would also require certification. Because of more recent information, any new list of certified minerals could differ from the original list prepared by State.







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