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SOUTHERN AFRICA: ECONOMIC STRUCTURE, TRADE, AND REGIONAL INTEGRATION

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Southern Africa: Economic Structure, Trade, and Regional Integration

Abstract

The view of many multilateral and bilateral organizations is that the best development strategy is to eliminate economic distortions, open to world markets, reduce government intervention in markets, and provide an enabling environment of macroeconomic stability. Trade liberalization is a crucial part of the recommended strategy. Given that this view is based largely on the experience of semi-industrial countries, an important question is: How well does the view apply to countries in Southern Africa? To address this question, we must first compare the countries of Southern Africa with other developing countries in terms of: level of development, structure of production and employment, structure of demand, and level and structure of international trade.

To make these comparisons, the paper uses two methodological approaches to establish comparator "norms". First, we draw on cross-country regression analysis by Chenery and Syrquin, who established normal patterns of development. These are used to compare the structures of production, employment, demand, and trade of South Africa and other Southern African economies with international norms. Second, a gravity model of bilateral trade is used to predict "normal" trade patterns in the Southern Africa region. These estimates are contrasted to both historical and current trade patterns in the region.

The empirical comparisons with Chenery-Syrquin patterns suggest that South Africa is highly dualistic and can be viewed as an amalgamation of a country such as Portugal with an African country such as Cameroon, and that the other countries of the Southern Africa region, by contrast, are significantly poorer, more agricultural, and characterized by very large productivity differences between the agricultural and non-agricultural sectors. The results of the gravity model show that past and current intra-Southern African trade is somewhat above what would be expected, based on the experience of other countries. Compared with other regional trading arrangements around the world, there is potential scope for increasing trade through regional integration in Southern Africa. South Africa is a large enough economy and potential trading partner to provide the economic anchor of a regional trading bloc.

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Introduction

The countries of Southern Africa are entering a new economic and political future.[1] Minority rule in South Africa ended with the first democratic elections in April of 1994. More representative forms of government are also being adopted in other Southern African countries, They are also seeking closer economic relations with the world economy, as well as with one another, under the Southern African Development Community (SADC). With the formal abolition of apartheid and the lifting of international economic sanctions, the SADC countries expect that South Africa's trade links with its neighbors will strengthen and wider links will deepen through labor migration and the movement of capital. The hope is that South Africa can become the new engine of growth for the region.

Many of the other Southern African governments have recently initiated extensive economic reform programs, including macroeconomic stabilization and structural adjustment programs, in response to chronic external imbalances, slow — or often even negative — economic growth, and declining agricultural productivity and export performance. Trade, as well as other macroeconomic and sectoral policy reforms, are important elements of these structural adjustment programs. General trade liberalization, however, is still regarded with some reservation in much of the region. Despite the checkered history of regional arrangements among developing countries (Langhammer and Hiemenz 1990, de Melo and Panagariya 1992), many policymakers in the region have shown considerable interest in the possibilities for regional economic cooperation in Southern Africa under the SADC, the Common Market for Eastern and Southern Africa (COMESA —formerly, the Preferential Trading Arrangement), or some new cooperative organization in the region. For South Africa, national interests are paramount, while regional issues are secondary and will probably remain so. Regional integration will proceed only if all the countries see it as in their interests.

The view of many multi- and bilateral organizations is that deregulating domestic markets and opening to world markets through trade liberalization are necessary components of a successful development strategy. The role of government is to create an enabling environment of macroeconomic stability and minimal government intervention in markets. Trade liberalization is a crucial part of this strategy at the national level. Increased global trade liberalization is seen to provide market access and a supportive world market environment for developing countries. Regional trading arrangements are viewed suspiciously. They are only potentially beneficial to their members and, it is argued, may distract policy attention away from achieving more beneficial global liberalization.

Arguments are often made that market liberalization is sufficient to ensure economic success. There is active debate, however, on the role of governments in economic performance.

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[1]Southern Africa is composed of 11 countries. Angola, Zambia, Malawi and Tanzania comprise the region's northern tier; Namibia, Botswana, Zimbabwe, and Mozambique its mid-section; and South Africa, Lesotho and Swaziland its southern tier.

In this context, the example of the East Asian countries is frequently used and cited. The applicability of elements of this model of development to Southern Africa is open to debate.

Given that the recommendations of multilateral and bilateral organizations are largely based on comparisons with the experience of semi-industrial countries, how well do they apply to countries in Southern Africa? In basing recommendations on comparative experience, it is important to understand how these countries compare to international "norms". Do their current levels of development and economic structure permit the successful implementation of the consensus development strategy? More research is required to explore different mixes of necessary and sufficient conditions for successful development in countries with very large and very poor agricultural sectors, and very low levels of human capital for a large share of the labor force.

Other pertinent questions for research in the Southern Africa region: How does the current role of trade compare with other developing countries? Assuming that trade expansion is desirable, does regional integration provide enough scope for market expansion to support trade-led growth? If not, where are the markets? Europe? India? Asia?

This paper provides an initial step in this comparative analysis. We first present some basic economic and trade data for the eleven countries in Southern Africa. We next compare the structures of these economies to international norms established by Chenery and Syrquin, who pioneered the econometric study of patterns of development and the process of structural transformation that characterizes modern economic growth.[2] Third, we analyze the pattern of trade, including agricultural trade, in the region. We contrast total trade to estimates of an expected or normal pattern of trade that would be predicted by a gravity model. Fourth, we consider the potential effect of regional integration. Finally, we conclude with a brief discussion of future research directions.

Southern Africa and International Comparators

Basic data for the region

With only a few exceptions, during the past decade economic growth in Southern Africa, as well as in much of Sub-Saharan Africa, has been poor relative to the rest of the world. Whereas the high-income economies grew at an average rate of 2.9 percent per year in the period 1980-93, and the low- and middle-income countries at an average rate of 3.3 percent per year in the same period, Southern Africa (including South Africa) grew at 2.6 percent per year (Table 1). In *per capita* terms, this means that economic growth was negative in several countries of the

[2]Chenery and Syrquin (1975) and Syrquin and Chenery (1988). The 1988 study uses the same approach as the original econometric study, but extends the time period from 1970 to 1983. Kuznets (1966) coined the phrase "modern economic growth" and is the godfather of this type of comparative analysis.

Southern Africa region, and only about 0.2 percent per year for the region as a whole (compared to 1.2 percent per year for the world economy and 1.0 percent per year for the developing countries). This poor economic record of the 1980s coined the epitaph of "the lost decade" for Southern Africa, and indeed for Sub-Saharan Africa, in general.

As mainly exporters —to international markets— of agricultural and other primary commodities, the Southern African countries have witnessed considerable deterioration in their external terms of trade during the past two decades. In the minds of many, the adversities of the international environment, coupled with structural impediments such as weak or inadequate physical and social infrastructure, bear much of the blame for the dismal economic growth and weak export performance in these countries. Other views for the poor development record in Sub-Saharan Africa emphasize the equal, if not greater, importance of domestic economic policies, including highly restrictive trade policies, that have contributed to misguiding the allocation of primary and other resources in these countries, and to impairing the ability to adjust to new economic circumstances in the world economy (DeRosa 1992).

As elsewhere in Sub-Saharan Africa, in the Southern African countries all economic sectors have been the object of considerable intervention by governments. Measures directed at sectors were justified on grounds of national self-sufficiency. In the agricultural sectors, "food self-sufficiency" was the buzzword of the day; in industry, it was "import-substituting industrialization". In the agricultural sector, interventions involved both the direct taxation of export crops through monopolistic marketing boards that suppressed nominal producer prices, and governmental control of staple food markets via the operation of marketing parastatals. While taxation through direct sectoral interventions has been significant, the indirect taxation of the agricultural sector through exchange rate overvaluation has been equally, and in many cases more, important. In the broadest, macroeconomic sense, the interventions not only included overvalued exchange rates, but also high barriers to trade (specifically, tight restrictions on competitive imports) and distorted investment incentives.

Shared development philosophies notwithstanding, the sample of eleven countries in the region comprises an extremely heterogeneous group —especially since the Republic of South Africa is included— spanning an unusually wide spectrum of economic indicators (Table 2). For example, in 1993 GNP per capita in the region ranged from $US 90 in Mozambique and Tanzania to $US 2,980 in South Africa —a ratio of 1 to over 30 from poorest to richest nation. By contrast, NAFTA partners Mexico and U.S. have a GDP per capita ratio of about 1 to 10. In terms of absolute economic size, the range in the region is nearly 1 to more than 100, from smallest (Swaziland, with a GNP of $US 1.047 billion in 1993) to the largest (South Africa, with a GNP of $US 118 billion). Population sizes in the countries of the region range from 0.9 million (Swaziland in 1993) to nearly 40 million (South Africa, same year).

The countries in the region differ widely not only in economic and demographic aggregates, but also in sectoral structure. On the production side, for instance, agricultural value-added as a share of GDP was 5 percent in South Africa in 1993, while in Tanzania it was 60

percent (Table 3). The region is certainly heterogeneous, with countries that are rich and poor, large and small, and industrial and agricultural.

Sector-specific performance in the region has been mixed. Agricultural production in the region *has* seen an increase over the past three decades. Of the eleven Southern African countries, in the late 1980s only South Africa, and Zimbabwe have had the capacity to consistently export cereals to markets within the region. The manufacturing sector in the Southern Africa region has been minuscule by international standards and has exhibited only a few promising signs of growth. Total manufacturing value-added in the eleven countries *combined* is less than half of that in South Korea, and is about the same size as Finland (African Development Bank, 1993b).

Not surprisingly, within the regional economy, South Africa overshadows all sectors. Its agricultural sector in 1989, for instance, produced more than the combined total of the rest of the SADC countries for a number of basic agricultural products including maize, wheat, sunflower seed, and sugar. South Africa's agricultural exports in that year were about equal to total SADC agricultural exports (in 1988, $US 1.4 billion for the SADC countries, $US 1.46 for South Africa). South African exports of maize (the most important staple crop of the region), in a normal (non-drought) year, are about four times those of Zimbabwe, which is the second largest agricultural producer in the region.

In the manufacturing sector, South Africa, again, completely eclipses the region. Its manufacturing output is nearly seven times that of the rest of SADC region and more than ten times larger than that of the region's second largest manufacturer, Zimbabwe. In the early 1990s, South Africa accounted for 88 percent of total exports from the SADC countries (SADC, including South Africa). However, as a share of world manufactured exports, South Africa exports were only about 0.3 percent.

As a share of total GDP, however, manufacturing is as important to the economies of Zimbabwe (30% in 1993) and Zambia (23% in 1993) as it is to South Africa (23% in 1993) (Table 3). The relative prominence of the manufacturing sector in these countries is largely the result of import-substituting industrialization policies over a period of roughly three decades. According the African Development Bank (1993b, p. 13), the consequence of these policies has been to create similar industrial structures within all of the Southern African countries, with a heavy concentration on consumer goods, notably foodstuffs, clothing, and textiles.

The manufacturing sectors of the SACU (South African Customs Union) countries of Botswana, Lesotho, Namibia, and Swaziland (commonly referred to as BLNS), on the other hand, are largely underdeveloped. In 1993, for example, manufacturing as a share of total GDP was 4, 16, and 9 percent (data for Swaziland are missing), respectively, and consisted mainly of small, consumer-oriented industries. In the view of many, the major constraint to the development of the manufacturing sectors in the BLNS countries has been the practical workings of the SACU agreement. In the past, with an imperious South Africa at the helm, the agreement

stipulated provisions that were specifically designed to protect South African industry from competition.[3] The dominance of a large and relatively sophisticated manufacturing sector in South Africa, and especially the extensive range of subsidies that maintained and expanded their domestic industries, has impeded more balanced development in the BNLS states. Sharing a high common external tariff with South Africa has, in this view, prevented the BNLS countries from importing intermediate and capital goods at competitive world prices.

However, none of the original signatories has yet seriously contemplated withdrawing from SACU. Despite persistent grumbling on the part of all of the BNLS countries that they are still not being adequately compensated by South Africa for the price-raising effect SACU's external tariff barrier, they realize that they benefit from membership in the customs union. For example, South Africa's superior capacity to collect tariff revenues on behalf of the BNLS countries is understood and appreciated.[4] The BNLS countries and new aspirants to SACU (Zambia and Malawi have applied for membership) look to the future with great hopes that SACU, under the leadership of a newly democratic South Africa, will generate further benefits, notably in the form of regional economies of scale.

Perhaps the most crucial feature of the region is its abundance of minerals. It is one of the most richly endowed mineral regions of the world. The region produces over 40 percent of world production of gold, diamonds, chrome, platinum, and cobalt; and over 10 percent of the world's production of uranium, granite, copper, manganese, zircon, and asbestos. South African mining output accounts for more than two-thirds of the region's total mineral production. The region's mineral wealth is important because it has been an important source of foreign exchange holdings, which had helped finance the import-substituting industrialization policies that have shaped the structures of some of the regional economies.

Chenery-Syrquin comparators

Inter-country comparisons are an important source for studying the association of changes in economic structure and the level of development. Initiated in a series of studies beginning in the 1950s, Simon Kuznets first established a number of empirical generalizations about long-term changes in economic structures, and showed that the association between the interrelated processes of change and levels of income found in the long-term experience of the industrialized countries could also be observed in a wider sample of countries. Chenery and Syrquin (1975) and Syrquin and Chenery (1988) — the partnership is henceforth cited as S-C—

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[3]Notably Articles 11 and 17, plus a formerly secret memorandum attached to the agreement which required that, before tariff protection could be considered, 60 percent of the quantitative requirements for all countries in the union would need to be met, and be of "high quality" (Mayer and Zarenda, 1994).

[4]The SACU countries have recently expressed their concern that a free trade agreement between the European Community and South Africa would have a devastating effect on their economies, by significantly reducing receipts from the Union pool.

extended Kuznets' general approach in an econometric study of over 100 countries. The processes they studied centered around those that were most likely to be included in a minimal definition of economic structural transformation: the accumulation of physical and human capital; and shifts in the composition of demand, trade, output, and factor use (Table 4). Figures 1, 2 and 3 illustrate graphically the relationships established by Syrquin and Chenery, between per capita incomes and imports/exports as a share of GDP, agricultural and non-agricultural value-added as a share of GDP and the share of total labor force employed in the agricultural and non-agricultural sectors, respectively. S-C's results present a view of economic transformation as a transition from an economic structure representative of low income levels to one typical of high income countries. They trace out a growth path for a "typical" or "normal" developing country, based on the experience of a wide sample of other countries.[5]

In the next section, we use S-C's 1988 typologies to compare features of Southern African countries with the experience of a large cross-section of developing countries. Certainly, unique historical forces have shaped each of the Southern African countries. The issue is not whether there is an immutable development path that all countries must follow, but how well do the eleven countries of the Southern Africa region fit the transformation norm as ascribed by Chenery and Syrquin.

South Africa compared to other middle-income countries

Structure of demand

The aggregate indicators for South Africa lie well within the "normal" range according to Syrquin and Chenery, but aggregation masks starkly differentiated, dualistic, and unequal structures. South Africa has a per capita income of around $US 2,980 per year in 1993 —the highest of any country in Sub-Saharan Africa. If one assumes that black South Africans have per capita incomes roughly comparable to a range of Sub-Saharan African countries (we use Zimbabwe, Kenya, and as middle-income countries, Côte d'Ivoire and Cameroon), then average "white" (*i.e.* non-black) South African incomes are similar to those in New Zealand or Portugal (Table 5).

South Africa's structures of production and demand resemble that of the countries at the higher end of the middle-income spectrum (*e.g.* Spain in Table 6). Its per capita income is relatively low, but its structural features resemble those of more prosperous countries. Its agricultural share is much lower than countries at comparable income level, while its share of exports in GDP are much higher (see Figures 4 and 5)[6]. Its investment share has declined

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[5]See Chenery, Robinson, and Syrquin (1986), chapter 3.

[6] However, if one breaks up the Syrquin-Chenery sample of countries into "large" (more than 60 million inhabitants) and "small" (less than 6 million inhabitants), then South Africa (with a population of roughly 40

dramatically since 1970, from above to below that of comparator countries (Figure 6).

Although interracial income inequalities have diminished in recent years, declining labor absorption and continued high labor force growth rates have dampened per capita income gains. An estimate in the early 1990s puts 44.8 percent of the overall South African population below the poverty line; less than 50 percent of the labor force has formal sector jobs. In 1987, per capita incomes of whites were, on average, 9.5 times higher than those of blacks. The white share of property incomes was around 75 percent. Gini coefficients for South Africa are among the highest in the world —0.69 for aggregate income in 1980, 0.82 for farm-land ownership in 1989, and a manufacturing sector Gini coefficient of 0.82 in 1982 (World Bank, 1994, p.7).

GDP growth rates in South Africa have been declining over the last thirty years, with a lot of annual variation, while unemployment has increased to unsustainable levels. Comparing to S-C norms, South Africa's level of gross domestic investment is low, at 15 percent of GDP in 1992, compared to a S-C norm of 25 percent for a country with a per capita income of $US (1980) 2,000 (Table 7 and Figure 6). South African GDP per capita in $US(1980) is 2,156 in 1993. However, declining growth seems not to have been the result of a decline in investment, but rather the result of the low productivity of these investments. In the 1980s, as economic decline became apparent, public investment attempted to compensate for the low productivity of private investment, but with an increasingly limited effect on productivity and growth.

South Africa's government consumption as a percentage of GDP has increased over the past twenty years. The average for the post-1973 period is 17 percent and the value for 1993 is 21 percent. As Figure 7 shows, the S-C norm is lower, at 14 percent of GDP. This elevated public consumption unfortunately did not translate into an expansion of public services to the majority of the population, but rather improved the quantity and quality of services to the white minority.

For the thirty years leading up to the 1980s, South Africa's strategy of import-substituting industrialization also reflected a devotion to protectionism with instruments that included quotas, tariffs, exchange controls, and subsidies. The international sanctions against South Africa simply provided further justification for maintaining protection. South Africa was not immune to the Dutch Disease that characteristically affects economies with strong primary export sectors, which should lead to overvaluation and more imports. However, in South Africa, "... a comparatively high valuation of the currency was countered by intensified protection of domestic industry against low-cost imports..." (World Bank, 1994). By S-C estimates, a typical country with a per capita income of $US(1980) 2,000 imports 27 percent of GDP; while South Africa in 1992 imported 20 percent. South African imports are 26 percent less than would be expected (see Figure 8).

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million) exports less than most small countries, but more than the large countries of the sample (see Figure 5).

Structure of production

In 1993, South Africa's GDP was $US 106 billion (Table 2) or $US 75 billion in 1987 $US (Table 3), with roughly 50 percent of GDP derived from services, 44 percent from industry, 23 percent from manufacturing, 11 percent from mining, and 5 percent from agriculture.

In the early 1990s, the total value of South African agricultural production was approximately $US 7.2 billion, or about half as large as that of the entire SADC region. Employment in agriculture in 1990 was approximately equivalent to 761,000 full-time workers and accounted for about 10 percent of total wage employment (World Bank, 1994, p.ii). Nonetheless, compared to the S-C's norm, South Africa's agricultural sector is small —5 percent of GDP compared to 15 percent (see Figures 4 and 9). In Figure 9, the Syrquin-Chenery sample depicted in Figure 4 is broken up further, into four categories - depending on size (large vs. small (60 million vs. 6 million inhabitants) and trade orientation (primary vs. manufacturing exports). Even with the more detailed distinctions, South Africa's agricultural value-added as a share of GDP is lower than that of a comparable country, including that of one with a large manufacturing export sector. South Africa's compressed agricultural sector compares with those in countries such as Venezuela (see Table 6) —a country marked by similarly skewed land-ownership distribution.

South African manufacturing is in the normal range —23 percent of GDP in 1993 compared to S-C's 21 percent (Figure 10). Again, the comparison masks the fact that South Africa's export performance has been very poor. Despite generous and sustained subsidies to many of the export sectors, its share of world manufactured exports fell by more than half between 1955 and 1985, from 0.8 percent to 0.3 percent. During that same period, the value of aggregate world manufacturing exports grew by 11.3 percent per year, while the corresponding growth rate for South Africa was below 8 percent. More telling is the steep fall of South African exports as a share of total developing country manufacturing exports, from 12.6 percent in 1955 to under 2 percent in 1985 (World Bank, 1994, p.8). Some combination of Dutch Disease and sanctions probably explains this declining performance.

Mining still continues to weigh heavily in South Africa's total exports. Gold alone typically provides 30 to 50 percent of total merchandise exports. However, the figures vary considerably, given the extreme vagaries of world prices for gold, in particular, and minerals, in general.

Labor force composition

International comparisons suggest that South Africa's agricultural labor force, as a share of the total labor force, is very low, even compared to other countries in roughly the same category of economic development (*i.e.* upper middle-income countries). Compared to lower middle-income countries (like Côte d'Ivoire and Cameroon) the figures are, not surprisingly, even lower (the average share between 1980 and 1985 was 65 and 70 percent of the total labor

force for Côte d'Ivoire and Cameroon, respectively). By S-C standards, too, South Africa has a low agricultural labor share: 16 percent compared to an S-C norm of 38 percent (Table 7 and Figure 11). Whereas the low share of agriculture in total GDP is partly the result of the dominance of the mining sector, its low share in total employment is mainly the result of skewed land-ownership patterns and production activities dominated by land-extensive activities such as ranching, and large-scale, mechanized farming.

Comparative indicators for the Southern Africa region

Structure of demand

As Figures 7 and 12 show, the poorest countries of the region, Mozambique and Malawi, conform in broad terms to the S-C estimates of government consumption and private consumption for the comparator with a per capita income of less than $US 300 (1980 Dollars). These two countries deviate rather dramatically from the international norm, however, where imports relative to GDP are concerned. In both countries, imports are a much higher share than the S-C comparator: 75 percent (Mozambique in 1992) and 40 percent (Malawi, same year), compared to S-C's 21 percent.

Going up the range, the next country, Tanzania, with a per capita income of $US 311 in 1992 (1980 Dollars) or $US 90 in 1993 (current Dollars), also seriously deviates from the S-C comparator (with per capita income of around $US 300) on the import side: 58 percent of GDP, in contrast to a norm of 25 percent.[7] Another noticeable deviation is (gross domestic) investment as a share of GDP: Tanzania in 1992 had an investment share of 42 percent of GDP, which contrasts to a S-C norm of 18 percent of GDP (Figure 6).

Structure of production

South Africa's history of import-substituting industrialization and its dominance in the region's manufacturing sector could explain, on the one hand, South Africa's relatively small share of imports relative to GDP and, on the other hand, the other Southern African countries' high share of imports relative to GDP.[8] For example, in 1992, Mozambique's imports were 75 percent of GDP, compared to 21 percent for S-C norms (Figure 8). The BNLS countries, though routinely studied as a group, show quite a bit of variety in their individual structural features. Swaziland's imports in 1992 were 97 percent of GDP, in contrast to S-C's comparator of 26

[7]The enormous gap between real income in 1980 dollars and nominal income in 1993 dollars probably reflects exchange rate changes, as well as the trend decline in real income since 1985. The deflators are given in World Bank (1995).

[8]The import shares for the Southern African countries have risen over time, indicating that these countries were in fact following their own strategies of import substituting industrialization.

percent of GDP (for a country with per capita income of $US 1,000). The same numbers for Namibia are 64 percent versus 27 percent; Lesotho, 129 percent versus 25 percent.

Seen over time, several of the BNLS countries, especially, have experienced rapid structural transformation. Botswana's economy has seen a shift from the agricultural sector (from 33 percent of GDP in 1970 to 6 percent in 1993) to the industrial sector (28 percent of GDP in 1970 to 46 percent in 1993). However, as a resource-based economy, its industrial sector is dominated by mining. Manufacturing contributes a paltry 4 percent of GDP, down two percentage points compared to 1970. Lesotho, the poorest of the BNLS countries, has also undergone rapid structural transformation, maybe of a more substantial kind: the industrial sector has increased from 9 percent of GDP in 1970 to nearly half of GDP in 1993, while manufacturing has grown from 9 to 16 percent in the same time period.

Labor force composition

As Table 7 and Figure 11 show, all the countries in the region, with the single exception of South Africa, have higher shares of their labor forces in agriculture than the corresponding S-C norms. In many cases, the shares are much higher (*e.g.*, Tanzania, Lesotho, Swaziland, and Botswana). South Africa, on the other hand, has a low share: 16 percent compared to a S-C norm of 38 percent. The high agricultural labor shares also go with very high inequality in per labor value added between agriculture and non-agriculture in a number of countries. The Kuznets ratio is defined as per laborer value added in non-agriculture over that for agriculture. Figure 13 shows that for Mozambique, Malawi, Lesotho, Zambia, Zimbabwe, Swaziland, and Botswana, the Kuznets ratio is much higher than the S-C norms. The ratios are all two-digit numbers, ranging from 11 to 50, indicating enormous sectoral income inequality. For these countries, any successful development strategy must involve significant increases in agricultural productivity.

For Tanzania, Namibia, and South Africa, the Kuznets ratios are all 4, very close to their respective norms. The underlying reasons differ. Tanzania has a very large agricultural sector and a tiny manufacturing sector, while South Africa has a small, relatively prosperous, agricultural sector. Namibia also has a relatively small share of agriculture in GDP (15 percent, exactly equal to the S-C norm) and only a slightly higher agricultural share in labor force than the S-C norm (43 percent compared to a norm of 38 percent).

What the numbers on labor force composition in the eleven countries do *not* reveal, however, is the magnitudes of migrant labor flows in the region, with South Africa as the hub. In 1991, it is estimated that nearly a third of the total labor force in gold and coal mines owned by members of South Africa's Chamber of Mines came from the BNLS countries alone. Botswana represented 3.4 percent, Swaziland 4.1 percent, and Lesotho 24 percent; laborers from Namibia in South African mines are apparently not reported as migrant workers by the Chamber of Mines (Mayer and Zarenda, 1994).

The larger countries of the region (Zimbabwe and Zambia), which pursed import-

substituting industrialization, appear to have provided industrial employment opportunities that are not far from S-C norms. The smaller countries, such as the BNLS, that are geographically closer to South Africa and share common historical links provide much migrant labor to South Africa —indeed, they have been characterized as labor reserves for South Africa. They depart dramatically from S-C norms, with far higher shares of agricultural and correspondingly lower shares of industrial labor in their home markets.

Structure and Composition of Bilateral Trade in Southern Africa

Although the data on bilateral trade within the Southern African region are rather sketchy, the trade matrices (*i.e.* country I's trade with country j) do provide a few discernible trends. While the paucity of data for the developing countries of the region is understandable, it is a bit of a surprise to find that trade data for South Africa are also quite poor. During the sanctions era, trade data in South Africa were treated as classified information. Recently, in the era of "transparency", this information is slowly coming into the public domain.

In 1992, the countries of Southern Africa traded more than $US 4 billion with one another (Figure 14). The dominant traders in the region were South Africa and Zimbabwe, with nearly one half and one quarter, respectively, of total regional trade (Annex Table 1). Although South African trade within the region overshadows all other trade flows, its trade with the region still only amounts to 4 percent of its total trade (1992 figure). South Africa's exports to world markets are mainly commodities and primary products, while its exports to the Southern African countries are mainly consumer, intermediate, and capital goods (African Development Bank, 1993).

On the import side, South Africa's imports from the region constitute only 1.5 percent of its total import bill. Even so, South Africa's trade with the Southern Africa region is still nearly 1.8 times its recorded trade with the rest of Africa. From the trade matrices, it appears that over the period 1970 to 1992, regional trade in Southern Africa generally increased vis-a-vis the countries' trade with the rest of the world.[9] For example, in 1970, Zambia's regional exports were about 1.6 percent of its total exports, while the ratio doubled by 1992. Similarly, but more dramatically, Zimbabwe's regional exports were 3 percent of its total exports in 1970 and rose to 20 percent by 1992. Similar trends may be observed for the other countries of the region, with the notable exception of South Africa. In 1970, total South African regional exports were about 3 percent of its total exports, and fell to under one percent in 1992. This trend reflects the re-integration of South Africa, after an era of boycotts and sanctions, into the global trading community.

[9]In essence, the data only allow a "before and after" analysis. In the middle of the period (in the 1980s), the data are rather impressionistic, which is certainly understandable considering that the decade was marked by great turmoil.

On the import side, the regional trade matrices reveal a similar story. Over time, regional imports (*i.e.* the region's imports from the rest of the region) have become more important relative to the region's total imports. What is especially striking about the data is the rather dramatic turning point that appears to have come about in or around 1992. Whereas Zambia's regional imports were 2 percent of its total imports 1990, a mere two years later, in 1992, they were 29 percent of the total. Similarly, in Malawi, regional imports were 5 percent of total imports in 1990, and rose to 28 percent by 1992. The same pattern occurs in South African imports. In 1970, South Africa's regional imports were less than half a percent of its total imports, while in 1990 regional imports rose to 3 percent of total imports. However, in 1992, the last year for which bilateral Southern African data are available, South Africa's imports from the region were 1.5 percent of its total imports.

Bilateral trade agreements between South Africa and Malawi, and in the past, between South Africa and Zimbabwe, help explain the stability and continuity of trade relations of these particular partners. Under the agreement with Malawi, the Republic of South Africa allows imports of all goods produced in Malawi to enter its territory free of duty and import surcharge. For its part, Malawi grants preferential duties to imports of South African origin. Under the agreement with Zimbabwe, certain imports originating in Zimbabwe were given preferential access to South Africa and Zimbabwe granted reduced customs duties on a list of products imported from South Africa. Zimbabwe's preferential trade agreement with South Africa lapsed in 1992 and repeated efforts to renegotiate the pact have failed. Zimbabwe has repeatedly hinted at retaliatory actions against South Africa, ostensibly to protect its industries against South African imports.

Under the SACU agreement, the BNLS face a common external trade barrier together with South Africa. Although the written (and other secret) provisions of the agreement protected South Africa from competition from the member countries, in recent years, countries like Lesotho have increasingly circumvented the provisions by directly exporting to European and North American markets.

Trade composition

The largest trade flows in the region emanate to and from South Africa. The composition of trade from South Africa to the rest of the region is quite different from that to other regions of the world. South Africa's exports to the rest of the world are concentrated on primary commodities, while most of its exports to the countries in the region are consumer goods, notably food, beverages (beer and wine), clothing, and textiles. While the volumes of trade in the region has changed a lot over the past thirty years, its broad sectoral composition has not changed much.

Trade in the region appears to have a hierarchical structure. Trade volumes among the developing countries in the region are small, in absolute magnitudes, and consist largely of primary goods. The developing countries largely export to the more developed countries of the region, again mostly primary goods and some light manufactures. In the opposite direction,

exports from South Africa to the developing countries consist of a wide range of manufactures, including foodstuffs, beverages and tobacco, intermediates, machinery, and transport equipment. South Africa is also well endowed with raw materials and exports them to the poorer countries in the region.

In 1970, colonial Angola and Mozambique were trading manufactures with South Africa. Mozambique, for example, exported machinery and transport equipment to other countries in the region, as did Angola. The trade matrix for the region ten years later, in 1980, is simply too spotty to analyze; only in 1985 is the trade matrix for Southern Africa substantial enough to allow more detailed examination. Since 1970, trading partnerships have shifted to a certain extent. For example, Angola's historic trading relationship with Mozambique has all but disappeared; in 1985, its largest trading partner is Zimbabwe. Independence, insurrection, and war dramatically affected the structure of production and trade for Angola and Mozambique.

The economic boycott of South Africa is also reflected in the regional trade matrix for 1985. With the exception of Malawi and Zimbabwe, South Africa data were no longer presented in the region's trading statistics. For example, in the reported data, Zimbabwe replaced South Africa as Mozambique's largest trading partner in this period. Zambia evidently shifted its trade away from South Africa, and towards Zimbabwe. But mysteriously, Zimbabwe's largest trade partner in this time was South Africa! Malawi's trade with South Africa reached $US 1.1 billion in 1985. Trade diversion seems very much to have influenced the relationship between South Africa and Malawi.

Figures 15, 16, and 17 provide information on the direction of gross trade (exports plus imports) over time for Zimbabwe, Malawi, and Zambia, three countries for which there is reasonable time series information. The Zimbabwe data for 1975 and 1980 and Zambia for 1985 and 1990 do not include any information on trade with South Africa. The figures show that, for these countries, trade with South Africa has grown, although it is much less important than trade with the rest of the world. Trade with other Southern African countries is very small. While South Africa is clearly an important market to these countries, there is no apparent trend of expanding trade with other countries in the region.

Table 8 provides information on sectoral trade in the region for 1992. At the sectoral level, the export of maize in this period stands out. In 1992, maize exports into the region ranged between 0.1 and 6 percent (Malawi and Zimbabwe, respectively). As a percent of total bilateral trade, the figures are much higher: official maize exports to other countries in the region range from 3 percent (Angola to Zimbabwe) to 80 percent (Zambia to Malawi), in many cases dwarfing the exports of manufactured goods. These figures indicate the potential for trade to bridge agricultural production gaps, both surpluses and deficits, in the region.

By 1992, the latest year for which comprehensive data are available, the disrupted trade patterns in the region appear to have been somewhat mitigated or normalized, taking the trade patterns of the 1970s as the norm. First, the total trade volume increased substantially, from $US

1.2 billion in 1985 to $US 4.2 billion in 1992. Second, South Africa once again became the largest trading partner for all the countries in the region. The composition of trade appears to be similar to that of the 1970s. South African imports from the developing countries of the region largely consisted of: crude materials and mineral fuels (*e.g.* Malawi, Zambia and Mozambique), food and other consumption goods, like tobacco (*e.g.* Malawi), and machinery and transport equipment components (*e.g.* Angola and Mozambique). The developing countries, in turn, primarily imported manufactured goods and machinery from South Africa, and to a lesser extent, Zimbabwe.

Agricultural Trade in the Southern Africa Region

Past agricultural trade in the region

Until recently, interregional trade in agricultural commodities — especially, maize — was implicitly discouraged by various Southern African governments wanting to achieve national food self-sufficiency. As Table 8 shows, interregional trade has been primarily in manufactured goods.

The region's continued preoccupation with food self-sufficiency is understandable, given its experience with periodic supply shocks due to drought and war, and its vulnerability to the vagaries of international markets. Even in the new atmosphere of policy reform and market liberalization, Southern African governments have been extremely reluctant to completely abolish grain import — and especially — export controls. For example, the liberalization of Zimbabwe's wheat market, scheduled for April 1996, did allow the private sector to compete with the Grain Marketing Board (GMB) in importing wheat, but specifically *excluded* the freedom to export, because of an expected wheat shortfall. This specific example concerns wheat but the general pattern also applies to other food crops, especially maize.

Table 9 shows a series of regional trade matrices for the region's staple food, maize, for the years 1970, 1975, 1980, 1985, 1990, and 1992. The matrices are extremely sparse. Even though they are incomplete, they are useful in showing that the amounts of maize 'officially' crossing regional borders is paltry — never exceeding a total amount of $US 50 million (in drought years), and often on the order of a couple of hundred thousand $US. When South Africa's involvement in the regional maize trade is subtracted from the regional total, these figures often become inconsequential. As Table 8 indicates, these monetary amounts translate to a small percentage of interregional trade, which is noteworthy since white maize is the most important staple food in the region, and international import opportunities of white maize are relatively limited.[10]

[10]The Mexicans are significant producers and consumers of white maize, but there is little trade in the commodity.

Informal cross-border trade of maize, on the other hand, has probably always been important to the region. Unfortunately, there are no estimates which quantify its magnitude. Anecdotal evidence, however, suggests that it is vitally important to many deficit sub-regions in any given country of Southern Africa. Often internal transportation costs within a country are so high that prices paid by consumers in one region are often a multiple of those paid to producers in another region. It is thus an economically rational decision to export grain (unofficially) from the surplus region across a national border and import grain over another border into the deficit region at the same time. Looser regional marketing arrangements — at *official* levels — are clearly desirable.

While the region as a whole, in most years, produces a maize surplus, Malawi and Mozambique have consistently received net imports of maize since 1990 — in the form of food aid shipped from overseas. Other countries of the region also receive food aid, albeit less consistently. The problems associated with this type of aid have been well documented and analyzed (Clay and Stokke, 1991, Ruttan, 1993). Given its continued importance in the region, its impact cannot be ignored. Especially now, as private grain trade in the region is beginning to emerge, donors need to design food aid programs that *use* the new network, rather than crowd it out.

South Africa. Agriculture's share of GDP has declined steadily from around 20% in the 1920s to less than 5% in the 1990s. Employment (full and part-time workers) in the agricultural sector has steadily declined from 2.5 million in 1970, to about a million in 1991. Despite its waning position, the sector has always had important linkages with the rest of the economy, especially as a supplier to the agro-processing sector.

Approximately 95% of the value of agricultural production — by official statistics — comes from the commercial subsector. Over the past three decades, the sector has seen a shift in the composition of its output, away from field crops and in favor of horticultural crops. Horticulture's contribution to sectoral value has grown from 14.7% in the early 1960s, to 20.9% in the early 1990s, while field crop production has declined from 42.6% in 1960 to 34.2% in the early 1990s (Table 10).

South Africa has also been a significant participant in the international trade of agricultural commodities. In the past decades, there has been no clear trend where agricultural imports are concerned, indicating a high degree of self-sufficiency in most major food commodities. Grain exports, on the other hand, grew in volume during the 1970s, but declined in the 1980s, mostly due to drought. Over the past decade, horticultural exports have risen consistently — despite the sanctions imposed on the country's exports. Since the lifting of sanctions, exports from the sector have risen sharply. For example, thanks to this year's good agricultural season, wine production for 1996 is estimated at a record high of 1 billion liters, and the fresh fruit crop at 760,000 metric tons, and their exports have increased accordingly.

In terms of the *interregional* trading of agricultural commodities, South Africa has been

an important supplier of yellow maize. However, where the SACU countries have been concerned, the South African practice of dumping maize has had a very similar impact to (imported) food aid, in its effects on local growers of maize.

Recent developments affecting agricultural trade in Southern Africa

This year's exceptional rains have given the entire Southern Africa region a bumper crop for most all agricultural commodities. The region's maize harvest, in particular, coincides very favorably with a world shortage of grains and record international prices, and comes after several years of drought. But much more importantly, this year's agricultural harvest is the first good one since serious efforts to liberalize markets have been instituted by most countries of the region.

The Southern Africa region is currently in tremendous flux. Much trading is official and increasing at a rapid rate. It is estimated that in 1995 alone, South African exports into the Southern African region have tripled compared to the previous year.[11] It is believed that even more trade in the region is conducted unofficially. However, up-to-date, reliable estimates on most economic variables are difficult to come by. It is difficult to analyze the recent changes affecting the Southern African economies. It appears that trade and agricultural marketing reforms have started to take hold, and are also beginning to yield positive results. The reforms, however, are occurring at differing rates throughout the region. Despite the changes, observers feel that the Southern African economies are still in a precarious state.

South Africa's poor agricultural performance last season (1994/95) was confirmed by figures recently published by the Southern African Reserve Bank. These estimates show that in 1995 South Africa's agricultural sector had contracted by nearly 15% in real terms. The contraction has been blamed primarily on drought conditions, but also on declining farm profits in the face of agricultural deregulation. South Africa's Bureau of Economic Research estimates that this year (1995/96) agricultural performance could raise real agricultural output by 12%. After several years of relying on net imports of commodities such as maize and sugar, the agricultural sector is once again able to export these commodities. Horticultural production continues to thrive and currently represents nearly 60% of gross agricultural export income.

The other countries of the region have experienced similar trends in their agricultural output, thanks to this season's abundant rains. In Zimbabwe, the value of agricultural output is expected to rise by 18% in real terms, after a fall of 12% in the previous year. Maize from the large-scale, commercial sector is estimated to have doubled; that from the smallholder sector to have increased seven-fold. In the face of such production increases, maize exports are expected to resume this season. In Malawi, maize production this season is estimated to have increased by over 70%, compared to last season; nearly 90% of the maize production comes from the

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[11] Personal communication with A. Aksoy, Chief, Southern Africa's Macro, Industry and Finance Division, The World Bank, Washington, D.C.

smallholder sector. In Mozambique, this year's harvest is estimated to be the best since independence.

It is not still clear, however, what these developments mean at the household levels, or how domestic consumers and producers are faring in this environment of increased production and relatively more liberalized markets. In Zambia, most smallholder farmers appear to have been in such dire financial straits that they were forced to sell their maize crop into domestic markets, causing maize prices to plummet from ZK 35,000 in the spring to ZK 8,000 per sack in the summer of this year. In this situation, the Zambian National Farmers Union declared maize the "least profitable crop", even though maize is the country's staple food. In Mozambique, it is reported that, this year, grain from Montepuez district in the northern province of Cabo Delgado costs approximately $240 per ton in Maputo, which compares unfavorably with $165 per ton offered for South African grain in the capital.

These observations suggest that various bottlenecks in the marketing systems still exist. Transportation costs in the region remain high and controls — especially on the export side — persist, making it difficult for producers (smallholders especially) to reach export markets which currently offer high prices for grain. For example, in South Africa, it is only this year (1996/97), with changes in the maize exporting system, that private traders are allowed to export maize, albeit subject to export permits and levies. The country's Maize Board has reportedly announced that it may completely withdraw from exports by the end of 1996. In Zambia, the National Farmers' Union accused government of frustrating maize exports by refusing to issue export licenses. The Union's President was quoted as saying: "Zambia is losing valuable foreign exchange, as buyers, especially from South Africa, look to Zimbabwe, Kenya and Tanzania for orders. Farmers are being told that licenses will only be available when the final crop forecast has been issued, creating uncertainties in the export market and depressing the domestic maize price." (The Post, May 23, 1996) The government's refusal to allow unhindered exports, he concluded, amounted to continued manipulation of the maize markets.

On the flip side, consumers continue to face high prices for maize meal. This is mainly attributed to the fact that there are only a small number of industrial mills, which are primarily located in urban centers. As a consequence, in many countries of the region (e.g. South Africa, Zimbabwe, Zambia) these 'thin', highly concentrated, grain processing sectors are accused of collusion, price-hiking, and -fixing. When processed maize meal is eventually transported back from urban to rural areas, prices are inflated further. Because of high and unnecessary transportation costs, commercial maize meal prices can be 10-50% higher than maize that is bought and then milled through local private channels (Jayne 1994). This is a prevalent complaint throughout the region, and points to the importance of reducing monopolistic profits through increased competition at all levels of the grain production chain. Effecting changes in this regard is crucially important from the standpoint of poverty reduction, because poor, rural households in the region are typically *net consumers* of maize.

Future considerations for agriculture and agricultural trade in Southern Africa

As Figure 11 shows, agriculture employs a large percentage of the workforce in the Southern Africa region. With the exception of South Africa, the agricultural labor force in the Southern African countries is larger than would be predicted by Syrquin-Chenery patterns of development. Agricultural value-added, however, is significantly smaller compared to the international norm, as Figure 4 shows. Accordingly, agricultural incomes are low, particularly for the majority of smallholder farmers in the Southern Africa region. Much analysis points to decades of government intervention that has transferred the value of what these smallholders produce to better-off groups, reinforcing already highly dualistic agricultural structures.

Agriculture in South Africa occupies a unique position in the region. Past government interventions have created a small but wealthy class of white, large-scale, heavily capitalized, commercial farmers. But a good many of these farmers have come under economic duress as agricultural policy reforms have been instituted. With the reduction of implicit and explicit producer subsidies, the area devoted to field crops — especially maize — is steadily declining due to declining profitability.[12] At the same time, horticultural exports have been experiencing phenomenal increases.

As the region continues to transform, the question is whether it is possible to devise a regional agricultural strategy which could simultaneously improve the agricultural productivity and improve the conditions of smallholder agriculture in the Southern African countries, *and* restructure South Africa's agricultural sector in line with the objectives laid out by the RDP, notably to increase the sector's labor-intensity.

To consider this proposition, one may consider whether there are income and employment gains from agricultural specialization *to* the region, and *within* the region? If current trends are any indication, South Africa is very well positioned to focus on and support its horticultural sector. It has the financial and physical infrastructure that is needed to trade with perishable goods. Already, South Africa is a dominant supplier of fresh and processed horticultural products to the European Community. The depreciated Rand has strengthened, and can continue to strengthen, export earnings, and most importantly, significantly increase employment opportunities.

The other, poorer Southern African countries must strengthen their smallholder sectors, improve agricultural productivity, and thereby reduce rural poverty, by continuing to liberalize and maybe even more importantly, *to decentralize* agricultural markets. White maize is the staple food for the entire region and has a fairly inelastic demand curve, with no real substitutes and limited import opportunities. As South Africa concentrates on its horticultural sector, the

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[12] During the 1980s maize was cultivated over 40% of total land area. This constituted some 75% of total grain production, 65% of the value of field crops and 56% of human grain consumption.

northern part of the region could exploit its natural and comparative advantage in producing the region's grain supplies. Other, non-traditional exports could be produced and exported abroad, using South African infrastructure.

Currently, South Africa is actively debating whether to enter into a free trade agreement with the European Community, or rather to attain membership in the Lomé Convention. This preoccupation with the EC, however, diverts attention from other potentially lucrative markets. Instead of simply focusing on these fairly established trade links, South Africa would be well advised to much more aggressively investigate emerging markets in South and East Asia, for instance.

As far as the region is concerned, official agricultural trade will follow the patterns set by inofficial trade, once parastatal marketing agencies are required to compete with the private sector. Despite changes in the marketing systems, it still appears that a common strategy is to wait and see how the agricultural season turns out to be, *then* decide how much of a role to allot to government and how much to the private sector. This policy has repeatedly proven to be costly — even in times of drought when increased government intervention would be required — because the interventionist bodies (*i.e.* government together with parastatal marketing boards) have only incomplete information. In the meantime, both consumer and producer welfare is threatened, and opportunities for increased trade are missed.

Gravity Model of Bilateral Trade

The basic gravity model of bilateral trade says that trade between two countries is proportional to the product of their GNPs and inversely related to the distance between them. Other explanatory variables that are often added to the basic equation include population, per capita GNP, land area, and an assortment of dummy variables representing factors such as access to ocean transport, common borders, cultural similarities such as common language, and common membership in regional trading arrangements.

We use an existing gravity model to predict the normal levels of gross trade (exports plus imports) between the eleven countries of the Southern African region. The model is described in Frankel *et al.* (1996) and is based on a sample of 63 countries. The model uses standard regression techniques to estimate the relationship between gross bilateral trade and a number of independent variables: the product of GNP_i and GNP_j , the product of per capita GNP_i and per capita GNP_j , the physical distance between the trading partners, and dummy variables for common borders, common languages, and common membership in regional trading arrangements.

The gravity model has long been something of an ugly duckling in international economics, allegedly lacking respectable theoretical foundations. Recently, however, it has enjoyed a revival. There are, according to Frankel, at least three reasons for that revival: its

empirical success at predicting bilateral trade flows, its improved theoretical foundations arising mostly from modern theories of trade based on imperfect substitutes, and a new interest among economists in the subject of geography and trade, which seeks to treat countries or regions as existing at particular locations in space rather than as disembodied constructs.

Frankel *et. al.* estimate several models. The following equation is representative and is estimated for their sample of 63 countries:

$$\ln T_{ij} = \alpha + \beta 1 * \ln (GNP_i * GNP_j) + \beta 2 * \ln (GNP_i / POP_i * GNP_j / POP_j) + \beta 3 * \ln (DIST_{ij}) + \beta 4 * (ADJ_{ij}) + \beta 5 (LANG_{ij}) + \gamma 1 * (WE_{ij}) + \gamma 2 * (WH_{ij}) + \gamma 3 * (EA_{ij})$$

where:

T_{ij}	= total trade, or exports and imports between country I and country j,
$GNP_{i,j} / POP_{i,j}$	= per capita GNP of country I and country j.
$DIST_{ij}$	= distance between the economic centers of country I and country j,
ADJ_{ij}	= a dummy variable, 1 if country I and country j share a border, otherwise 0,
$LANG_{ij}$	= a dummy variable, 1 if country I and country j share a language, otherwise 0,
WE_{ij}	= a dummy variable, 1 if country I and country j belong to Western Europe, otherwise 0,
WH_{ij}	= a dummy variable, 1 if country I and country j belong to the Western Hemisphere, otherwise 0, and
EA_{ij}	= a dummy variable, 1 if country I and country j belong to East Asia, otherwise 0.

We have applied Frankel *et al.*'s estimated coefficients to our sample of countries in Southern Africa to calculate expected levels of bilateral trade flows, based on the experience of their sample of 63 countries throughout the world. The estimates indicate the expected level of bilateral trade between country I and country j given: their levels of economic development (proxied by GNP levels and per capita GNP), and their cultural and geographical proximity (proxied by shared language, shared borders, distance, and membership in a common area or trading arrangement).

Deviation of actual from predicted trade

Table 11 provides the deviation of actual from predicted gross bilateral trade flows for seven Southern Africa countries for which we have adequate data on bilateral trade flows. The figures are for gross trade (exports plus imports) and missing observations indicate no data on the actual flow. Broadly, the results indicate that, with the understandable exceptions of Angola and Mozambique in some years, the countries of Southern Africa trade more with one another than is predicted by the gravity model. Given the history of the region, this result is striking. Wars, boycotts, and structural adjustment programs do not appear to have discouraged intra-regional trade.

South Africa, in particular, has the largest values of "excess" trade with its regional

partners compared to the predictions of the gravity model. One possible explanation for its deviation from the gravity model might well be its reaction to the trade embargo. Given that world markets were closed to South Africa, it reacted by trading more with its neighbors. Also, the data might reflect some "pass through" trade whereby South Africa evaded the embargo by exporting through its neighbors. However, the data for 1992 also show large negative deviations, especially for trade with Zimbabwe. Indeed, excess trade between Zimbabwe and South Africa is a large percentage of total intra-regional trade for both countries, indicating their importance as trading partners.[13]

Where, according to the gravity model, does the discrepancy between actual and predicted trade come from? Looking at the components of the equation presented above (not tabulated) indicates that GNP has the strongest positive effect on bilateral trade. GNP per capita has a weaker positive effect (*i.e.* higher GNP per capita leads, *ceteris paribus*, to a stronger bilateral trade volume), which is roughly offset by the negative effect of the distance variable (*i.e.* the larger the distance between the trading partners, the smaller predicted trade). Adjacency and shared language are statistically significant but represent empirically rather small positive effects on bilateral trade.

Potential of a free trade agreement in Southern Africa

Frankel *et al.* estimate the impact on bilateral trade of either or both partners being members of a trade bloc or free trade area. The ones they consider are the European Union, Nafta, Mercosur, the Andean Pact, and Asean. While it is certainly not clear that any of these arrangements are comparable to a proposed Southern Africa free trade agreement, we can use these coefficients to indicate the range of possible effects of such an arrangement.

Frankel *et al.* find that bilateral trade is increased even when only one partner belongs to a trade bloc ('Model 1' in Table 12). 'Model 2', which specifies a dummy variable when both partners belong to the bloc, is perhaps a more appropriate comparator for the Southern African countries which are proposing to form a single free trade area. The increases in bilateral trade arising from such membership range from 87 percent to 585 percent. While large, note that these increases are from a small base —intra-regional trade is a small share of total trade for all the Southern African countries.

Even considering the small base, increases in trade arising from establishing a free trade area in the region would be significant, but only if South Africa were part of the agreement. A free trade agreement only among the poorer countries in the region would probably generate little increased trade, since South Africa is by far the largest intra-regional trading partner for the other countries. This result is consistent with studies of other regional trading arrangements such as the

[13]Annex Table 1 gives the historical gross trade data. South Africa and Zimbabwe have by far the largest trade volume of any pair of trading partners in Southern Africa. The next largest figures are for South Africa and Malawi.

Andean Pact and Asean. Developing countries considering forming a trade pact should include at least one large and preferably rich trading partner in the agreement, if it is to lead to an economically significant increase in trade.

Conclusions

The results from the empirical comparisons suggest a few conclusions:

- South Africa certainly represents a potential growth pole for the rest of the region. It is a large economy with a developed industrial sector and commands the region economically. It is, however, a dualistic economy, with a large poor population. It can be viewed as an amalgamation of a country such as Portugal with an African country such as Cameroon. Black South Africa has roughly the population of its immediate neighbors combined.

- The other economies are significantly poorer than South Africa. Compared to cross-country norms, these countries are much more agricultural and characterized by large productivity differences (value added per laborer) between the agricultural and non-agricultural sectors. Any successful development strategy for these countries must involve increasing agricultural productivity.

- Current trade patterns indicate that South Africa is an important trading partner for the other countries in the region, but represents a small share of their total current trade. Also, South Africa is being re-integrated into world markets.

- Agricultural (notably grain) trade in the region, however, continues to experience interventions. While governmental import controls are being phased out, and private sector involvement is encouraged, export controls are still prevalent. Looser marketing arrangements in the region would lead to increased trade and improved welfare.

- Results from the gravity model indicate that current intra-regional trade is somewhat above what would be expected, based on the experience of other countries. The current trend is to increase intra-regional trade. Economic integration through the establishment of a free trade area or customs union with South Africa could greatly increase intra-regional trade. Integration without South Africa would probably yield few gains.

What does the future hold for the region? Can South Africa provide the anchor and growth pole for a regional trading bloc? Tariffs are being lowered, making the country less protectionist, and South Africa is reaching out to its neighbors. On the other hand, labor unions in South Africa are demanding job protection, creating the potential for more protectionist trade policies. From the other side, South Africa's smaller neighbors in the region fear that an expansion in manufactured goods trade with South Africa could lead to significant de-

industrialization or that it could even halt efforts of individual countries to rehabilitate their industrial sectors. Over the medium to long term, they fear that this could accelerate a process of unbalanced industrial growth, with most of the gains accruing disproportionately to South Africa.

Studies of other regional trading arrangements which include at least one large, preferably rich, economy indicate that they tend to be trade creating, with significant benefits for all partners. Current trends in Southern Africa favor increased integration, but it is by no means assured. Increased trade alone probably cannot be the engine of growth for the region, but may well be a necessary part of any successful development strategy.

Table 1--Average annual growth of real GDP by country groups (percent)

	1970-80	1980-93
High income economies	3.2	2.9
Low- and middle income economies	5.2	3.3
Sub-Saharan Africa	3.8	2.1
Southern Africa (without South Africa)	3.5	2.8
Southern Africa (with South Africa)	3.5	2.6
East Asia and Pacific	6.9	7.7
South Asia	3.5	5.4

Source: World Bank. *World Development Report 1995.* Pages 162-163.

Table 2--Summary characteristics of the Southern African countries

	Area ('000 sq. km)	GNP (Bill.$US) 1993	GNP per capita ($US) 1993	GDP (Bill.$US) 1993	GDP per capita ($US) 1993	GDP growth (%avg.ann.growth) 1970-80	1980-93	Population (millions) 1993
Angola	1,247	--	--	10.31 1/	1060	--	--	9.7
Botswana	567	3.91	2790	3.81	2724	14.5	9.6	1.4
Lesotho	30	1.24	650	0.61	321	8.6	5.5	1.9
Malawi	94	2.10	200	1.81	172	5.8	3.0	10.5
Mozambique	784	1.36	90	1.37	91	--	1.0	15.1
Namibia	823	2.73	1820	2.11	1406	--	1.3	1.5
South Africa	1,221	118.31	2980	105.64	2661	3.2	0.9	39.7
Swaziland	17	1.05	1190	0.90	1023	--	--	0.9
Tanzania	886	2.52	90	2.09	75	3.0	3.6	28.0
Zambia	743	3.38	380	3.69	414	1.4	0.9	8.9
Zimbabwe	387	5.56	520	4.99	466	1.6	2.7	10.7

Note: 1/ estimate for 1990.
Source: World Bank. *World Development Report 1995.* Various tables.

Table 3--Southern Africa's structure of production, 1993

	Value-added in 1993 (millions of 1987 $US)				
	Agriculture	Industry	Manufacturing 1/	Services	Total
Angola 2/	954	3371	--	3502	7828
Botswana	142	1103	96	1145	2390
Lesotho	44	197	67	178	419
Malawi	337	258	142	592	1187
Mozambique	499	219	--	809	1526
Namibia	297	499	175	1147	1944
South Africa	3817	33158	17349	38456	75430
Swaziland	58	264	--	269	590
Tanzania	2322	539	193	992	3854
Zambia	171	1056	486	886	2113
Zimbabwe	748	1795	1496	2393	4986
Southern Africa (including South Africa)	9389	42458	20003	50370	102217
Southern Africa (excluding South Africa)	5572	9300	2654	11915	26787

	Country value-added as % of regional value-added				
	Agriculture	Industry	Manufacturing	Services	Total
Angola	10.2	7.9	--	7.0	7.7
Botswana	1.5	2.6	0	2.3	2.3
Lesotho	0.5	0.5	0.3	0.4	0.4
Malawi	3.6	0.6	0.7	1.2	1.2
Mozambique	5.3	0.5	--	1.6	1.5
Namibia	3.2	1.2	1	2.3	1.9
South Africa	40.7	78.1	87	76.3	73.8
Swaziland	0.6	0.6	--	0.5	0.6
Tanzania	24.7	1.3	1.0	2.0	3.8
Zambia	1.8	2.5	2	1.8	2.1
Zimbabwe	8.0	4.2	7	4.8	4.9
Southern Africa (including South Africa)	100	100	100	100	100

	Country value-added as % of total country value-added				
	Agriculture	Industry	Manufacturing	Services	Total
Angola	12	43	--	45	100
Botswana	6	46	4	48	100
Lesotho	11	47	16	42	100
Malawi	28	22	12	50	100
Mozambique	33	14	--	53	100
Namibia	15	26	9	59	100
South Africa	5	44	23	51	100
Swaziland	10	45	--	46	100
Tanzania	60	14	5	26	100
Zambia	8	50	23	42	100
Zimbabwe	15	36	30	48	100

Note: 1/ manufacturing is defined as a subset of industry.
2/ estimate for 1990.

Source: World Bank. *African Development Indicators 1995.*
World Bank. *World Development Report 1995.*

Table 4-Average variation in economic structure with level of development for post-1973 period

	Mean income under $300	Income per capita (1980 $US) $300	$500	$1000	$2000	$4000	Mean income over $5000	Total change
Final demand (as % of GDP)								
Private consumption	79	73	70	66	63	60	60	-19
Government consumption	12	14	14	14	14	15	14	2
Investment	14	18	21	23	25	26	26	12
Exports	16	19	21	23	25	26	23	7
Imports	21	25	25	26	27	28	23	2
Food consumption	39	39	35	29	24	19	15	-24
Trade (as % of GDP)								
Exports:								
Total merchandise	14	2	17	19	20	21	18	4
Fuels, minerals & metals	3	5	6	7	7	6	2	-1
Other primary	10	9	9	8	7	6	5	-5
Manufacturing	1	1	2	4	6	9	11	10
Imports:								
Total merchandise	16	18	19	21	22	23	19	3
Primary	5	6	7	7	8	8	7	2
Manufacturing	11	12	13	14	14	15	12	1
Production (as % of GDP)								
Agriculture	48	39	32	23	15	10	7	-41
Mining	1	5	7	8	8	6	1	0
Manufacturing	10	12	15	18	21	24	28	18
Construction	4	4	5	6	6	7	7	3
Utilities	6	7	7	8	9	9	10	4
Services	31	32	35	38	41	45	47	16
Labor force (as % of total)								
Agriculture	81	75	65	52	38	24	13	-68
Industry	7	9	13	19	26	33	40	33
Services	12	16	22	29	36	43	47	35

Source: Syrquin and Chenery. 1988. *"Patterns of Development"*. Page 20.

Table 5—Disaggregation of South Africa's per capita GNP

Basic indicators	Country-wide	Black South African	Non-Black South African
GNP per capita ($US)	2,980	Assuming incomes as Zimbabwe: 520	10,360 -->compare to New Zealand (US$ 12,600)
		as Cameroon: 820	9,460 -->roughly like Portugal (US$ 9,130)
Population (millions mid-1993)	39.7	29.8	9.9

Note: Non-Black South African income calculated as follows:
{(Average income of US$2980 minus (75% Black population * GNP income as in Zimbabwe or Cameroon)} divided by 25% of non-Black population.

Source: World Bank. *World Development Report, 1995*. Various tables.

Table 6--Comparative indicators - South Africa and other middle-income countries

Basic Indicators:		South Africa	New Zealand	Portugal	Vene-zuela	Brazil	Turkey	Mexico	Argen-tina	South Korea	Spain
GNP per capita (1993 $US)		2980	12600	9130	2840	2930	2970	3610	7220	7660	13590
GDP (millions of 1993 $US)		105,636	43,699	85,665	59,995	444,205	156,413	343,472	255,595	330,831	478,582
Population (millions mid-1993)		39.7	3.5	9.8	20.9	156.5	59.6	90	33.8	44.1	39.5
Area ('000 km2)		1221	271	92	912	8512	779	1958	2767	99	505
Avg. annual GNP per capita growth (%, 1980-93)		-0.2	0.7	3.3	-0.7	0.3	2.4	-0.5	-0.5	8.2	2.7
Structure of production: (% of GDP)											
Agriculture	1970	8	12	na	6	12	30	12	10	25	na
	1993	5	8	5	5	11	15	8	6	7	4
Industry	1970	40	33	na	39	38	27	29	44	29	na
I	1993	39	26	39	42	37	30	28	31	43	33
Manufacturing	1970	24	24	na	16	29	17	22	32	21	na
	1993	23	17	22	14	20	19	20	20	29	na
Services	1970	52	55	na	54	49	43	59	47	46	na
	1993	56	59	56	53	52	55	63	63	50	63
Structure of demand: (% of GDP)											
General govt. consumption	1970	12	13	13	11	11	13	7	10	10	9
	1993	21	15	17	9	na	13	9	na	11	18
Private consumption	1970	61	65	64	52	69	70	75	67	76	65
	1993	60	60	65	73	79	65	75	84	54	63
Gross domestic investment	1970	30	25	28	33	21	20	21	25	24	27
	1993	15	21	27	19	19	27	22	18	34	20
Gross domestic savings	1970	27	22	23	37	20	17	19	23	15	26
	1993	19	24	18	18	21	22	16	na	35	19
Exp. of goods & non-factor serv.	1970	22	23	21	21	7	6	6	7	14	13
	1993	23	31	24	26	8	14	13	6	29	19

Note: New Zealand's "1993" structure of production figures are actually for 1991, and come from the "*Economist Intelligence Unit Report*", 1st quarter, 1995.
Portugal's 1993 structure of production figures are from the "*Economist Intelligence Unit Report*", 2nd quarter, 1995.
The figure for manufacturing was derived from figures in the EIU Report, and from the "*Boletim Mensa de Estatistico*", vol. 65, July 1993, page 15.
Spain's 1993 structure of production figures are from the "*Economist Intelligence Unit Report*", 1st quarter, 1995.

Source: World Bank. *World Development Report 1995.*

Table 7--Southern Africa and Syrquin-Chenery comparators

	Syrquin & Chenery countries:	Mozambique	Malawi	Syrquin & Chenery countries:	Tanzania	Syrquin & Chenery countries:	Lesotho	Zambia	Zimbabwe
	Mean income under $300	Per capita income in '92 116	192	Mean income of $300	Per capita income in '92: 311	Mean income of $500	Per capita income in '92: 480	484	746
Final demand (% of GDP):									
Private consumption	79	94	79	73	85	70	115	74	67
Govt. consumption	12	19	19	14	10	14	30	15	20
Investment	14	38	19	18	42	21	70	14	24
Exports	16	24	23	19	21	21	14	32	32
Imports	21	75	40	25	58	25	129	35	43
Total	100	100	100	100	100	100	100	100	100
Note: Trade deficit (% of GDP)	-5	-52	-17	-5	-37	-5	-114	-3	-11
Production (% of GDP): Agriculture	48	33	28	39	60	32	11	8	11
Labor force (% of total): Agriculture	81	84	83	75	86	65	86	73	73
Kuznets ratio 2/	5	11	13	5	4	4	50	31	22

	Syrquin & Chenery countries:	Swaziland	Syrquin & Chenery countries:	Namibia	Botswana	South Africa
	Mean income of $1000	Per capita income in '92: 1331	Mean income of $2000	Per capita income in '92: 1712	1890	2156
Final demand (% of GDP):						
Private consumption	66	67	63	68	38	60
Govt. consumption	14	22	14	30	23	21
Investment	23	25	25	11	36	15
Exports	23	83	25	55	55	24
Imports	26	97	27	64	51	20
Total	100	100	100	100	100	100
Note: Trade deficit (% of GDP)	-3	-14	-3	-9	3	4
Production (% of GDP): Agriculture	23	10	15	15	6	5
Labor force (% of total): Agriculture	52	74	38	43	70	16
Kuznets Ratio 2/	4	26	3	4	37	4

Note: 1/ Syrquin and Chenery estimates are based on post-1973 averages and expressed in 1980 $US. The Southern African estimates are for 1992, and also expressed in 1980 $US.
2/ The Kuznets ratio is the ratio of per capita non-agricultural to agricultural value-added.

Source: Syrquin and Chenery. 1988. *"Patterns of Development"*. Page 20.
World Bank. *African Development Indicators 1995.*

Table 8--Sectoral composition of intra-regional in Southern Africa, 1992

	Angola	Malawi	Mozambique	South Africa	Zambia	Zimbabwe
Maize	3	0.1	2	1	6	4
Other agricultural products	15	7	26	14	6	5
Beverages and tobacco	20	4	12	18	2	1
Other primary products	2	2	7	20	15	12
Manufactured goods	60	86	53	47	71	78
Total	100	100	100	100	100	100

Source: UNCTAD.

Table 9-Interregional maize trade in Southern Africa, 1970-92 ('000 $US)

1970

	Angola	Botswana	Lesotho	Malawi	Mozambiq.	Namibia	S. Africa	Swaziland	Tanzania	Zambia	Rhodesia	Region	Region excl.SA
Angola							7.4					7.4	0
Botswana													
Lesotho													
Malawi							294.6				5850.8	6145	5851
Mozambique	525.4											525	525
Namibia													
South Africa													
Swaziland													
Tanzania													
Zambia	449.7			0.1			0.5					450	450
Rhodesia													

1975

	Angola	Botswana	Lesotho	Malawi	Mozambiq.	Namibia	S. Africa	Swaziland	Tanzania	Zambia	Rhodesia	Region	Region excl. SA
Angola													
Botswana													
Lesotho													
Malawi							7.2				2461.8	2469	2462
Mozambique													
Namibia													
South Africa													
Swaziland													
Tanzania													
Zambia							8.0					8	
Rhodesia													

1980

	Angola	Botswana	Lesotho	Malawi	Mozambiq.	Namibia	S. Africa	Swaziland	Tanzania	Zambia	Zimbabwe	Region	Region excl. SA
Angola													
Botswana													
Lesotho													
Malawi							2343.5					2344	
Mozambique													
Namibia													
South Africa													
Swaziland													
Tanzania													
Zambia													
Zimbabwe													

Table 9-continued

1985

	Angola	Botswana	Lesotho	Malawi	Mozambiq.	Namibia	S. Africa	Swaziland	Tanzania	Zambia	Zimbabwe	Region	Region excl. SA
Angola				153.0						193.1	205.3	551	551
Botswana													
Lesotho													
Malawi											5.2	5	5
Mozambique				1480.1							4138.8	5619	5619
Namibia													
South Africa				238.2							659.0	897	897
Swaziland													
Tanzania													
Zambia				7189.3							8881.0	16070	16070
Zimbabwe													

1990

	Angola	Botswana	Lesotho	Malawi	Mozambiq.	Namibia	S. Africa	Swaziland	Tanzania	Zambia	Zimbabwe	Region	Region excl. SA
Angola											7704.4	7704	7704
Botswana													
Lesotho													
Malawi											46639.3	44639	46639
Mozambique											35539.8	35540	35540
Namibia													
South Africa											10300.6	10301	10301
Swaziland													
Tanzania													
Zambia											354.9	355	355
Zimbabwe					1.7		9.7					11	2

1992

	Angola	Botswana	Lesotho	Malawi	Mozambiq.	Namibia	S. Africa	Swaziland	Tanzania	Zambia	Zimbabwe	Region	Region excl. SA
Angola							3049.0				517.3	3566	517
Botswana													
Lesotho													
Malawi							51.3				337.9	389	338
Mozambique							2878.1				3448.8	6327	3449
Namibia													
South Africa										159.6	3199.6	3359	3359
Swaziland													
Tanzania													
Zambia							24808.1				2186.8	26995	2187
Zimbabwe													

Source: UNCTAD.

Table 10 - Composition of agricultural gross value in South Africa, 1960-1990 (%)

	1960	1970	1980	1991
Field crops	42.6	46.7	48.5	34.2
Horticulture	14.7	17.3	14.4	20.9
Animal products	42.6	36.1	37.1	45.0
Total ag. value	100	100	100	100

Source: World Bank. 1994. "*South African Agriculture: Structure, Performance and Options for the Future.*" Table 2.6, page 37.

Table 11-Deviations of actual from predicted gross bilateral trade in Southern Africa 1/ (in millions of U.S. Dollars)

A positive number indicates that predicted trade is larger than actual trade
A negative number indicates that predicted trade is smaller than actual trade

1970:	Deviations: Malawi	South Africa	Zambia	Actual trade flows: to S.A. region	to ROW
Malawi				42	142
South Africa	-11			131	8180
Zambia	-4	-84		136	1483
Rhodesia	-22		-23	52	na

1975:	Deviations: Angola	Malawi	Mozambique	South Africa	Zambia	Actual trade flows: to S.A.region	to ROW
Angola						90	na
Malawi	0.2					121	339
Mozambique	-14	-16				17	na
South Africa	-67	-62				213	20893
Zambia	1	-10	1	-38		84	2183
Rhodesia		-37			12	39	2071

1980:	Deviations: Angola	Malawi	Mozambique	South Africa	Zambia	Actual trade flows: to S.A. region	to ROW
Angola						0.03	na
Malawi						222	566
Mozambique	1	-5				6	1237
South Africa		-165				262	49885
Zambia	1	-12	1	-63		116	3255
Zimbabwe		-29			-1	44	3363

1985:	Deviations: Angola	Malawi	Mozambique	South Africa	Zambia	Actual trade flows: to S.A. region	to ROW
Angola						9	4219
Malawi	-0.2					171	441
Mozambique	1	-3				17	608
South Africa	41	-125				466	30155
Zambia	4	-13				73	1661
Zimbabwe	-3	-20	-11	-257	-52	434	2116

1990:	Deviations: Angola	Malawi	Mozambique	South Africa	Zambia	Actual trade flows: to S.A. region	to ROW
Angola						12	6455
Malawi	1					312	764
Mozambique		-1				56	1121
South Africa	31	-198				884	47336
Zambia		-15				81	2357
Zimbabwe	-8	-72	-52	-509	-44	872	3149

1992:	Deviations: Angola	Lesotho	Malawi	Mozambique	South Africa	Zambia	Actual trade flows: to S.A.region	to ROW
Angola							133	na
Lesotho							4	1062
Malawi	0.4						341	827
Mozambique		-1	-2				302	971
South Africa	-90		-276	-244			1940	48325
Zambia		-3	-4		-380		476	1644
Zimbabwe	-2		-41	-43	-769	-57	1013	3243

Note: 1/ Gross bilateral trade = Exports plus imports.
na - not available
Source: Authors' calculations.

Table 12--Effect of potential free trade arrangement on bilateral trade flows

Free Trade Arrangement similar to:	Predicted increase in gross trade, 1992 1/ (percentage increase) Model 1 (w/o bloc effect)	Model 2 (w/bloc effect)
European Union	92	87
NAFTA	80	122
MERCOSUR	199	254
ANDEAN	262	328
ASEAN	585	308

Note: 1/ Gross trade = Exports plus imports.
Model 1 (without bloc effect) uses a dummy variable if either country i or country j belong to the free trade arrangement.
Model 2 (with block effect) uses a dummy if both country i and country j belong to the free trade arrangement.

Source: Authors' calculations.

Figure 1: Syrquin-Chenery Patterns - Trade

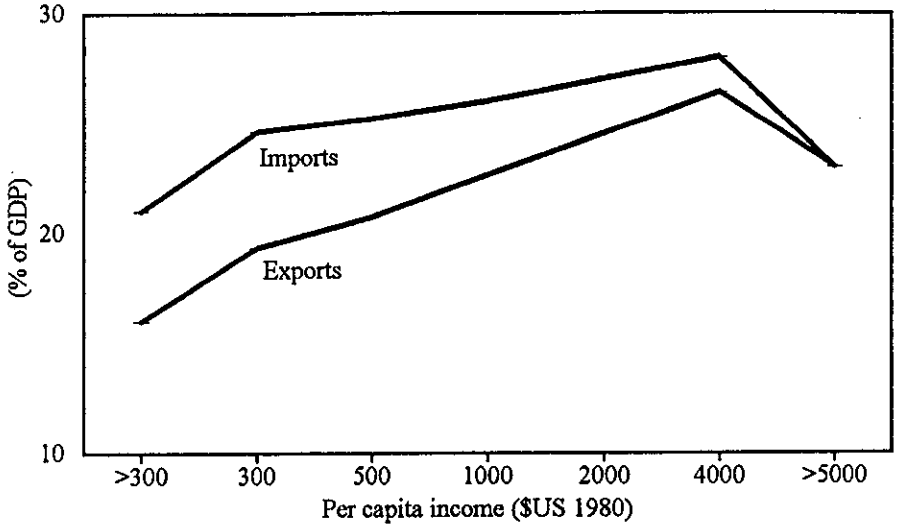


Figure 2: Syrquin-Chenery Patterns- Production structure

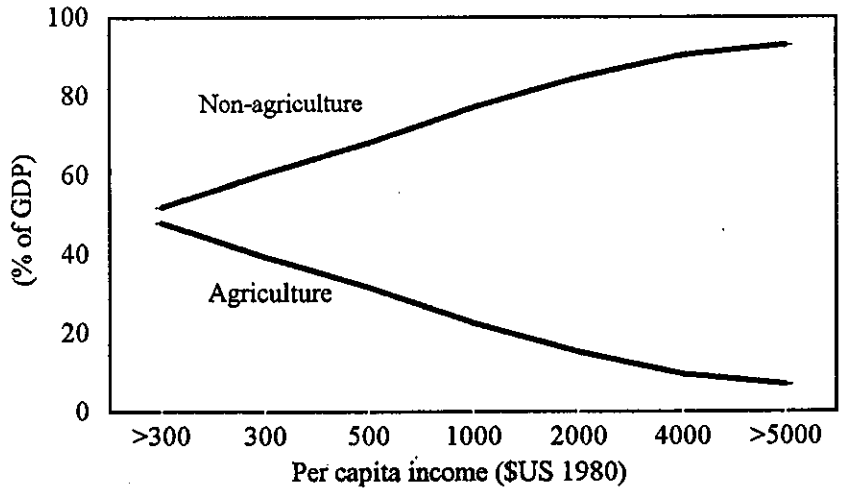


Figure 3: Syrquin-Chenery Patterns- Labor force structure

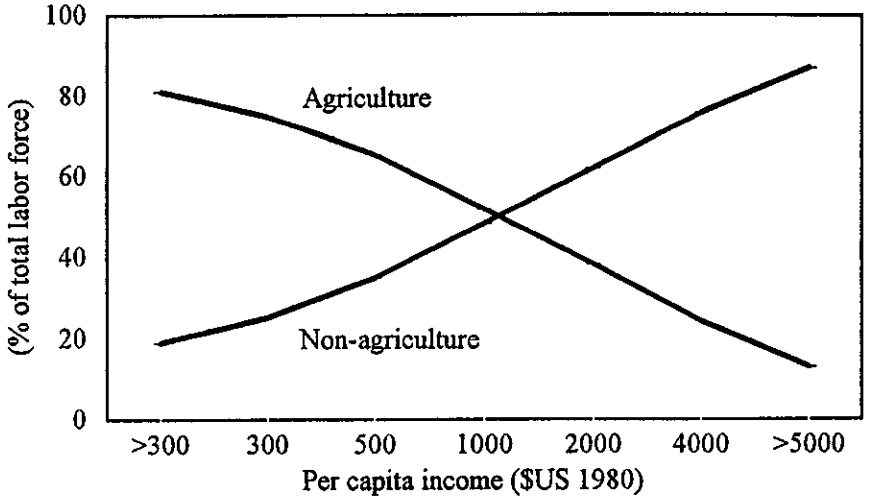


Figure 4: Southern Africa versus Syrquin-Chenery Patterns- Agricultural value-added

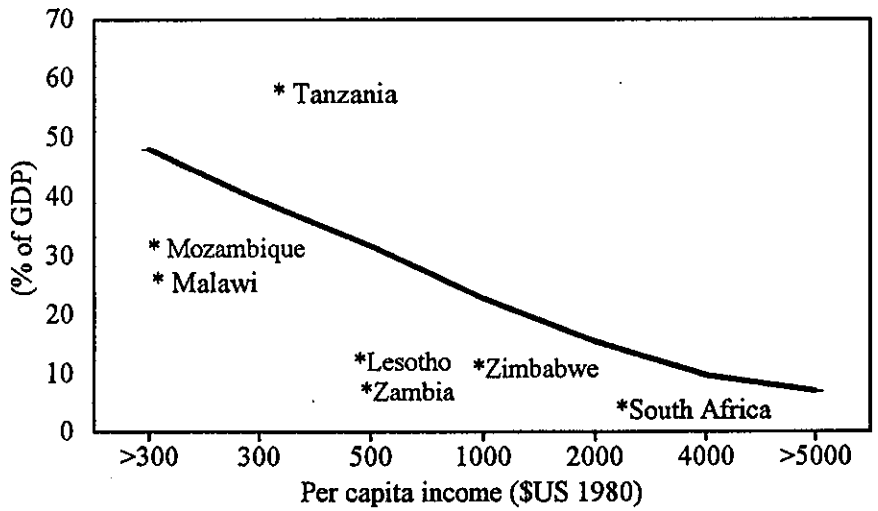


Figure 5: Southern Africa versus Syrquin-Chenery Patterns - Exports

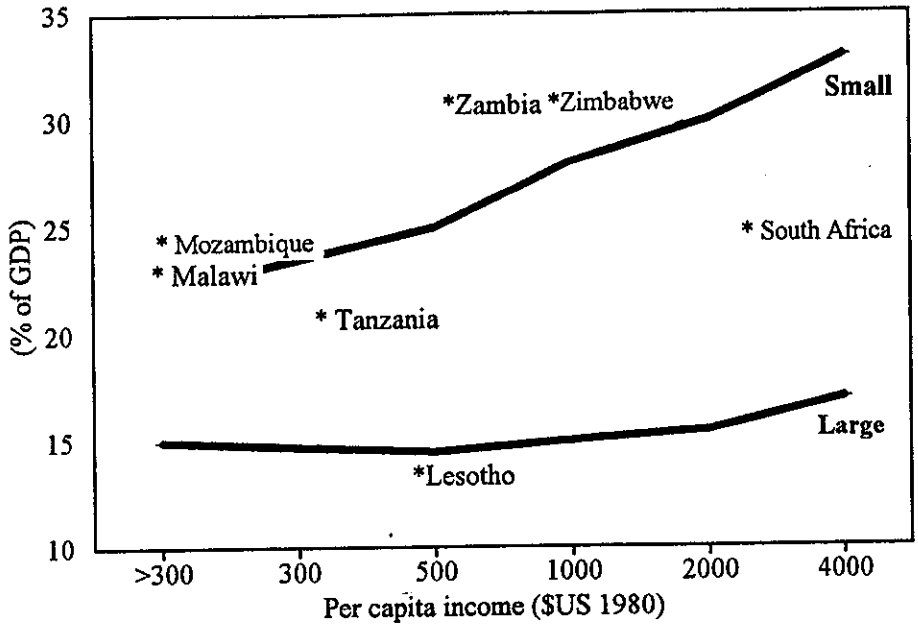


Figure 6: Southern Africa versus Syrquin-Chenery Patterns - Gross domestic investment

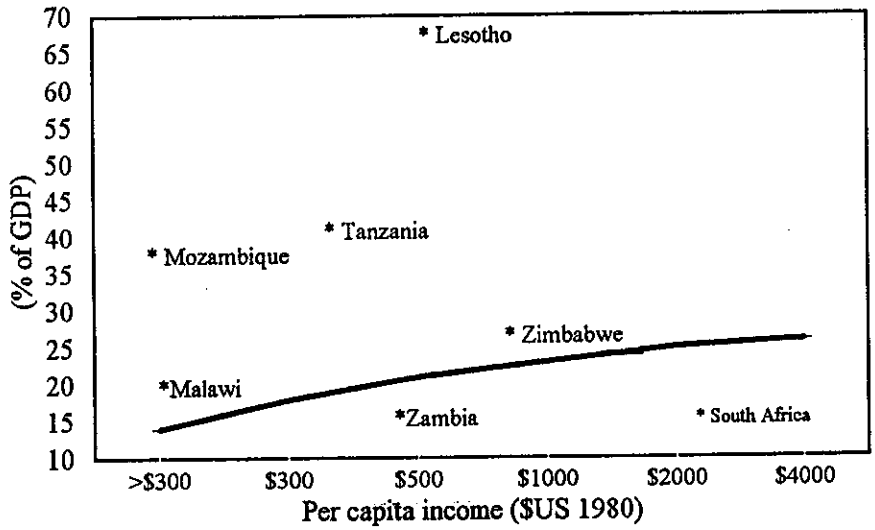


Figure 7: Southern Africa versus Syrquin-Chenery Patterns - Government consumption

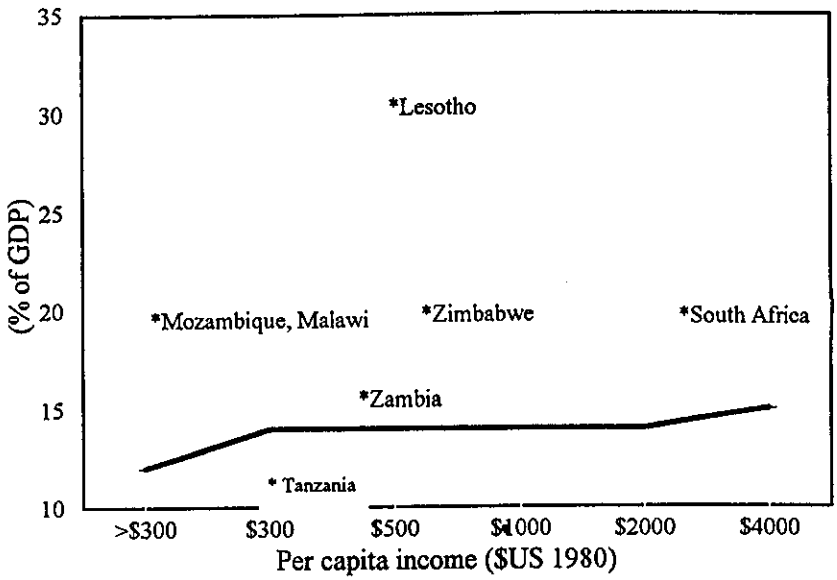


Figure 8: Southern Africa versus Syrquin-Chenery Patterns - Imports

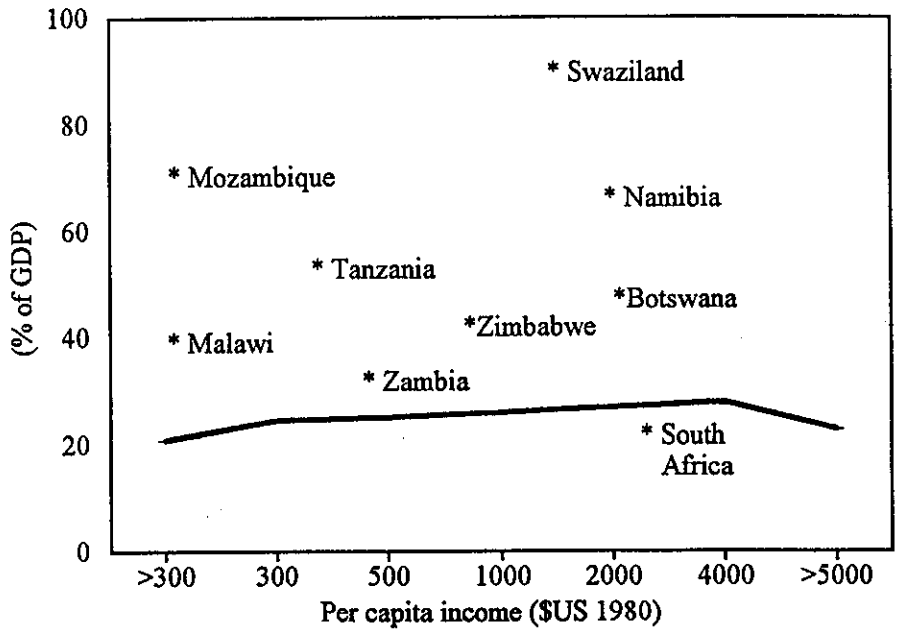


Figure 9: Southern Africa versus Syrquin-Chenery Patterns - Agricultural value-added by size and trade orientation

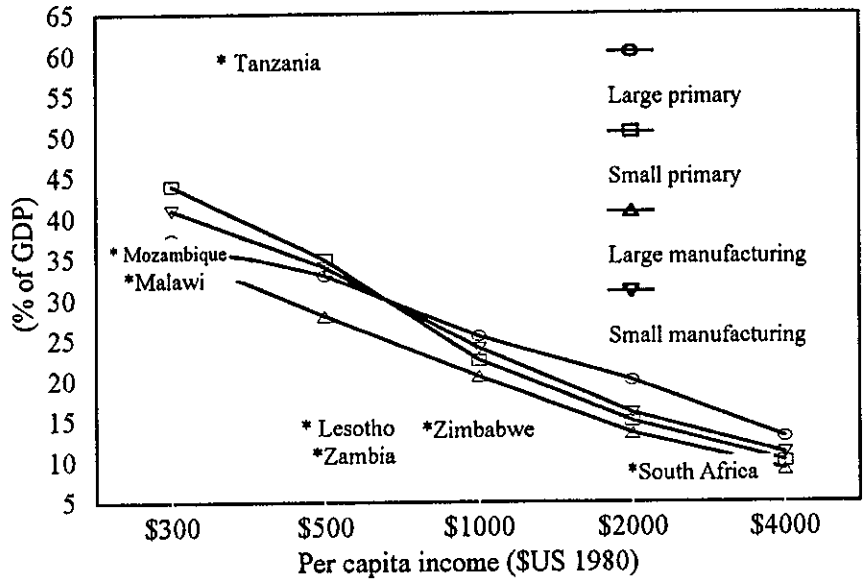


Figure 10: Southern Africa versus Syrquin-Chenery Patterns - Manufacturing

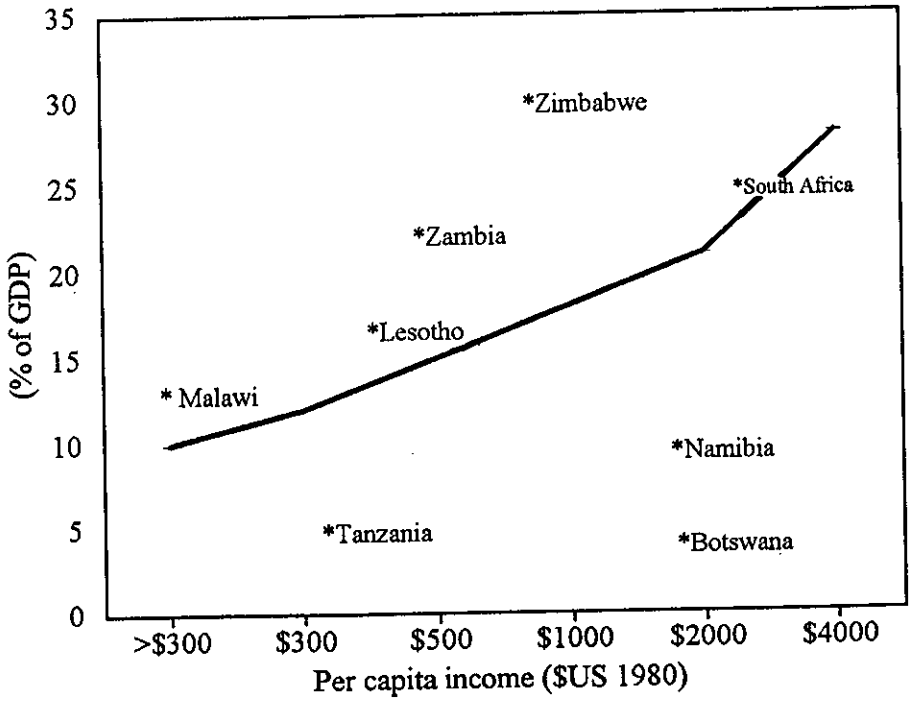


Figure 11: Southern Africa versus Syrquin-Chenery Patterns - Agricultural labor force

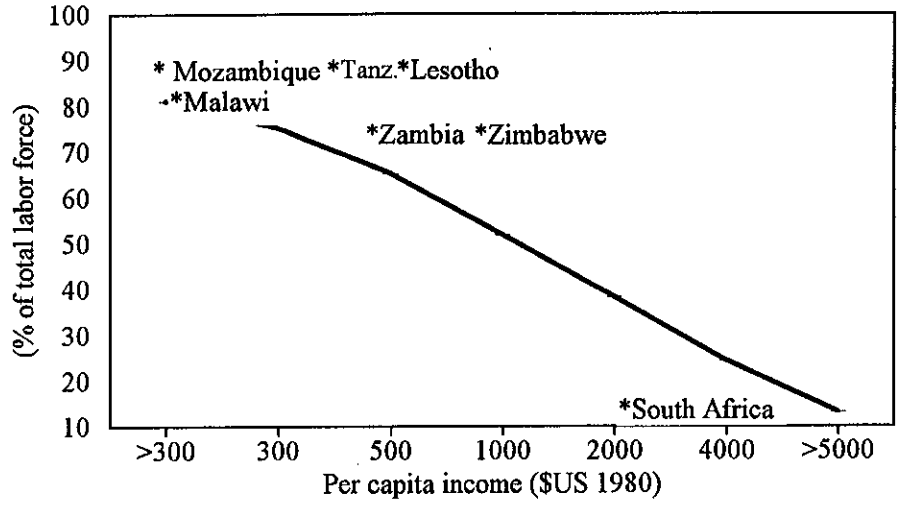


Figure 12: Southern Africa versus Syrquin-Chenery Patterns - Private consumption

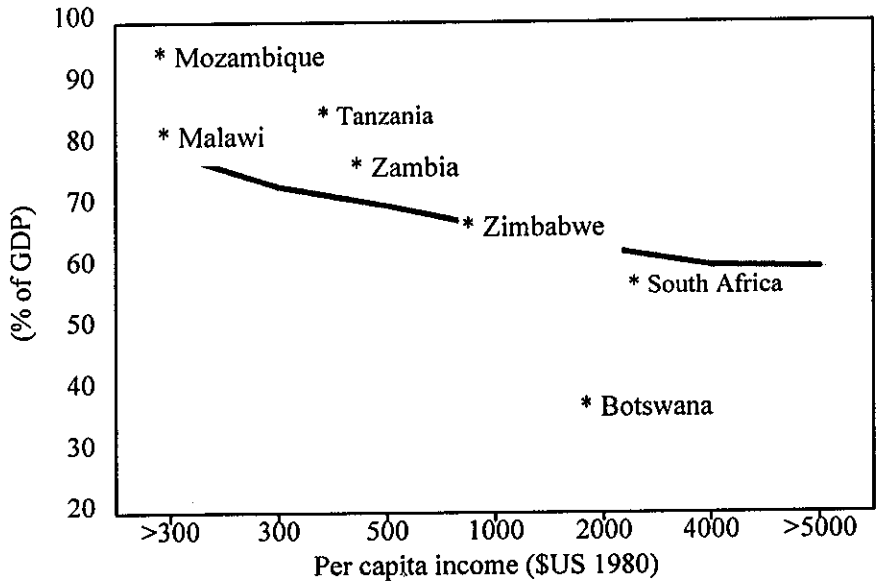


Figure 13: Southern Africa versus Syrquin-Chenery Patterns - Kuznets ratios

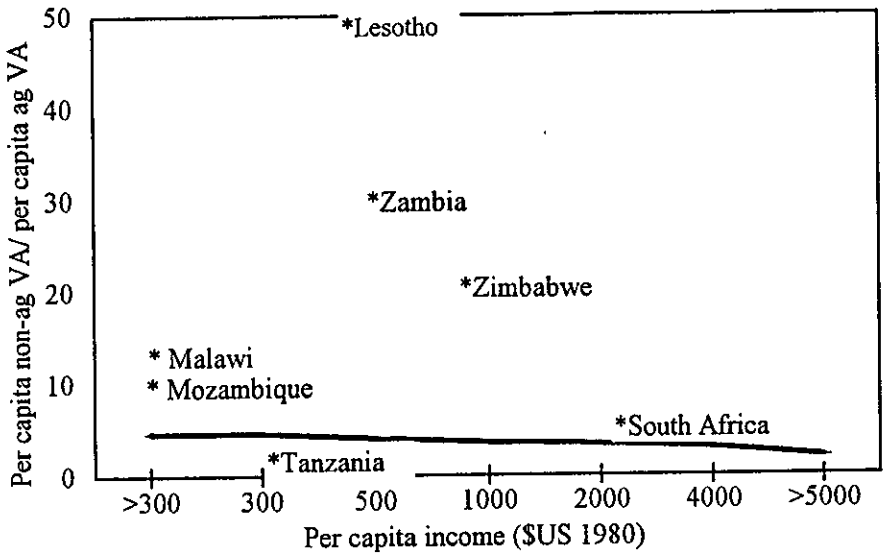


Figure 14: Southern African trade, 1992

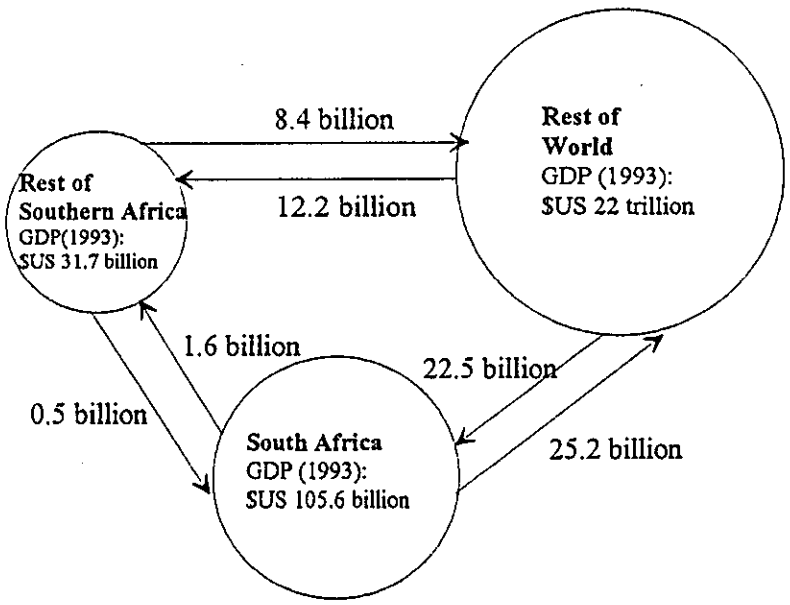


Figure 15: Zimbabwe - Trade directions, 1975-1992

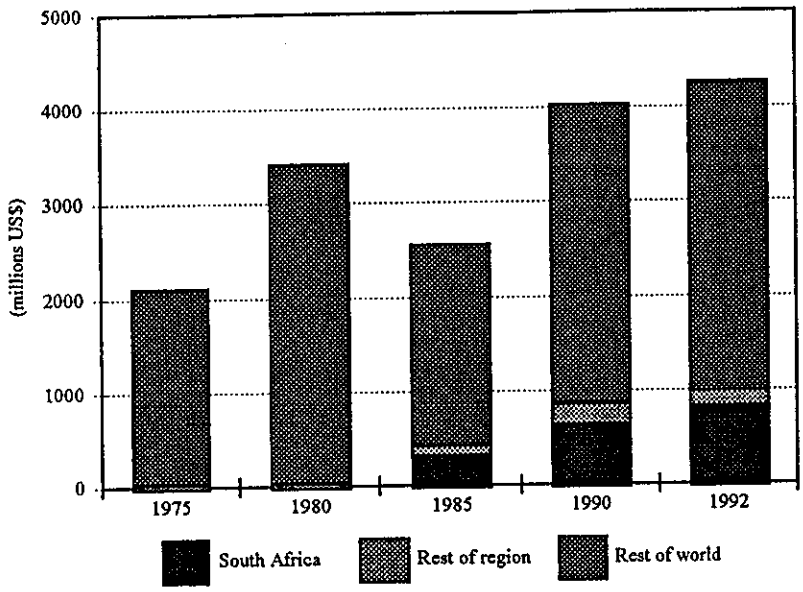


Figure 16: Malawi - Trade directions, 1970-92

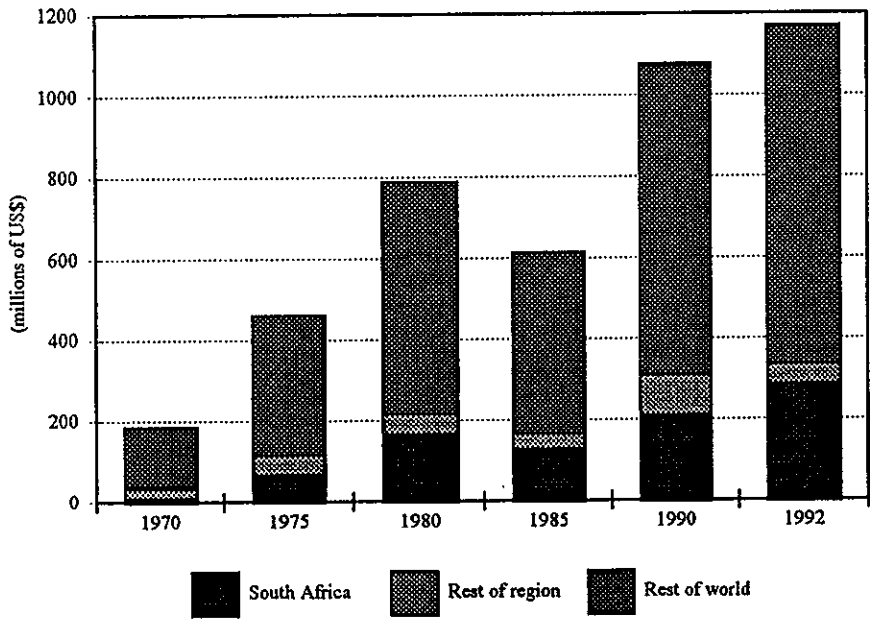
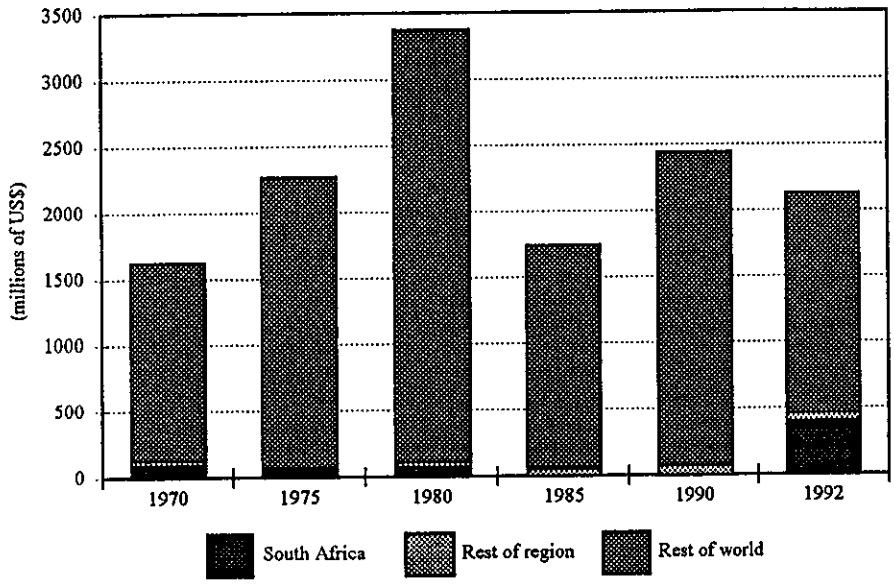


Figure 17: Zambia - Trade directions, 1970-92



Annex Table 1--Gross bilateral trade in Southern Africa, 1970-92

1970

	Angola	Botswana	Lesotho	Malawi	Mozambiq.	Namibia	S. Africa	Swaziland	Tanzania	Zambia	Rhodesia	Region	Region excl.SA	ROW	Total
Angola	0.000	0.000	0.000	0.028	13.717	0.000	19.694	0.000	0.000	0.611	0.000	34	14	na	34
Botswana	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	72	72
Lesotho	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	48	48
Malawi	0.028	0.000	0.000	0.000	1.097	0.000	13.223	0.000	0.000	5.183	22.362	42	29	142	184
Mozambique	13.717	0.000	0.000	1.097	0.000	0.000	0.000	0.000	0.000	2.355	0.000	17	17	na	17
Namibia	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	na	na
South Africa	19.694	0.000	0.000	13.223	0.000	0.000	0.000	0.000	0.000	97.965	0.000	131	131	8180	8310
Swaziland	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	160	160
Tanzania	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	710	710
Zambia	0.611	0.000	0.000	5.183	2.355	0.000	97.965	0.000	0.000	0.000	29.602	136	38	1483	1618
Rhodesia	0.000	0.000	0.000	22.362	0.000	0.000	0.000	0.000	0.000	29.602	0.000	52	52	na	52

1975

	Angola	Botswana	Lesotho	Malawi	Mozambiq.	Namibia	S. Africa	Swaziland	Tanzania	Zambia	Rhodesia	Region	Region excl. SA	ROW	Total
Angola	0.000	0.000	0.000	0.020	14.450	0.000	74.680	0.000	0.000	0.546	0.000	90	15	na	90
Botswana	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	353	353
Lesotho	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	173	173
Malawi	0.020	0.000	0.000	0.000	1.903	0.000	68.139	0.000	0.000	12.110	38.418	121	52	339	460
Mozambique	14.450	0.000	0.000	1.903	0.000	0.000	0.000	0.000	0.000	0.583	0.000	17	17	na	17
Namibia	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	na	na
South Africa	74.680	0.000	0.000	68.139	0.000	0.000	0.000	0.000	0.000	69.691	0.000	213	213	20893	21106
Swaziland	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	374	374
Tanzania	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1415	1415
Zambia	0.546	0.000	0.000	12.110	0.583	0.000	69.691	0.000	0.000	0.000	0.762	84	14	2183	2267
Rhodesia	0.000	0.000	0.000	38.418	0.000	0.000	0.000	0.000	0.000	0.762	0.000	39	39	2071	2110

1980

	Angola	Botswana	Lesotho	Malawi	Mozambiq.	Namibia	S. Africa	Swaziland	Tanzania	Zambia	Zimbabwe	Region	Region excl. SA	ROW	Total
Angola	0.000	0.000	0.000	0.000	0.019	0.000	0.000	0.000	0.000	0.010	0.000	0	0	na	0
Botswana	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1130	1130
Lesotho	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	524	524
Malawi	0.000	0.000	0.000	0.000	5.416	0.000	172.015	0.000	0.000	13.789	30.776	222	50	566	788
Mozambique	0.019	0.000	0.000	5.416	0.000	0.000	0.000	0.000	0.000	0.140	0.000	6	6	1237	1242
Namibia	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	3128	3128
South Africa	0.000	0.000	0.000	172.015	0.000	0.000	0.000	0.000	0.000	89.570	0.000	262	262	49885	50147
Swaziland	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	948	948
Tanzania	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	2028	2028
Zambia	0.010	0.000	0.000	13.789	0.140	0.000	89.570	0.000	0.000	0.000	12.772	116	27	3255	3371
Zimbabwe	0.000	0.000	0.000	30.776	0.000	0.000	0.000	0.000	0.000	12.772	0.000	44	44	3363	3406

Annex Table 1--continued

1985

	Angola	Botswana	Lesotho	Malawi	Mozambiq.	Namibia	S. Africa	Swaziland	Tanzania	Zambia	Zimbabwe	Region	Region excl. SA	ROW	Total
Angola	0.000	0.000	0.000	1.108	0.567	0.000	0.038	0.000	0.000	0.201	6.951	9	9	4219	4228
Botswana	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1308	1308
Lesotho	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	377	377
Malawi	1.108	0.000	0.000	0.000	3.312	0.000	131.555	0.000	0.000	13.818	20.960	171	39	441	612
Mozambique	0.567	0.000	0.000	3.312	0.000	0.000	0.000	0.000	0.000	0.000	12.862	17	17	608	624
Namibia	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1534	1534
South Africa	0.038	0.000	0.000	131.555	0.000	0.000	0.000	0.000	0.000	0.000	334.655	466	466	30155	30621
Swaziland	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	485	485
Tanzania	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1448	1448
Zambia	0.201	0.000	0.000	13.818	0.000	0.000	0.000	0.000	0.000	0.000	59.004	73	73	1661	1734
Zimbabwe	6.951	0.000	0.000	20.960	12.862	0.000	334.655	0.000	0.000	59.004	0.000	434	100	2116	2551

1990

	Angola	Botswana	Lesotho	Malawi	Mozambiq.	Namibia	S. Africa	Swaziland	Tanzania	Zambia	Zimbabwe	Region	Region excl. SA	ROW	Total
Angola	0.000	0.000	0.000	0.040	0.000	0.000	0.288	0.000	0.000	0.000	11.585	12	12	6455	6467
Botswana	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	3751	3751
Lesotho	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	799	799
Malawi	0.040	0.000	0.000	0.000	1.630	0.000	215.580	0.000	0.000	18.770	75.682	312	96	764	1076
Mozambique	0.000	0.000	0.000	1.630	0.000	0.000	0.000	0.000	0.000	0.000	54.721	56	56	1121	1177
Namibia	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	2748	2748
South Africa	0.288	0.000	0.000	215.580	0.000	0.000	0.000	0.000	0.000	0.000	668.105	884	884	47336	48220
Swaziland	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1386	1386
Tanzania	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1970	1970
Zambia	0.000	0.000	0.000	18.770	0.000	0.000	0.000	0.000	0.000	0.000	62.199	81	81	2357	2438
Zimbabwe	11.585	0.000	0.000	75.682	54.721	0.000	668.105	0.000	0.000	62.199	0.000	872	204	3149	4022

1992

	Angola	Botswana	Lesotho	Malawi	Mozambiq.	Namibia	S. Africa	Swaziland	Tanzania	Zambia	Zimbabwe	Region	Region excl. SA	ROW	Total
Angola	0.000	0.000	0.000	0.280	0.000	0.000	127.828	0.000	0.000	0.000	4.466	133	5	na	133
Botswana	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	3922	3922
Lesotho	0.000	0.000	0.000	0.000	0.970	0.000	0.000	0.000	0.000	2.780	0.000	4	4	1062	1066
Malawi	0.280	0.000	0.000	0.000	1.660	0.000	290.580	0.000	0.000	5.250	43.027	341	50	827	1167
Mozambique	0.000	0.000	0.970	1.660	0.000	0.000	255.957	0.000	0.000	0.000	43.830	302	46	971	1274
Namibia	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	3072	3072
South Africa	127.828	0.000	0.000	290.580	255.957	0.000	0.000	0.000	0.000	405.385	859.916	1940	1940	48325	50265
Swaziland	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	1616	1616
Tanzania	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0	0	2168	2168
Zambia	0.000	0.000	2.780	5.250	0.000	0.000	405.385	0.000	0.000	0.000	62.145	476	70	1644	2120
Zimbabwe	4.466	0.000	0.000	43.027	43.830	0.000	859.916	0.000	0.000	62.145	0.000	1013	153	3243	4256

Annex Table 2--Trade volumes with South Africa, the rest of the Southern Africa region, and the rest of the world (millions of $US).

Angola

	Trade with: South Africa	Rest of region	Rest of world	Total trade
1970	20	14	na	34
1975	75	15	na	90
1980	na	0.03	na	0.03
1985	0.04	9	4219	4228
1990	0.29	12	6455	6467
1992	128	5	na	133

Botswana

	Trade with: South Africa	Rest of region	Rest of world	Total trade
1970	na	na	72	72
1975	na	na	353	353
1980	na	na	1130	1130
1985	na	na	1308	1308
1990	na	na	3751	3751
1992	na	na	3922	3922

Lesotho

	Trade with: South Africa	Rest of region	Rest of world	Total trade
1970	na	na	48	48
1975	na	na	173	173
1980	na	na	524	524
1985	na	na	377	377
1990	na	na	799	799
1992	na	4	1062	1066

Malawi

	Trade with: South Africa	Rest of region	Rest of world	Total trade
1970	13	29	142	184
1975	68	52	339	460
1980	172	50	566	788
1985	132	39	441	612
1990	216	96	764	1076
1992	291	50	827	1168

Annex Table 2--continued

Mozambique

	Trade with: South Africa	Rest of region	Rest of world	Total trade
1970	na	17	na	17
1975	na	17	na	17
1980	na	6	1237	1243
1985	na	17	607	624
1990	na	56	1121	1177
1992	256	46	972	1274

Namibia

	Trade with: South Africa	Rest of region	Rest of world	Total trade
1970	na	na	na	0
1975	na	na	na	0
1980	na	na	3128	3128
1985	na	na	1534	1534
1990	na	na	2748	2748
1992	na	na	3072	3072

South Africa

	Trade with: Rest of region	Rest of world	Total trade
1970	131	8180	8311
1975	213	20894	21107
1980	262	49885	50147
1985	466	30155	30621
1990	884	47336	48220
1992	1940	48325	50265

Swaziland

	Trade with: South Africa	Rest of region	Rest of world	Total trade
1970	na	na	160	160
1975	na	na	374	374
1980	na	na	948	948
1985	na	na	485	485
1990	na	na	1387	1387
1992	na	na	1616	1616

Annex Table 2--continued

Tanzania

	Trade with: South Africa	Rest of region	Rest of world	Total trade
1970	na	na	710	710
1975	na	na	1415	1415
1980	na	na	2028	2028
1985	na	na	1448	1448
1990	na	na	1970	1970
1992	na	na	2168	2168

Zambia

	Trade with: South Africa	Rest of region	Rest of world	Total trade
1970	98	38	1483	1619
1975	70	14	2183	2267
1980	90	27	3256	3372
1985	na	73	1661	1734
1990	na	81	2357	2438
1992	405	70	1643	2119

Zimbabwe

	Trade with: South Africa	Rest of region	Rest of world	Total trade
1970	na	52	na	52
1975	na	39	2071	2110
1980	na	44	3363	3407
1985	335	100	2117	2551
1990	668	204	3149	4021
1992	860	153	3244	4257

Note: na - not available.

Source: UNCTAD data.

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