

recursos naturales e infraestructura

Trade and Maritime Transport between Africa and South America

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Contents

Summary	7
Introduction	9
I. Africa and South America	11
I.A. Economic situation	11
I.B. Geographic situation.....	12
II. Inter-regional trade	15
II.A. Value and volume of inter-regional trade.....	15
II.A.1. The monetary value	15
II.A.2. Trade volume in metric tons.....	17
II.B. Major products.....	18
II.C. Major trading countries	20
II.C.1. South American imports from Africa.....	20
II.C.2. South American exports to Africa.....	21
II.D. Major trade flows	22
III. Inter-regional transport	25
III.A. Modal split	25
III.A.1. Maritime and air transport	25
III.A.2. Types of maritime transport services	26
III.B. Bulk shipping	27
III.C. Liner shipping	28
III.C.1. Services between Africa and the South American east coast	28
III.C.2. Services between Africa and the South American west coast	29

III.D. Maritime transport costs.....	30
III.D.1. Liner shipping freight rates	30
III.D.2. Freight and insurance costs of South American imports from Africa.....	30
III.E. Geography and trade.....	31
IV. Conclusions.....	33
Bibliography.....	35
Serie Recursos naturales e infraestructura: Issues published.....	37

Illustrations

Illustration 1 Map of Africa	13
Illustration 2 Map of Latin America and The Caribbean.....	14
Illustration 3 South American countries' value of trade with Africa as percentage of total foreign trade, 1998.....	17
Illustration 4 South American countries' volume of trade with Africa as percentage of total foreign trade, 1998.....	18
Illustration 5 Iron ore storage in Tubarão (Brazil)	27
Illustration 6 Dry bulk terminals in Tubarão (Brazil)	27
Illustration 7 Route of evergreen's regular liner shipping service between South America's East Coast and the Far East	28
Illustration 8 Volume of South American countries' trade with Asia, Europe, and North America, via Maritime Transport, 1998.....	31

Tables

Table 1 Economic information on Africa and South America, 1998.....	11
Table 2 Freight and insurance as a percentage of imports c.i.f, 1997.....	12
Table 3 Trade between South America and Africa, 1998.....	15
Table 4 South American countries' imports from Africa by value, by country, via maritime transport, 1998	16
Table 5 South American countries' exports to Africa by value, by country, via maritime transport, 1998	16
Table 6 South American countries' imports from Africa by volume, by country, via maritime transport, 1998	17
Table 7 South American countries' exports to Africa by volume, by country, via maritime transport, 1998	18
Table 8 South American countries' trade with Africa, 1998	19
Table 9 South American countries' imports (f.o.b.) from Africa, major commodities via maritime transport, 1998	19
Table 10 South American countries' exports f.o.b. to Africa, major commodities via maritime transport, 1998	20
Table 11 Major African exporters' trade with South American countries via maritime transport, 1998	20
Table 12 Major South American importers' trade with Africa via maritime transport, 1998.....	21
Table 13 Major African importers' trade with South American countries via maritime transport, 1998	21

Table 14 Major South American exporters' trade with Africa via maritime transport, 1998	22
Table 15 Major trade flows (by volume), South American countries' maritime imports from Africa, by country and commodity, 1998	22
Table 16 Major trade flows (by volume), South American countries' maritime exports to Africa, by country and commodity, 1998.	23
Table 17 Relative importance of the maritime transport in inter-regional trade, by volume, 1998.....	25
Table 18 Relative importance of the maritime transport in inter-regional trade,by value, 1998.....	26
Table 19 Maritime distance between South American and African ports, nautical miles.....	28
Table 20 Freight and insurance costs of South American maritime imports from Africa, 1998	30

Summary

Trade between Africa and South America is of relatively minor importance for each region. The main purpose of this report is to determine if a scarcity of maritime transport services could explain this comparative unimportance.

More than half of all trade between the two regions is accounted for by just ten specific bilateral flows in petroleum, grain, iron ore, coal, and sugar. Almost all inter-regional trade moves by sea, mostly by non-liner charter shipping services. Trade between Africa and South America is subject to relatively low freight rates, mainly due to the type of products traded, which are of a bulk nature rather than manufactured goods.

Trade patterns are the main determinant of the supply of transport services, and there is little trade between Africa and South America for historical reasons, the lack of preferential trade agreements between the two regions, and because their economies do not necessarily complement each other. Wherever there is a demand for transport, be it for Argentinean grain in Egypt, for cotton from Benin in Brazil, for iron ore from Brazil in South Africa, or for petroleum from Nigeria in Chile, no fundamental shortage of supply of shipping services can be identified. There appears to exist a potential to generally reduce international transport costs in Africa and South America by port modernization.

Introduction

During a meeting of Chiefs of the Divisions and Units dealing with transport matters in the United Nations Regional Commissions, which took place in Cairo, Egypt, from 7 to 9 December 2000, ECLAC was asked to analyse the maritime transport services connecting Africa and South America. A similar study had been undertaken in 1982. However, since then, as far as is known, no further research on this topic has been published.

Then and now, trade between Africa and South America is of relatively little importance for each region. South America accounts for 2.5% of the world's trade (ECLAC, 2000), but only 1.8% of Africa's foreign trade is with South America. 1.4% of South America's trade is with Africa. The main purpose of this report is to determine if insufficient maritime transport service could explain this relative unimportance.

This document summarizes the main results of the research undertaken by ECLAC in response to the above mentioned request by the Meeting of Chiefs of Transport Divisions and Units of the UN's Regional Commissions. It consists of four parts:

- the first provides basic statistical information on the economic and geographical situation of each region;
- the second analyses the major trade flows between the two regions;
- the third analyses inter-regional maritime transport services; and
- the fourth presents some conclusions.

I. Africa and South America

I.A. Economic situation

Africa comprises 50, and South America 13 developing countries. Table 1 presents some economic indicators for the two regions¹. In general, both depend to a large extent on the export of basic commodities and both have an overall trade deficit. Africa depends more on foreign trade as a percentage of its Gross Domestic Product (GDP). South America has a higher GDP per capita.

Table 1
ECONOMIC INFORMATION ON AFRICA AND SOUTH AMERICA, 1998

	Africa	South America
Population	819,797,000	499,445,000
Imports (c.i.f., million US\$)	126,814	183,810
Exports (f.o.b, million US\$)	105,235	151,648
Total trade in goods (million US\$)	232,049	335,458
Trade balance (million, US\$)	-21,579	-32,162
Trade balance (% of exports)	-21%	- 21%
GDP (million US\$)	518,885	1,430,700
GDP per capita (US\$)	633	2,867
Foreign trade as % of GDP	45%	23%
Sea borne trade (million metric tons)	718	620

Sources: ECLAC estimates based on Monthly Bulletin of Statistics, United Nations, Vol LIV N° 7, July 2000; GDP: World Bank World Development Report; sea borne trade: UNCTAD, Review of Maritime Transport, 1999. c.i.f stands for "Cost, Insurance, Freight", f.o.b. means "Free on Board".

¹ Solely for the purposes of this report, Africa and South America as classified as regions.

On average, as a percentage of the value of imports c.i.f., African and Latin American countries pay more for the transport and insurance of their imports than the world average (see Table 2).

Table 2

FREIGHT AND INSURANCE AS A PERCENTAGE OF IMPORTS c.i.f., 1997
(percentage)

Region	(Imports c.i.f. – Imports f.o.b.) / Imports c.i.f., %
Africa	11.53
Latin America and the Caribbean	7.02
Developed market-economy countries	4.17
World average	5.24

Source: Review of Maritime Transport, UNCTAD, 1999.

I.B. Geographic situation

Neither region has a significant land transport connection with the major markets in the developed world. Almost all inter-regional trade thus has to take place by air or maritime transport. The following two illustrations show maps for both regions.

Illustration 1
MAP OF AFRICA



Source: United Nations, cartographic section, www.un.org/Depts/Cartographic/map/profile/eca.pdf

Illustration 2

MAP OF LATIN AMERICA AND THE CARIBBEAN



Source: United Nations, cartographic section, www.un.org/Depts/Cartographic/map/profile/eclac.pdf.

II. Inter-regional trade

II.A. Value and volume of inter-regional trade

II.A.1. The monetary value

When analysing international trade, a distinction has to be made between the value and the volume of the goods involved. If research is directed towards financial flows and the balance of payments, the monetary value of trade is more relevant. When looking at transport matters, the more relevant variable is the volume in metric tons.

Comparing each region's total foreign trade in terms of value (Table 1), transactions between both continents are of little importance (Table 3).

Table 3
TRADE BETWEEN SOUTH AMERICA AND AFRICA, 1998

	Value f.o.b. <i>Million US\$</i>	Percent of African trade	Percent of South American trade
Exports from South America to Africa	2,631	2.07	1.73
Imports of South America from Africa	1,744	1.37	0.95

Source: ECLAC, based on data from BTI (for inter-regional trade) and United Nations Monthly Bulletin of Statistics, July 2000 (for regional totals, see also Table 1). Note: "South America" data does not include Guyana and Surinam.

Looking in more detail at the countries which participate in this trade, and considering only seaborne, the following table shows that Brazil is by far the dominant trading partner of Africa in South America (see Table 4).²

Table 4

**SOUTH AMERICAN COUNTRIES' IMPORTS FROM AFRICA BY VALUE, BY COUNTRY,
VIA MARITIME TRANSPORT, 1998**

	Imports from Africa <i>thousand US\$</i>	Total imports <i>thousand US\$</i>	Imports from Africa as percentage of total imports
Argentina	159,388	16,517,558	0.96
Brazil	1,148,701	38,298,219	3.00
Chile	181,950	10,741,758	1.69
Colombia	31,374	7,994,199	0.39
Peru	43,036	5,953,361	0.72
Uruguay	76,918	1,606,534	4.79
Venezuela	15,186	4,978,411	0.31
Total 7 countries	1,656,553	86,090,040	1.92%

Source: International Transport Database (BTI), ECLAC.

Table 5

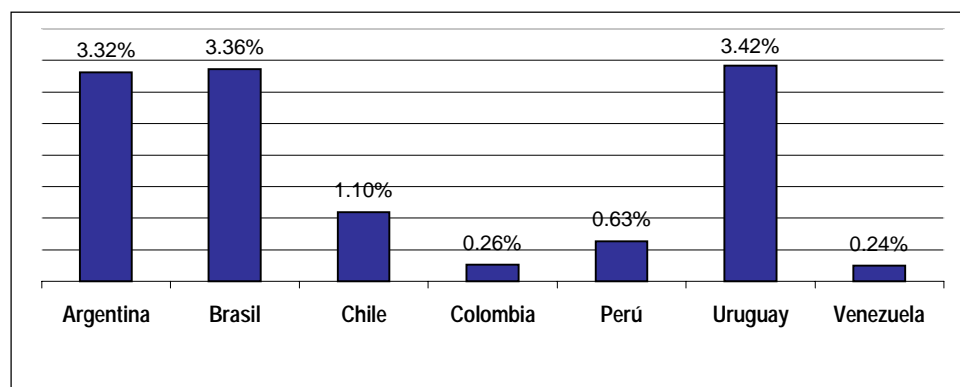
**SOUTH AMERICAN COUNTRIES' EXPORTS TO AFRICA BY VALUE, BY COUNTRY,
VIA MARITIME TRANSPORT, 1998**

Country	Exports to Africa <i>thousand US\$, f.o.b.</i>	Total exports <i>thousand US\$, f.o.b.</i>	Exports to Africa as percentage of total exports
Argentina	967,515	17,455,174	5.54
Brazil	1,467,053	39,588,367	3.70
Chile	69,040	12,150,532	0.57
Colombia	9,408	7,835,344	0.12
Peru	19,313	3,891,222	0.50
Uruguay	24,524	1,362,891	1.80
Venezuela	5,438	3,523,182	0.15
Total 7 countries	2,562,291	85,806,714	2.99%

Source: International Transport Database (BTI), ECLAC.

² The BTI (Base de datos de Transporte Internacional) does not cover Guyana and Surinam; data for Bolivia, Ecuador, and Paraguay does not include information about the mode of transport.

Illustration 3
SOUTH AMERICAN COUNTRIES' VALUE OF TRADE WITH AFRICA
AS PERCENTAGE OF TOTAL FOREIGN TRADE, 1998



Source: International Transport Database (BTI), ECLAC.

II.A.2. Trade volume in metric tons

Table 6
SOUTH AMERICAN COUNTRIES' IMPORTS FROM AFRICA BY VOLUME,
BY COUNTRY, VIA MARITIME TRANSPORT, 1998

Country	Imports from Africa <i>metric tons</i>	Total imports <i>metric tons</i>	Imports from Africa as percentage of total imports
Argentina	814,002	19,199,316	4.24
Brazil	9,144,999	87,275,882	10.48
Chile	1,466,429	19,249,735	7.62
Colombia	97,684	13,089,542	0.75
Peru	315,200	13,593,745	2.32
Uruguay	267,772	2,640,653	10.14
Venezuela	27,646	6,560,948	0.42
Total 7 countries	12,133,732	161,609,821	7.5%

Source: International Transport Database (BTI), ECLAC.

Table 7

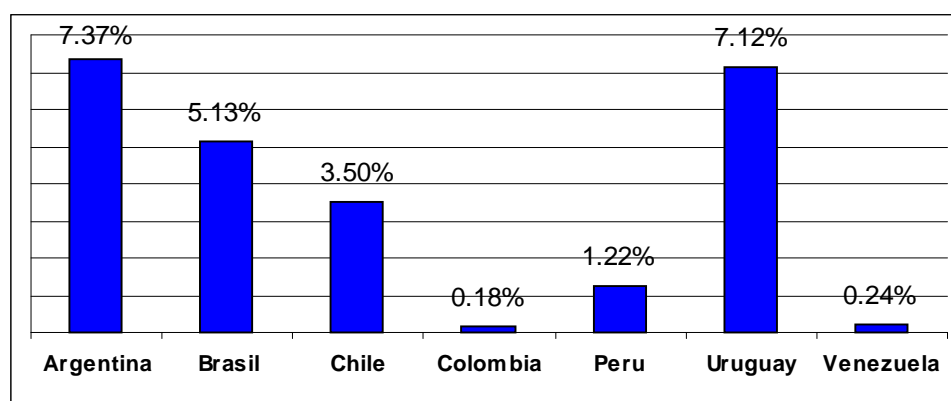
**SOUTH AMERICAN COUNTRIES' EXPORTS TO AFRICA BY VOLUME, BY
COUNTRY, VIA MARITIME TRANSPORT, 1998**

Country	Exports to Africa <i>metric tons</i>	Total exports <i>metric tons</i>	Exports to Africa as percentage of total exports
Argentina	5,416,342	65,294,207	8.30
Brazil	6,849,850	224,660,074	3.05
Chile	247,980	29,712,286	0.83
Colombia	41,494	63,601,744	0.07
Peru	16,390	13,425,684	0.12
Uruguay	72,685	2,140,188	3.40
Venezuela	31,526	17,259,636	0.18
Total 7 countries	12,676,268	416,093,819	3.05%

Source: International Transport Database (BTI), ECLAC.

Illustration 4

**SOUTH AMERICAN COUNTRIES' VOLUME OF TRADE WITH AFRICA AS PERCENTAGE
OF TOTAL FOREIGN TRADE, 1998**



Source: International Transport Database (BTI), ECLAC.

In general, for countries on South America's Atlantic coast, trade with Africa is of greater relative importance than for the countries on the Pacific coast. In terms of volume (metric tons) the inter-regional trade is more than it is in terms of value (US\$). This can be explained largely by the trade in high volume/ low value commodities such as grains, petroleum, and iron ore.

II.B. Major products

If the transactions between the two regions are grouped into four major types of traded goods, the following trade flows can be identified (Table 8).

Table 8
SOUTH AMERICAN COUNTRIES' TRADE WITH AFRICA, 1998

	Exports f.o.b.		Imports f.o.b.	
	Million US\$	% of total	Million US\$	% of total
Food and agricultural commodities ¹	1,843	70.0	199	11.4
Minerals and metals ²	157	6.0	89	5.1
Petroleum and fuels ³	12	0.4	989	56.7
Manufactured products and others ⁴	609	23.1	466	26.7
Total	2,631	100%	1,743	100%

Source: INTERNATIONAL TRANSPORT DATABASE (BTI), ECLAC. The data covers trade of Argentina, Brazil, Chile, Colombia, Peru, Uruguay, and Venezuela.

¹: Includes SITC (Standard International Trade Classification) sections: 0, 1, 2, 3 and 4 (excluding 27 y 28)

²: Includes SITC sections: 27, 28 and 68

³: Includes SITC sections: 3

⁴: Includes SITC sections: 5, 6, 7, 8 (excluding 68), and 9

70% of South America's exports to Africa comprise iron ore and agricultural products, whereas African exports to South America are mostly coal, petroleum and petroleum products. Combining imports and exports, the ten major commodities represent 91% of the total volume transported, the five major commodities 83%, and the two major commodities (petroleum and iron ore) more than half of the bilateral trade (52%). Disaggregating further, the following specific major trade flows can be identified (Table 9 and Table 10).

Table 9
SOUTH AMERICAN COUNTRIES' IMPORTS (f.o.b.) FROM AFRICA, MAJOR COMMODITIES VIA MARITIME TRANSPORT, 1998

SITC	Product	Volume <i>metric tons</i>	Value <i>thousand US\$</i>
333, 334	Petroleum based petroleum products, mineral petroleum from bituminous sources, crude petroleum	8,317,665	886,970
321	Coal, powdered or otherwise	2,040,457	86,148
272, 562	Fertilizers	869,707	92,336
522	Inorganic chemicals, oxides and halogen	240,214	52,772
263	Cotton	93,344	155,649
676	Iron and steel bars, rods, sections, etc.	72,396	21,714
287	Non-precious metals in mineral or concentrate form	66,235	8,968
661	Limestone, cement and processed construction materials, excluding glass and clays	64,738	2,266
278	Other bulk minerals	50,648	12,181
641	Paper and cardboard	40,046	22,686
Others		278,283	314,864
Total		12,133,732	1,656,553

Source: International Transport Database (BTI), ECLAC.

Note: Includes data for Argentina, Brazil, Chile, Colombia, Peru, Uruguay and Venezuela.

Table 10

SOUTH AMERICAN COUNTRIES' EXPORTS f.o.b. TO AFRICA, MAJOR COMMODITIES VIA MARITIME TRANSPORT, 1998

SITC	Product	Volume <i>metric tons</i>	Value <i>thousand US\$</i>
281	Iron ore and concentrates	3,118,167	116,178
061	Sugar, molasses and honey	2,723,182	623,166
044	Unground maize	1,727,248	180,548
041	Unground wheat and wheat/rye blends	1,437,607	187,573
081	Animal foodstuffs	1,420,840	181,181
421	Petroleum and fats of vegetal origin	583,210	358,954
278	Other bulk minerals	314,600	6,947
222	Petroleumseeds	184,717	42,842
248	Processed wood	169,649	36,769
641	Paper and cardboard	71,593	45,927
Others		922,705	780,568
Total		12,676,268	2,562,271

Source: International Transport Database (BTI), ECLAC.

Note: Includes data for Argentina, Brazil, Chile, Colombia, Peru, Uruguay and Venezuela.

II.C. Major trading countries

II.C.1. South American imports from Africa

Nigeria is the biggest African exporter to South America. Brazil the biggest importer of goods from Africa.

Table 11

MAJOR AFRICAN EXPORTERS' TRADE WITH SOUTH AMERICAN COUNTRIES VIA MARITIME TRANSPORT, 1998

Country	Value f.o.b. <i>US\$</i>	Volume <i>metric tons</i>
Nigeria	796,407,792	7,647,048
South Africa	470,444,984	2,736,392
Morocco	74,634,455	527,919
Tunisia	37,274,904	316,367
Ivory Coast	40,618,489	222,748
Togo	16,194,497	157,264
Equatorial Guinea	11,823,424	139,001
Libya	12,587,938	92,372
Guinea-Bissau	22,793,196	77,204
Benin	82,324,248	48,417

Source: International Transport Database (BTI), ECLAC.

Table 12

**MAJOR SOUTH AMERICAN IMPORTERS' TRADE WITH AFRICA VIA
MARITIME TRANSPORT, 1998**

Country	Value f.o.b. (US\$)	Volume (metric tons)
Brazil	1,467,053,397	6,849,850
Argentina	967,515,366	5,416,342
Chile	69,040,616	247,980
Uruguay	24,524,563	72,685
Colombia	9,408,954	41,494
Venezuela	5,438,201	31,526
Peru	19,313,565	16,390

Source: International Transport Database (BTI), ECLAC.

II.C.2. South American exports to Africa

Egypt is the biggest African importer of goods from South America. Brazil is the biggest South American exporter.

Table 13

**MAJOR AFRICAN IMPORTERS' TRADE WITH SOUTH AMERICAN
COUNTRIES VIA MARITIME TRANSPORT, 1998**

Country	Value f.o.b. US\$	Volume gross metric tons)
Egypt	801,534,727	5,105,216
Libya	106,255,701	1,607,010
Nigeria	357,834,035	1,363,845
South Africa	482,886,226	1,318,096
Morocco	303,926,192	1,242,640
Tunisia	87,409,179	527,830
Kenya	72,298,762	430,050
Ghana	73,507,017	264,547
Senegal	36,457,749	134,516
Somalia	23,726,627	107,755

Source: International Transport Database (BTI), ECLAC.

Note: Includes data for exports of Argentina, Brazil, Chile, Colombia, Peru, Uruguay and Venezuela.

Table 14

**MAJOR SOUTH AMERICAN EXPORTERS' TRADE WITH AFRICA
VIA MARITIME TRANSPORT, 1998**

Country	Value f.o.b. <i>US\$</i>	Volume <i>metric tons</i>
Brazil	1,148,701,195	9,144,999
Chile	181,950,014	1,466,429
Argentina	159,388,928	814,002
Peru	43,036,374	315,200
Uruguay	76,918,392	267,772
Colombia	31,374,415	97,684
Venezuela	15,186,039	27,646

Source: International Transport Database (BTI), ECLAC.

II.D. Major trade flows

While the previous two sections looked at the major commodities and trading partners separately, it is also of interest to look simultaneously at the major specific maritime trade flows, by country and commodity.

Table 15

**MAJOR TRADE FLOWS (BY VOLUME), SOUTH AMERICAN COUNTRIES' MARITIME IMPORTS FROM
AFRICA, BY COUNTRY AND COMMODITY, 1998**

Origin	Destination	SITC, Commodity	Volume <i>metric tons</i>	% of total volume	Value c.i.f. <i>million US\$</i>
Nigeria	Brazil	3 (Petroleum, gas, coal and similar)	6,044,258	49.8	621
South Africa	Brazil	3	1,834,864	15.1	84
Nigeria	Chile	3	1,213,541	10.0	115
Nigeria	Peru	3	259,217	2.1	23
South Africa	Argentina	3	210,478	1.7	7
Total 5 major bilateral trade flows			9,562,357	78.8	849
Total all other bilateral trade flows			2,571,373	21.2	807
Total			12,133,732	100.0%	1,656

Source: International Transport Database (BTI), ECLAC.

Note: Includes data for Argentina, Brazil, Chile, Colombia, Peru, Uruguay and Venezuela.

Three-quarters of all South American imports from Africa are petroleum products shipped to Brazil, Chile and Peru from Nigeria, and coal imported to Brazil and Argentina from South Africa. All other South American imports combined make up the rest.

Table 16

MAJOR TRADE FLOWS (BY VOLUME), SOUTH AMERICAN COUNTRIES' MARITIME EXPORTS TO AFRICA, BY COUNTRY AND COMMODITY, 1998

Origin	Destination	SITC, Commodity	Volume <i>metric tons</i>	% of total volume	Value f.o.b. <i>million US\$</i>
Argentina	Egypt	0 (food and living animals)	2,111,645	16.7	250
Brazil	Egypt	2 (raw agricultural materials)	1,646,971	13.0	63
Brazil	Libya	2	1,289,213	10.2	48
Brazil	Nigeria	0	826,151	6.5	207
Brazil	Egypt	0	807,613	6.4	183
Total 5 major bilateral trade flows			6,681,594	52.7	753
Total all other bilateral trade flows			5,995,674	47.3	1,809
Total			12,676,268	100.0%	2,562

Source: International Transport Database (BTI), ECLAC.

Note: Includes data for Argentina, Brazil, Chile, Colombia, Peru, Uruguay and Venezuela.

More than half of the South American countries' exports to Africa, by volume, can be accounted for by Argentinean grain exports to Egypt, Brazilian iron ore exports to Egypt and Libya, and Brazilian sugar exports to Egypt and Nigeria.

III. Inter-regional transport

III.A. Modal split

III.A.1. Maritime and air transport

For obvious reasons, trade in goods between Africa and South America can only be transported by air or by sea. Higher volume goods with a lower unit value tend to be moved by ship, whereas higher value goods are more likely to be moved by air.

Table 17
RELATIVE IMPORTANCE OF THE MARITIME TRANSPORT IN
INTER-REGIONAL TRADE, BY VOLUME, 1998

Exporting Country	Total volume <i>metric tons</i>	Via maritime transport <i>metric tons</i>	Percent via maritime transport
Argentina	5,426,377	5,416,342	99.82
Brazil	6,851,288	6,849,849	99.98
Chile	248,754	247,980	99.69
Colombia	41,565	41,494	99.83
Peru	16,447	16,390	99.65
Uruguay	73,201	72,685	99.30
Venezuela	31,534	31,526	99.97
Total 7 countries	12,689,170	12,676,268	99.90%

Source: International Transport Database (BTI), ECLAC.

Table 18

**RELATIVE IMPORTANCE OF THE MARITIME TRANSPORT IN INTER-REGIONAL
TRADE, BY VALUE, 1998**

Exporting Country	Total value f.o.b. US\$	Via maritime transport US\$	Percent via maritime transport
Argentina	995,299,658	967,515,366	97.21
Brazil	1,491,731,796	1,467,053,397	98.35
Chile	71,675,935	69,040,616	96.32
Colombia	10,004,987	9,408,954	94.04
Peru	19,634,469	19,313,565	98.37
Uruguay	26,148,911	24,524,563	93.79
Venezuela	8,744,619	5,438,201	62.19
Total			
7 Countries	2,623,240,375	2,562,291,662	97.68%

Source: International Transport Database (BTI), ECLAC.

As is usually the case, maritime transport accounts for a bigger share of the volume of trade than of its value. But even in terms of value it is by far the dominant mode, accounting for more than 97% of the inter-regional trade.

III.A.2. Types of maritime transport services

Shipping services can be divided into two main types:

- **Charter (or Tramp):** These are services where one or a few cargo owners, or their agent, rent a ship for a given journey, usually between a single pair of ports. Most bulk cargo, such as petroleum, iron ore, grain, or coal is transported by specialized bulk carriers which ship only one single commodity from one port of origin to its destination.
- **Liner shipping:** These are regular scheduled services which usually require three to ten ships, all following the same route one after the other, calling at various ports. They can be used by any importer or exporter and are therefore also called “common user” services. The cargo transported belongs to many different owners. An increasing share of the liner shipping services is containerized. The remaining cargo is called “general cargo” which is moved as “break bulk”.

Of course there are intermediate types of services, and also some additional very specialized services such combined cargo and passenger roll-on/roll-off ships, or reefer vessels which carry refrigerated cargo. Particularly in the cases of bulk and specialized shipping services, the owner of the cargo may also be the owner of the ship, or at least enter into a long term contractual relation with the shipping company. Examples are petroleum and gas tankers, or reefers which transport bananas and other fruit.

As shown above, the major trade flows between Africa and South America are bulk cargoes such as petroleum, iron ore, cereals, sugar, and coal. All these are moved by specialized bulk carriers, which are chartered or owned directly by the shippers.

Goods of higher value or trade between relatively small scale importers and exporters of consumer or investment goods require liner shipping services. If such trade is to be promoted between Africa and South America, one also has to determine if sufficient liner shipping services are available to carry it. Below, we shall first look at bulk shipping services, and thereafter at liner shipping services.

III.B. Bulk shipping

As indicated above, most trade between Africa and South America is moved as bulk. In specialized vessels of up to 300 000 dwt (dead weight tons) moving petroleum, iron ore, coal, or grain. If possible, carriers try to obtain return cargo. For example, iron ore exports from Brazil to South Africa may be transported by the same vessels that return with coal imported by Brazil. Correspondingly, vessels taking grain from Argentina to Egypt may come back with petroleum from Libya.

Freight rates for these bulk shipping services are determined on the free market. Short term fluctuations are closely linked to fuel, other operating costs and the demand/supply balance at each particular moment; long term variations are also related to vessel building costs. Alternatively, fuel may be charged separately to the charterer. Competition is fierce, as the vessels can be redeployed easily and the number of shipping companies is very high, i.e., no single company can dominate any of the main dry or liquid bulk markets. The time it takes to build a new ship can be as short as eight months, hence there is no danger of a long term shortage of supply. Supply can effectively be increased by simply not scrapping old vessels.

The following two illustrations show the terminal in Tubarão (Brazil), from where, inter alia, iron ore is exported to South Africa, and coal is imported from that country.

Illustration 5
IRON ORE STORAGE IN TUBARÃO (BRAZIL)



Photo: Jan Hoffmann, September 2000.

Illustration 6
DRY BULK TERMINALS IN TUBARÃO (BRAZIL)



Photo: Jan Hoffmann, September 2000.

As bulk cargo is moved directly between two ports, distance is one of the main determinants of the time for which a vessel has to be chartered. Table 19 shows the maritime distances between major ports in Africa and in South America.

Table 19

MARITIME DISTANCE BETWEEN SOUTH AMERICAN AND AFRICAN PORTS
(nautical miles)

	Durban (S. Africa)	Port Said (Egypt)	Casablanca (Morocco)
Buenos Aires (Argentina)	5,466	7,621	5,116
Santos (Brazil)	4,793	6,664	4,159
San Antonio (Chile)	8,457	9,383	7,248
Callao (Peru)	9,738	8,060	5,925

Source: www.distances.com [May 2000].

The shortest distances are obviously between ports on opposite sides of the Atlantic. In view of the distances, and also scale economies achieved in bulk shipping, it should come as no surprise to see that for Argentina, Brazil and Uruguay, exports to Africa are relatively more important than for the South American countries on the western seaboard (see above, Table 7).

III.C. Liner shipping

III.C.1. Services between Africa and the South American east coast

Most services that directly link South America's east coast with Africa are part of longer routes which connect points further east with the Asia Pacific region. The following illustration shows one such service.

Illustration 7

**ROUTE OF EVERGREEN'S REGULAR LINER SHIPPING SERVICE
BETWEEN SOUTH AMERICA'S EAST COAST AND THE FAR EAST**



Source: <http://www.evergreen-america.com/service.htm#ESA> [June 2000].

The following companies offer regular liner shipping services between South America and Africa, as of mid 2000. (Sources: www.linershopping.co.uk/, companies' Internet sites, and

information obtained by telephone from companies' agencies.) The specific service patterns of each company may change over time; the information provided below is meant only as a general guide as to the types of services that are offered.

- **Mitsui O.S.K. Lines, P&O Nedlloyd:** Frequency 8 days. One round trip takes 84 days, starting in Yokohama (Japan), and including ports in South Africa, Argentina, Brazil, and Uruguay.
- **Pro Line:** Frequency 25 days. Starts in South East Asia, with port calls in South Africa, Argentina and Brazil. Voyage time between Buenos Aires and Durban is 16 days, between Rio Grande and Durban 10 days.
- **CSAV, Norsul, NYK, Quadrant:** Frequency weekly. Similar route as Pro Line's service. Shortest voyage length between South Africa and South America is 9 days.
- **COSCO, Evergreen, Lloyd Triestino, Yangming:** Frequency weekly. Route and voyage length similar to the previous group of companies. The service employs 10 ships with an average capacity of 2651 TEU (Twenty foot Equivalent Units of containers).
- **Kien Hung:** Frequency weekly, calling only at Santos, Cape Town, and ports in Asia.
- **Joint Global-Clipper:** Frequency every fourteen days. This service is different that provided by the previous lines as service does not connect with ports in Asia, but instead provides direct transportation between Itajai, Rio de Janeiro, and Santos in South America, and Luanda, Lagos, Cotonou, Tema, and Abidjan in Western Africa.
- **Maersk:** Frequency weekly. It connects Brazilian ports with various ports in Africa via a trans-shipment link in Algeciras (Spain).

Summing up, most scheduled shipping services between Africa and South America are part of a wider service pattern, which includes ports in Asia. There are some direct services between MERCOSUR countries and Western Africa, and there are several carriers which offer regular services involving the trans-shipment of containers in ports in Europe, or Central or North America.

For the vast majority of smaller ports, direct liner shipping services between Africa and South America are not available. However, as with all liner shipping services anywhere in the world, as long as cargo trans-shipment is admissible, practically any port in South America is connected with any port in Africa.

III.C.2. Services between Africa and the South American west coast

There are far fewer services to Africa operating from the Pacific coast of South America than from its Atlantic coast. Almost all services involve at least two trans-shipments, one in MIT in Panama or another American port north of the Equator, and one in Algeciras or another port in Europe.

- **Maersk:** Three vessels that connect to North Africa via Algeciras in Spain. Several other carriers provide a similar service pattern. After passing through the Suez Canal, the vessels call at a further trans-shipment point which connects with routes serving East African ports.
- **Mediterranean Shipping:** After trans-shipment in Europe, provides regular services are provided to several Western African ports, as far as Durban in South Africa. Several other carriers provide a similar service pattern.

- **Compañía Chilena de Navegación Interoceánica, K Line, Mitsui O.S.K. Lines, P&O Nedlloyd:** This service pattern connects to Eastern and Southern African ports via trans-shipment services in Singapore.

Thus, whilst there are no direct regular liner shipping services connecting the west coast of South America with African ports, several carriers offer regular services involving two or more trans-shipments.

III.D. Maritime transport costs

III.D.1. Liner shipping freight rates

Based on information obtained from four carriers on the freight rate for a 20 foot container “FAK” (Freight all kind), in May 2000, the costs of transporting such a box were as follows:

- South American Atlantic coast / Africa: US\$ 1500.-
- South American Pacific coast / Africa: US\$ 1900.- to 2300.-

These are only indicative rates which of course vary over time and depend on the specific ports of origin and destination. However, the general tendency clearly is that rates from the South American west coast are about 20 to 35% higher than from the east coast. This is due to the distance, the number of necessary trans-shipments, and—above all—economies of scale (Hoffmann, 1998; Fuchsluger, 1999).

III.D.2. Freight and insurance costs of South American imports from Africa

As explained above, most maritime trade between Africa and South America is shipped as bulk, by chartered or owned dry or liquid bulk carriers. At any given point in time, the daily charter rate of such vessels depends on the type of cargo, and the probability of obtaining return cargo at or near the port of destination. Above all, there are significant economies of scale, as administrative, personnel and several other cost items do not vary proportionately with the volume transported.

The annual averages of the payments made for freight and insurance of South American imports from Africa can be assessed as the difference between f.o.b. and c.i.f. imports. (see Table 20).

Table 20

FREIGHT AND INSURANCE COSTS OF SOUTH AMERICAN MARITIME IMPORTS FROM AFRICA, 1998

Country	Imports c.i.f.– Imports f.o.b., per metric ton (US\$) imports from Africa	Imports c.i.f. – Imports f.o.b., per metric ton (US\$); all maritime imports	Difference (percent of costs of all maritime imports)
Argentina	20.93	55.75	-62
Brazil	7.66	27.10	-72
Chile	15.81	46.71	-66
Colombia	46.00	49.48	-7
Peru	20.28	40.03	-49
Uruguay	27.07	51.34	-47

Source: International Transport Database (BTI), ECLAC.

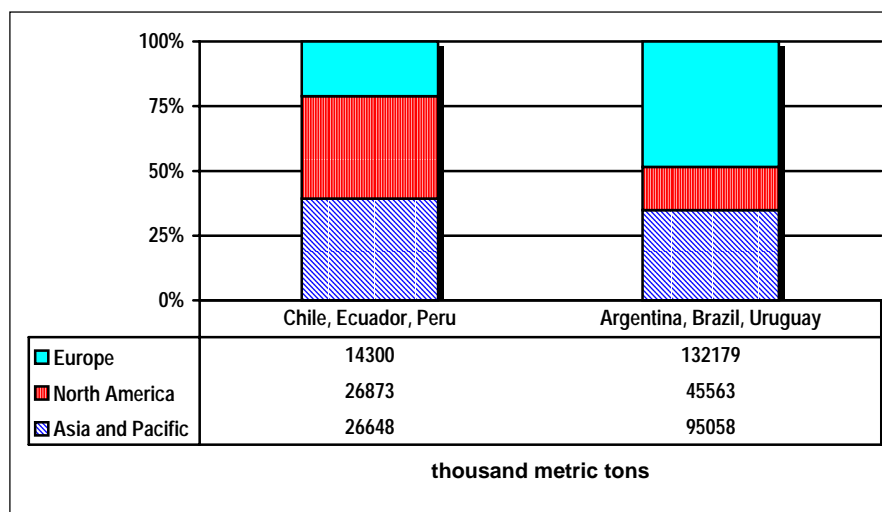
All six South American countries for which data are available report lower transport costs per ton for their imports from Africa compared with imports from other continents. Brazil has the lowest transport and insurance costs per ton for imports from Africa, followed by Chile. One should note, however, that this does not allow us to draw any conclusions about the efficiency of ports or shipping services as these costs depend almost entirely on the type of product and economies of scale. Brazil is by far the largest South American importer of goods from Africa, and it can thus make use of bigger vessels and more specialized equipment in its ports.

III.E. Geography and trade

As has been shown, South American countries that are physically nearer to Africa also trade a higher share of their imports and exports with that continent. This is consistent with the gravity based transport models which imply that countries that are closer to each other also have more bilateral trade. A very similar picture appears if we look at the South American non-African inter-regional trade.

Illustration 8

VOLUME OF SOUTH AMERICAN COUNTRIES' TRADE WITH ASIA, EUROPE, AND NORTH AMERICA, VIA MARITIME TRANSPORT, 1998



Source: International Transport Database (BTI), ECLAC.

Note: North America includes USA and Canada.

In total, the coastal countries of MERCOSUR (Argentina, Brazil, Uruguay) have four times as much inter-regional trade than Chile, Ecuador and Peru. For each group of countries, the relative weight of trade with other regions reflects the corresponding distances: The west coast of South America is relatively near to North America, the east coast is relatively close to Europe, and both sides of South America are at the same distance to Asia-travelling eastwards from the Atlantic coast, or westwards from the Pacific coast.

Geographic distance affects bilateral trade on two different counts. Firstly, there is of course the direct relationship between distance and transportation costs, with higher costs leading to relatively less trade. Radelet and Sachs (1998) estimate that an additional distance of 10% leads to an increase in transport costs of 1.3%.

The second factor is related to economies of scale. Countries that are closer to each other also tend to trade more due to historic and language reasons, and their citizens are more likely to know, visit and communicate with each other. This can contribute to a relative high importance of bilateral trade, and this increase leads in turn to lower transport costs: for any given product, a 10% increase in volume has a stronger impact on transport costs than a 10% increase of distance (see for example Fuchsluger 1999).

IV. Conclusions

There is relatively little trade between Africa and South America, and far more than half of all trade between the two regions is accounted for by just ten specific bilateral trade flows in petroleum, grain, iron ore, coal, and sugar. Trade is thus very concentrated on few countries, commodities, and shipping routes.

South America's share of world trade is 2.5%. Most countries' trade tends to be with countries relatively close geographically to one another, and with those with complementary economic structures. It should thus not come as a big surprise to learn that South America's share within Africa's total foreign trade is less than its share in world trade—its share of Africa's trade is around 1.8%.

Almost all trade between the two regions moves by sea, mostly by non-liner charter shipping services. As a result, trade between Africa and South America incurs comparatively low average maritime transport costs. However, this is due to type of products traded: Transport costs per ton for iron ore, coal or petroleum will always be lower than for manufactured goods.

There is little that can be done to improve shipping services. In any case, the quality or availability of shipping services does not appear to be a significant obstacle to trade between Africa and South America.

Trade in manufactured goods between the two regions is of little importance, but a lack of transportation options does not appear to be a reason. Should a citizen of Ghana want to buy a television set made in Brazil, or a citizen of Uruguay a car made in South Africa, the number of trans-shipments or the duration of the sea transport will not necessarily be any more than it would be for a similar transaction between Africa and North America, or South America and Europe.

If transport costs are prohibitive to a specific transaction, the cause is most likely found in inefficiencies in the ports, or be due to insurance costs and expensive inland transport. It has been shown—at least in South America—that there exists a potential to reduce maritime transport costs by improving port services (Hoffmann, 2001). However, this result is not unique to trade between Africa and South America and has therefore not been analysed in more detail in this report.

As Radelet and Sachs (1998) and Gallup and Sachs (1999) point out, higher transport costs will always have a negative impact on trade and development. However, a simple correlation does not distinguish between “demand” and “supply”: trade may be low due to high transportation costs, which are supposedly explained by a greater distances. Yet the same longer distances may be part of the explanation for less trade for different reasons—and less trade means diseconomies of scale for the providers of transport services, which in turns leads to higher transport costs.

Finally, it should be pointed out that in the case of trade between Africa and South America, distance is of very little relevance. The continents are actually relatively close to each other. It is the trade patterns that determine the supply of transport services, and there is little trade between Africa and South America for historical reasons, the lack of preferential trade agreements between both regions, and because the economies do not necessarily complement each other. Wherever there is a demand for transport, be it for Argentinean grain in Egypt, for cotton from Benin in Brazil, for iron ore from Brazil in South Africa, or for petroleum from Nigeria in Chile, no fundamental shortage of supply of shipping services can be identified.

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