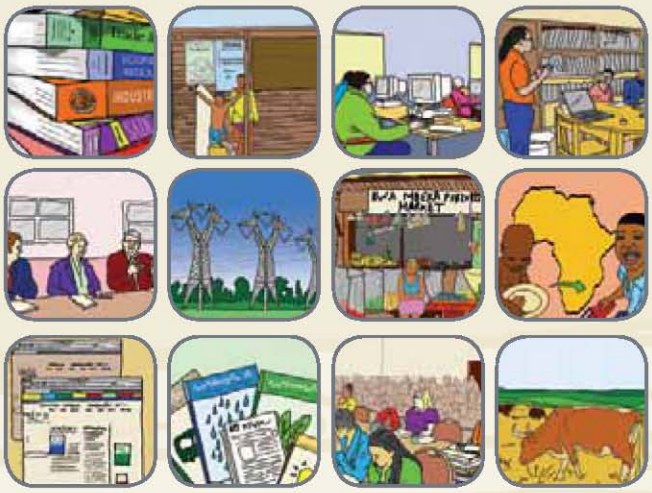
TRADE & INDUSTRIAL POLICY STRATEGIES



TIPS Data Notes and Reports

Examining South-South Trade Flows and Market Access Conditions: A Case Study of the India, Brazil and South Africa Development Initiative

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indigenous **growth**

EXAMINING SOUTH-SOUTH TRADE FLOWS AND MARKET ACCESS CONDITIONS: A CASE STUDY OF THE INDIA, BRAZIL AND SOUTH AFRICA DEVELOPMENT INITIATIVE

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS/ACRONYMS

FTA	Free Trade Area
IBSA	India, Brazil, South Africa
ITC	International Trade Centre
MERCOSUR	Mercado Común del Sur
PTA	Preferential Trade Agreement
RTA	Regional Trade Arrangements
SACU	Southern African Customs Union

SUMMARY

This paper examines the pattern of trade between IBSA countries for the period 2001-2008 and in this period. We find that trade between the countries has been on the increase. After the IBSA initiative was established in 2003, each country recorded a significant growth in its trade with other IBSA countries in 2004, leading to a large intra-IBSA trade increase of 43.45%. Intra-IBSA trade continued to rise thereafter peaking at US$26 497.7million in 2008, a 40.97% growth from the previous year.

With regards to South Africa's exports with Brazil, we find that the mining sector dominates. In the manufacturing sector, high-technology followed by medium-technology manufactures dominate. South Africa's chief imports from Brazil are largely with manufactures, particularly of high-technology goods followed by medium-technology imports. The agricultural sector is the second most significant sector after manufacturing.

South Africa's exports to India are dominated by medium-technology manufacturing goods followed by products from the mining sector. South Africa's chief imports from India largely consist of high-technology manufactures, followed by mining sector products; with medium-technology manufactures ranking third. The mining sector dominates Brazil's chief exports to India followed by the agricultural sector. The manufacturing sector ranks third with high-technology manufactures dominating. Brazil's chief imports from India are dominated by manufactures followed by Iron and steel. Within the manufacturing sector, high-technology manufactures are the most dominant.

In the period 2001-2003, South Africa tended to trade more with Brazil than with other considered countries, while from 2004 to 2008, it tended to trade more with India. South Africa's total trade with both countries continuously increased but its trade with India increasing at a faster rate. Furthermore, India applies relatively much lower applied tariffs (compared to Brazil) on South Africa's chief exports, thus providing much easier market access than Brazil.

Over the years, Brazil has been trading more with India than with South Africa. However, its trade with both countries has been on a continuous rise although its trade with India has been rising at a faster rate, especially after 2004. Applied tariffs data show that South Africa provides much lower applied tariffs to Brazil than to India. Nevertheless, the much easier market access into the South African market through the much lower applied tariffs has not, in quite a number of cases, been systematically accompanied by higher export levels of Brazil's chief exports compared to those destined to India.

In the period under study, India has been trading more with South Africa than with Brazil. Applied tariff data show that irrespective of whether India's chief exports are to both Brazil and South Africa, or to Brazil only, or to South Africa only, in most cases, South Africa applies much lower applied tariffs (compared to Brazil) for India's exports. In most cases, the easier market access into South Africa through lower applied tariffs is accompanied by

significantly higher levels of exports (compared to those going into Brazil) in the respective product categories.

IBSA members continue to apply tariff and non-tariff barriers on each other which have been a cause for concern to business persons in all three countries. In turn, business partners are affected by: (i) a lack of information and knowledge about each other; (ii) geographical distance coupled with poor, limited and expensive air and shipping connections; (iii) cultural differences and a lack of extensive cultural links; (iv) language barriers; (v) crime and corruption; (vi) high-level red tape, inefficient bureaucracy and excessive regulation; (vii) insufficient enforcement of protection of intellectual property rights; (viii) excessive anti-dumping regulations and measures; as well as,(ix) complicated and non-transparent import licensing systems and customs regimes.

Individual IBSA countries' trade with the rest of the world trade in the period 2001-2008 was also examined, with a special focus on each country's trade with Latin America and the Caribbean, Africa, Asia, as well as total world trade. With regards to the Latin American and Caribbean region, each country's trade with the region has been rising over the years. For each country, significantly very high trade growth rates were recorded for the first time in 2004, and the momentum for very high growth rates was maintained for the rest of the period.

Each IBSA country has been experiencing increased trade with Africa, and for each country, 2004 kick started significantly very high trade growth rates. With regards to trade with Asia, each country's trade has been on a continuous increase, with a turning point in 2002. Each country's total world trade has been on a continuous increase and in 2003, each country started recording significantly high trade growth rates and each country maintained this momentum for the rest of the period.

The significance of the individual IBSA countries in international trade is evidenced by the way each country's trade has been growing over the years in the various regions examined as well as their respective total world trade. IBSA countries are not only increasing trade in the regions in which they are located but are also increasingly raising inter-regional South-South trade as evidenced by each IBSA country's trade growth rates with other regions. Thus, the growth of interregional trade by the IBSA countries is illustrative of their role as emerging engines of interregional South-South trade as each IBSA country uses its other partners as a gateway for intensifying intercontinental trade.

1. INTRODUCTION

South-South cooperation is a term used to describe the exchange of resources, technology, and knowledge between developing countries/or countries of the global South. South-South cooperation takes place at various levels, e.g. on bilateral, trilateral, regional, sub-regional, and intra- as well as inter-regional bases.

South-South linkages (i.e. economic, social and political) are on the increase with countries in the Southern Hemisphere mobilising their resources in the areas of trade, finance and investment as well as technical assistance so as to help each other to develop. By pooling their resources and working together collectively, the developing countries seek to build their strengths so as to jointly meet the challenges that inevitably arise with globalisation.

Since South-South trade linkages are on the increase, it is important to analyse these so as to see whether the South as a market provides developing countries with greater opportunities to transform their productive structures and move towards more sophisticated sectors than the North does. This is because more often than not, as Appleyard, *et al* (2008:268) note, it has been argued that developed countries tend to have escalated tariff structures with correspondingly heavier protection for manufactured goods industries than intermediate goods and raw materials industries, thus discriminating against developing countries' attempts to develop their manufacturing sectors. Thus, as Klinger (2009:1) observes, by examining the composition of South-South trade and comparing it with South-North trade, one will be able to ascertain whether the former is truly presenting opportunities for developing countries to diversify production and to export relatively high skill content manufactures which are products with greater developmental effects. Also to note is that by examining South-South trade linkages, one will be able to establish whether these have led to a decline in South-North trade linkages or whether the two are simply complementary.

Section 2 gives some insight into the India, Brazil and South Africa (IBSA) development initiative. Section 3 examines theoretical frameworks that are often used to explain trade flows, i.e. the Heckscher-Ohlin theory, theories based on economies of scale, the Heckscher-Ohlin-Ricardo theory, and the Linder hypothesis. Section 4 examines intra-IBSA trade bringing out its trends over the years, sectoral composition of both imports and exports, composition of manufactures imported and exported, as well as opportunities for intra-industry trade. Market access conditions between the IBSA members will also be examined and their possible implications for intra-IBSA trade. Section 5 concludes the paper.

2. THE INDIA, BRAZIL AND SOUTH AFRICA DEVELOPMENT INNITIATIVE

The IBSA development initiative is a form of South-South cooperation at trilateral level between countries in different continents. It was born in June 2003 through the Brasilia Declaration after a pioneering meeting of the three countries with the aim of examining themes on the international agenda and those of mutual interest. Each year thereafter, the three countries have been meeting to review and assess progress as they seek to strengthen,

consolidate and forge ahead with this initiative. This is evidenced by the yearly Trilateral Commission of the IBSA Dialogue Forum; *viz*: the New Delhi Cooperation held in March 2004 in India, the Cape Town Communiqué held in March 2005 in South Africa, the Rio Communiqué held in March 2006 in Rio de Janeiro, and the New Delhi Summit Declaration held in October 2008 in India (IBSA Trilateral Official Website, 2008a; White, 2008; Lai, 2006).

The main objectives of the IBSA development initiative are to promote (i) South-South dialogue, cooperation and common positions on issues of international importance; (ii) trade and investment opportunities between the three regions of which they are part; (iii) international poverty alleviation and social development; and (iv) trilateral exchange of information, international best practices, technologies and skills, as well as to complement each other's strengths into collective synergies. To this end, the three countries have identified areas of mutual interest, *viz*: science and technology, trade, investment, travel and tourism, transport, health, energy, information technology, education, defence, and culture (IBSA Trilateral Official Website, 2008b; 2008c; Hendricks, 2007; White, 2008; Lai, 2006; Murinzi, 2007). Through an appropriate combination of their resources; concrete cooperation projects are to be created in each of these broad areas and implemented for mutual benefit.

The India-MERCOSUR Preferential Trade Agreement (concluded and signed on 25th January 2004), the SACU-India Preferential Trade agreement (whose framework agreement was concluded and signed in 2004 and expected to be concluded and signed at the end of 2009), and the MERCOSUR-SACU Preferential Trade Agreement (signed in December 2004 and concluded in April 2008) are bilateral preferential trade agreements IBSA members have with each other (SACU, 2008; Department of Commerce Government of India, 2009; SIAM, 2009; Omar, 2009). In initiating and finalising each of these preferential trade agreements, there is an understanding between the countries concerned that the preferential trade agreement will (with further negotiations) be a key element to gradually establish conditions for a future free trade agreement so as to form Free Trade Areas between the parties concerned (in conformity with the rules of the World Trade Organisation), e.g. India-MERCOSUR Free Trade Area, SACU-India Free Trade Area, and MERCOSUR-SACU Free Trade Area.

Lai (2006) notes that the trade ministers of the three countries agree that these bilateral preferential trade agreements should be transformed into one trilateral trade agreement. This would thus realise the much desired and awaited India-MERCOSUR-SACU trilateral free trade arrangement. However, Lai (2006) further notes that it is often argued that binding trilateral free trade arrangements between the three countries are not an option at present because the IBSA countries have previously signed multinational agreements involving neighbouring nations. For example, SACU and MERCOSUR as customs unions prohibit individual members from forming free trade agreements with any outside nation without extending the newly expanded free trade area and its benefits to other existing members. Therefore, for now, some commentators, e.g. Breytenback (cited in Nieuwoudt, 2008) believe that 'trade agreements between the three countries would be more effective as bilateral agreements rather than multilateral agreement'.

The year 2010 marks eight years after the inception of the IBSA development initiative and it is timely to evaluate how intra-IBSA trade has evolved since the inception of the initiative.

3. THEORETICAL FRAMEWORK UNDERLYING TRADE BETWEEN COUNTRIES

Trade is a positive-sum game and has the potential to enhance economic wellbeing as nations are enriched as their companies and workers specialise in what they can do best, whilst the competition that ensues with trade forces companies to be more productive. Classical and neo-classical trade theories were used for a long time to explain the basis for trade between countries. However, as trade continued to evolve and new trade patterns emerged, new trade theories have been developed to try and explain such trade patterns. The sections which follow will thus give some insight into some of the trade theories that have often been used to explain trade patterns.

3.1 The Heckscher-Ohlin Theorem

The Heckscher-Ohlin model of international trade is a neo-classical trade theory based on the principle of comparative advantage[1], and helps to understand international trade patterns. The Heckscher-Ohlin model assumes that the only difference that exists between the two countries in the model is a difference in resource endowments (the two countries have identical technologies, and the aggregate preferences are the same across countries). It therefore examines the effects of factor endowment on international trade (Leamer, 1995:17; Ruffin, 1999:3; Subasat, 2003:150; Bukhari *et al*., 2005:310; Appleyard *et al*, 2008:127).

In the model, relative endowments of the factors of production (land, capital and labour) determine a country's comparative advantage. For example, in a country where capital and land are abundant but labor is scarce, the price of capital and land will be low since these are the abundant factors. Thus, the country will find it relatively much cheaper to produce goods that utilise/require lots of capital and land, but little labor, due to the cheaper price of the abundant inputs. Labour-intensive goods on the other hand will be very expensive to produce since labor is scarce and its price is high.

Therefore, since goods that require inputs that are locally abundant will be cheaper to produce than those goods that require inputs that are locally scarce, countries have comparative advantages in those goods for which the required factors of production are relatively abundant locally. As such, a country exports the commodity that uses relatively intensively its relative abundant factor of production, and it will import the commodity that

[1] It was developed by Eli Heckscher in 1919 and Bertil Ohlin in 1933. Focussing on producing a commodity which one can produce at a lower opportunity cost than another country given all the other products that could be produced.

uses relatively intensively its relative scarce factor of production (Dornbusch *et al*., 1980:205, 212; McPherson *et al*., 2000:23; Bukhari *et al*., 2005:309; Appleyard *et al.*, 2008:133-134).

The Heckscher-Ohlin theorem can thus be used to explain some of the trade currently experienced between developed countries and developing countries. Highly developed countries have a comparatively high ratio of capital to labor in relation to developing countries. This makes a developed country capital-abundant relative to a developing nation and a developing nation labour-abundant in relation to the developed country. As per the Heckscher-Ohlin theorem, the developed countries will have a comparative advantage in capital-intensive goods and will thus export the capital-intensive goods, thus expanding their capital-intensive industries. The developing countries, on the other hand, will have comparative advantages in labour-intensive goods and will thus export the labour-intensive goods, thus expanding their labour-intensive industries.

The basic Heckscher-Ohlin model depends upon the relative availability of capital and labour differing internationally, but if capital can be freely invested anywhere, as capital controls continue to be reduced the world over as is currently happening, competition for investment would make relative factor abundances identical throughout the world. Even though there could be differences in labour abundance, these would not produce a difference in *relative* factor abundance (in relation to mobile capital) because the labour/capital ratio would be identical everywhere. Also to note is that when empirical tests were conducted, the Heckscher-Ohlin theory has been found wanting[2]. In this regard therefore, there has been a need for alternative theories to account for emerging trade patterns which the Heckscher-Ohlin theory cannot explain. This has led to various post-Heckscher-Ohlin theories.

3.2 Post-Heckscher-Ohlin theories of trade

A number of alternative trade theories have emerged to try and explain some of the trade patterns experienced by countries. One characteristic of trade which is becoming increasingly recognisable between countries today is intra-industry trade. Intra-industry trade occurs where the same kinds of goods and services (goods of *similar* factor endowments) are both imported and exported by a country. Over the years, as trade grows and intensifies between countries, evidence shows that even when industries are disaggregated to extremely fine levels (so as to avoid classifications that place goods of heterogeneous factor endowments in a single industry), intra-industry trade still occurs.

It has been argued that intra-industry trade will be relatively greater compared to inter-industry trade the more similar are the capital and labour endowments of the countries being examined (Krugman, 1981:971; Ruffin, 1999:5; Appleyard *et al.*, 2008:192). In this regard therefore, many economists argue that an explanation for the occurrence of this type of trade cannot be found within the framework of classical or neo-classical trade theory because under their assumptions, countries with identical factor endowments would not trade

[2] As noted by some authors including Davis and Weinstein (1996), Bukhari, *et al* (2005) and Jones (2008).

Behar (1991:532) notes that unlike inter-industry trade which is based on and reflects comparative advantages between countries, intra-industry trade is based on economies of scale, the production of differentiated goods, preference diversity and overlapping demand. Below are the various theoretical frameworks that show how each of these could lead to or explain intra-industry trade.

3.2.1 Models of increasing returns to scale and imperfect competition

The most comprehensive and widely accepted explanation, is that of Paul Krugman's (1979) New Trade Theory, where he argues that economies specialise to take advantage of increasing returns, not following differences in regional factor endowments as contended by neoclassical theory. Production of differentiated goods will thus take place where the average cost is lowest and at the largest possible scale. International trade therefore allows countries to specialise in a limited variety of production and thus reap the advantages of increasing returns (i.e. economies of scale), without reducing the variety of goods available for consumption as they trade among each other for the other brands so as to satisfy consumers' preference for diversity. Therefore, trade between very similar countries in goods of *similar* factor endowments is possible and will increasingly take place between such countries (Krugman, 1981:160, 161; Mahon, 2003:2; Appleyard *et al*., 2008:190; Klinger, 2009:2; Siggel, 2009:9-10).

3.2.2 The Heckscher-Ohlin-Ricardo model

Davis (1995) argues that both the Heckscher-Ohlin and Ricardian models are still relevant in explaining intra-industry trade. He developed the Heckscher-Ohlin-Ricardo model, which showed that even with constant returns to scale, intra-industry trade could still occur. The Heckscher-Ohlin-Ricardo model explained that countries of identical factor endowments would still trade due to differences in technology, as this would encourage specialisation and therefore trade, in exactly the same manner that was set out in the Ricardian model (i.e. trading as per comparative advantage due to differences in supply conditions that arise from different technologies despite identical factor endowments).

One would therefore argue that the differences in technologies (despite identical factor endowments), would lead to the production of differentiated goods and countries would trade among each other for the other brands so as to satisfy consumers' preference for diversity. Technical differences (no matter how small), thus induce specialisation in at least one of the countries and lead to trade in goods of similar factor intensity. Therefore, increasing returns to scale are <u>not</u> necessary for intra-industry trade to occur (Davis, 1995:205, 207, 224). Soo (2005) adds that in the Heckscher-Ohlin-Ricardo model, demand patterns are crucial as the consumers place weights (to indicate preferences) on the good that has different technologies across countries.

3.2.3 Linder hypothesis

This was proposed by Staffan Burenstam Linder in 1961 as a possible way of explaining the Leontief paradox which questioned the empirical validity of the Heckscher-Ohlin theory. The Linder hypothesis is an exclusively demand oriented (or demand based) theory of trade in contrast to the usual supply based theories involving factor endowments. Linder hypothesised that nations with similar demands (similar demand structures, or overlapping demand) would develop similar industries. These nations would then trade with each other in similar but differentiated goods. Therefore, goods are traded based on similar demand rather than differences in supply side factors. Thus, international trade would still occur between two countries having identical preferences and factor endowments through relying on specialisation to create a comparative advantage in the production of differentiated goods between the two trading partners (McPherson *et al.,* 2000:124; Bukhari *et al*., 2005:310; Appleyard *et al*, 2008:179; Klinger, 2009:1).

On this score, the Linder theory helps to explain intra-industry trade between similar countries. Thus, it is often argued that countries of similar per capita income should trade more intensely with one another as they express more intensified overlapping demand. The other implication of the Linder theory is that international trade in *manufactures* will be more intense between countries with similar per capita income levels than between countries with dissimilar per capita income levels (McPherson *et al*., 2000:125; Bukhari *et al*., 2005:310, 318; Hallak, 2006:2, 5; Appleyard *et al.,* 2008:179).

4. AN ECONOMIC OVERVIEW OF IBSA COUNTRIES

Table A-1 (Appendix 1) gives an economic overview of the IBSA countries. Of the three countries, India is the largest market in terms of population size whilst South Africa is the smallest. However, Brazil has the largest per capita income whilst India has the least, and as such, would negatively affect India's ability to present a more effective demand for exports from the other IBSA countries as would have been expected given its huge population size. Of the three countries, South Africa is the most open economy while Brazil is the least open as evidenced by their respective ratios of merchandise trade to GDP.

Table A-1 (Appendix 1) also shows that Brazil is the biggest economy followed by India, as shown by the GDP figures. While overall GDP growth remained positive in all the three countries, India emerges as the fastest growing economy although its annual growth rate fell from 9.1% in 2007 to 7.1% in 2008. The IBSA countries have also been affected by 2008 global economic crisis, e.g. World Bank (2009a:200, 201) notes that while for Brazil, GDP growth continued to rise throughout the four quarters of 2008, India and South Africa saw their GDP growth rates declining rapidly during the third and fourth quarters of 2008.

The inflation rate in India rose in the period 2000 – 2008, from 3.5% in 2000 to 7.3% in 2008 (Table A-1, Appendix 1). World Bank (2009a:201) notes that in the second half of 2008, the country experienced a much faster increase in the inflation rate, peaking at 10% by December

2008. Table A-1 (Appendix 1) shows that South Africa experienced a continuous rise in the inflation rate after 2005, with the rate peaking at around 11% by the end of the second quarter of 2008, as observed by World Bank (2009a:2001). In Brazil, the inflation rate tended to fluctuated up and down on a yearly basis. However, World Bank (2009a:200) notes that from January 2007, each quarter experienced a continuous rise in the inflation rate, peaking in mid 2008 after which it fell slightly for the rest of the year.

In Brazil and South Africa, monetary policy is designed and implemented within the inflation-targeting policy framework with the objective of accomplishing and thereafter maintaining price stability. The chief policy instrument to achieve this is interest rates. Brazil decreed an inflation-targeting regime for monetary policy in mid 1999 after the 1999 currency crisis which led to the depreciation of its national currency, the Real. In South Africa, inflation targeting was set for the first time in February 2000. The monetary policy in Brazil and South Africa is given increased flexibility by the adoption of a floating exchange rate regime. In Brazil, this came into permanent effect early 1999, while South Africa began to gradually liberalise its exchange rate system after 1994 and it now has a floating exchange rate which it has continued to uphold (Barbosa-Filho, 2008; Central Bank of Brazil, 1999; Holland, 2005; Mboweni, 2006; Mnyande, 2007).

Despite experiencing high inflation which has become a cause of concern in the financial community and that a number of developing countries currently implement inflation targeting regimes, India has not adopted an inflation targeting policy. Jha (2005) argues that the Reserve Bank of India would find it difficult to pursue an inflation targeting strategy due to constraints relating to, among other things, lack of independence of the Reserve Bank of India, lack of capacity to collect the relevant statistical data, lack of fully integrated financial markets, the liberalisation of the financial market still being outstanding, and a lack of a stable and significant relationship between the measure of inflation to be controlled and short-term interest rates (Jha, 2005:24-29). As such, Cavoli and Rajan (2008) note that the Reserve Bank of India's monetary policy has been inconsistent based on an *ad hoc* and discretionary combination of sterilised foreign currency intervention, interest rate changes alongside with non-market mechanisms. However, Venkitaramanan (2008) and Cavoli and Rajan (2008) observe that other economists as well as the Raghuram Rajan Committee on Financial Structure Reforms have advocated for adopting an inflation targeting arrangement by the Reserve Bank of India. While a market determined exchange rate system was set put in early 1993, with greater currency flexibility witnessed from early 2004, India has opted for a managed floating exchange rate with selective controls on capital flows (Mohan, 2006; Patnaik and Shah, 2007; Jha, 2005).

As Table A-1 (Appendix 1) shows, in all the three countries, the services sector contributes highest to GDP followed by industry and lastly agriculture.[3] The performance of the services sector in Brazil and South Africa is more or less the same and much stronger than that in India. With regards to agriculture, India has a much stronger agricultural sector as evidenced by the sector contributing highest to GDP compared with the other IBSA countries. Also to

[3] For cross country comparisons on sectoral distributions to GDP, less aggregated data which shows the specific components in each sector and their respective contributions to GDP were not easily available. Thus, highly aggregated data for sectoral contributions to GDP were used.

note is that India has the most competitive manufacturing sector as it registers the highest share of manufactured exports to total merchandise exports, although this share has progressively declined (i.e. from 77% in 2003 to 64% by 2007). However, with regards to high-technology exports, Brazil has the strongest and most modern manufacturing sector as evidenced by the share of its high-technology exports in manufactured exports, which averages 14% compared to an average of 5% for India and 6% for South Africa. Gross capital formation is key for increased output and economic expansion, and India registers the highest level and this was on a continuous increase reaching 39% of GDP in 2008. The levels of capital formation in Brazil and South Africa are more or less the same, averaging 18% for Brazil and 19% for South Africa (Table A-1, Appendix 1).

5. INTRA-IBSA TRADE AND MARKET ACCESS CONDITIONS

As mentioned above, one of the objectives of the IBSA development initiative is to promote trade and trade opportunities between the three countries and the regions of which they are part. This section starts by briefly examining trade patterns between the three countries in the period before 2001.[4] This will be used to examine whether there has been any change in the trade patterns between the three countries in the period 2001-2008 with the IBSA development initiative in place. The market access conditions into each member state when the IBSA development initiative was in place (with regards to applied tariffs as well as non-tariff barriers) are also examined to ascertain the ease with which the three countries can access each other's markets.

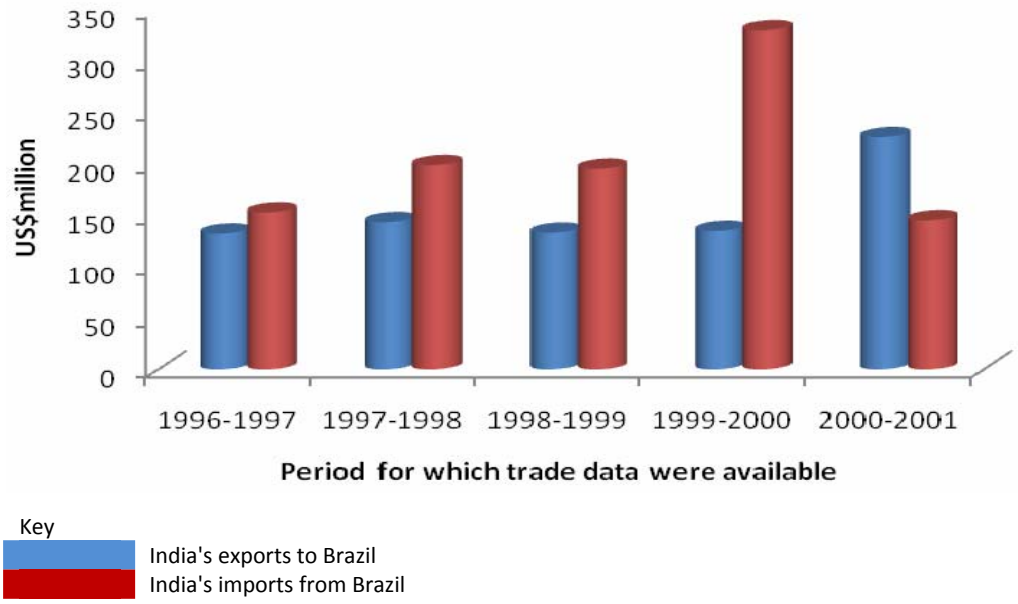
5.1. Intra-IBSA trade before 2001

5.1.1 Trade between India, Brazil and South Africa before 2001

The period for which statistical data were available was 1996/7 to 2000/01. Figure 1 below shows India's trade with Brazil and it shows that its exports to Brazil were on a continuous increase after 1998/99, with the highest exports growth rate (i.e. 67.42%) experienced in 2000/01. Its imports from Brazil fluctuated up and down throughout the whole period peaking in 1999/00 which is also the period in which the highest import growth rate was experienced (i.e. 68.99%). Except for 2000/01, India incurred a trade deficit with Brazil.

[4] In examining the trade patterns in the IBSA countries in this period, the trade data bases for India and South Africa are used as these were the ones available.

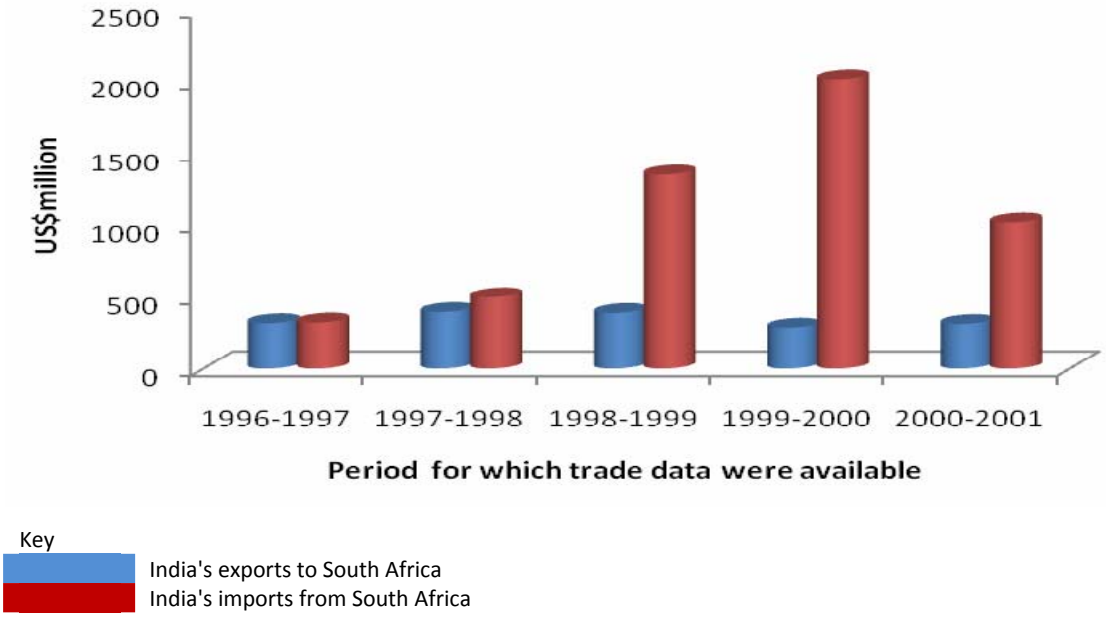
Figure 1: India's trade with Brazil (1996-2001)



Source: Own figure using statistical data from India's Department of Commerce Export/Import Data Bank

India's trade with South Africa is shown in Figure 2 below where its exports to South Africa fell after 1997/98 rising slightly in 2000/01. The highest exports growth rate (i.e. 24.5%) was experienced in 1997/98. Its imports from South Africa were on a continuous increase until 2000/01 when they fell drastically to almost half the preceding year's value. The highest imports growth rate (i.e. 171.40%) was experienced in 1998/99. India incurred a trade deficit with South Africa throughout the period, with such a deficit growing significantly after 1997/98.

Figure 2: India's trade with South Africa (1996-2001)

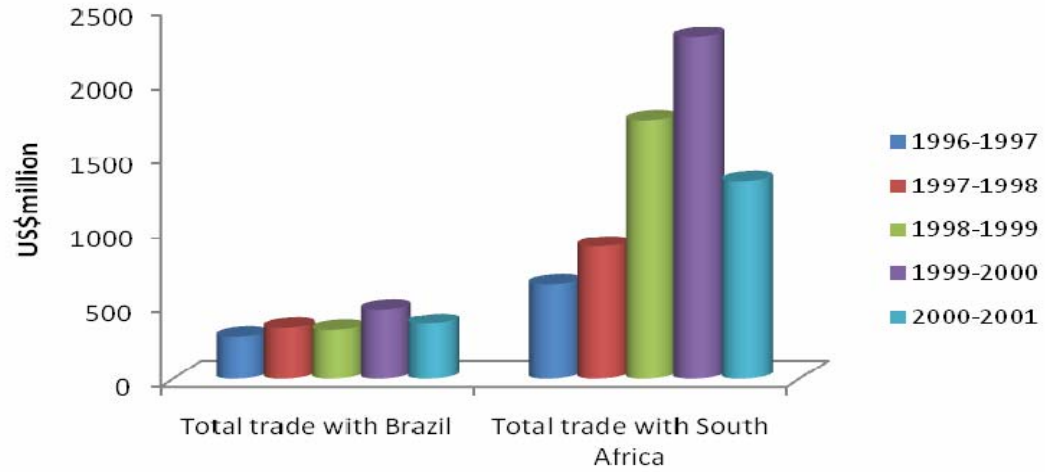


Source: Own figure using statistical data from India's Department of Commerce Export/Import Data Bank

When India's trade with Brazil and with South Africa is compared, Figure 3 below shows that India tended to trade much more with South Africa than with Brazil. As shown in Table A-2 (Appendix 2), its total trade with South Africa grew at a much higher rate than with Brazil in the period 1996/97 – 1998/99. While its total trade with both countries fell in 2000/01, its trade with South Africa fell by a much bigger margin (i.e. 42.1%) compared to with Brazil where it fell by 20.3%.

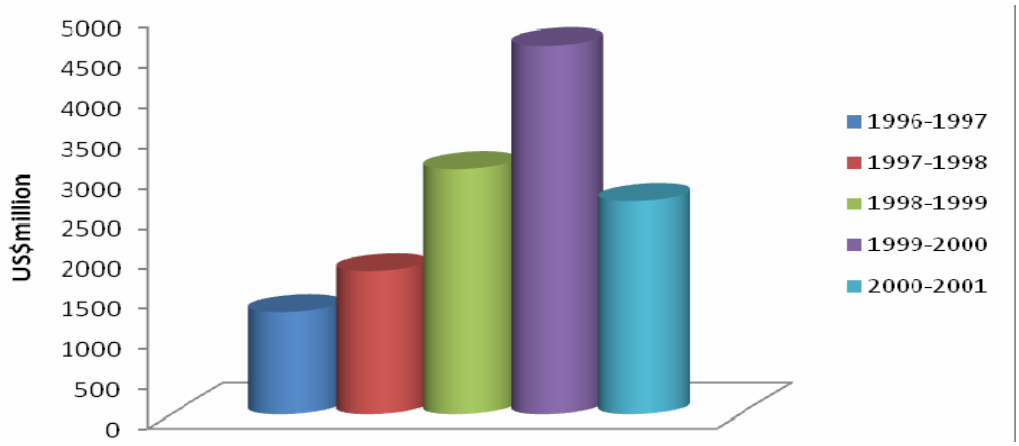
Figure 4 below shows that India's total IBSA trade expanded peaking in 1999/00 after which it fell significantly in 2000/01 to slightly above half the previous year's value. The highest trade growth rate (i.e. 41.7%) was experienced in 1998/99. The significant fall in India's total IBSA trade in 2000/01 caused the country to experience an average trade growth rate of 7.8% with IBSA (see Table A-2, Appendix 2).

Figure 3: India's trade with Brazil and South Africa compared (1996-2001)



Source: Own figure using statistical data from India's Department of Commerce Export/Import Data Bank

Figure 4: India's total IBSA trade (1996-2001)

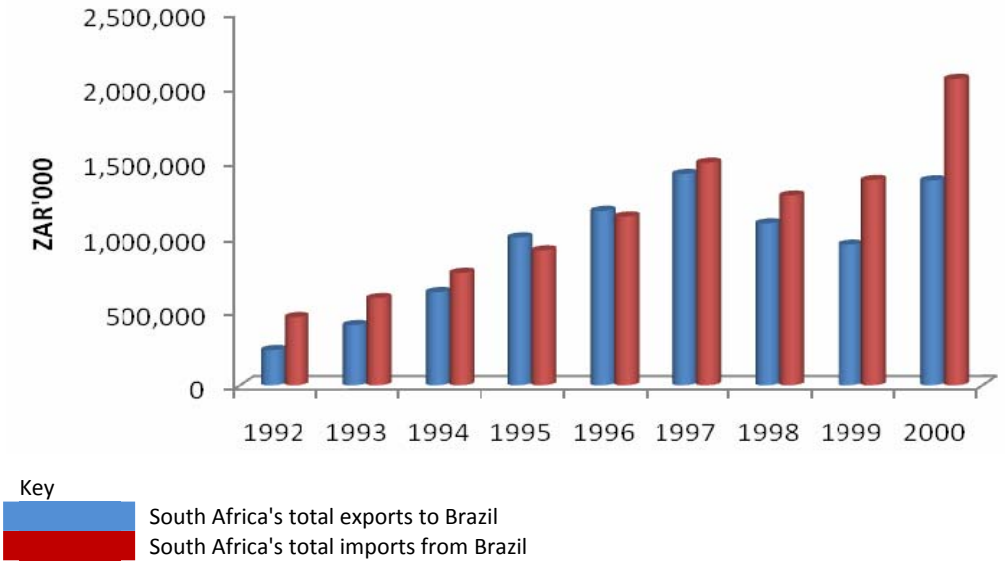


Source: Own figure using statistical data from India's Department of Commerce Export/Import Data Bank

5.1.2 Trade between South Africa, Brazil and India before 2001

Figure 5 below shows South Africa's trade with Brazil. Its exports to Brazil were on a continuous increase between 1992 and 1997 followed by a continuous decrease in the next two years. Very high export growth rates were experienced up to 1995, ranging between 54% and 69%. Its imports from Brazil also grew until 1997 with import growth rates ranging between 21% and 31%. Imports from Brazil rose significantly in 2000 rising by 49% from the previous year. Except for 1995 and 1996, South Africa experienced a trade deficit with Brazil.

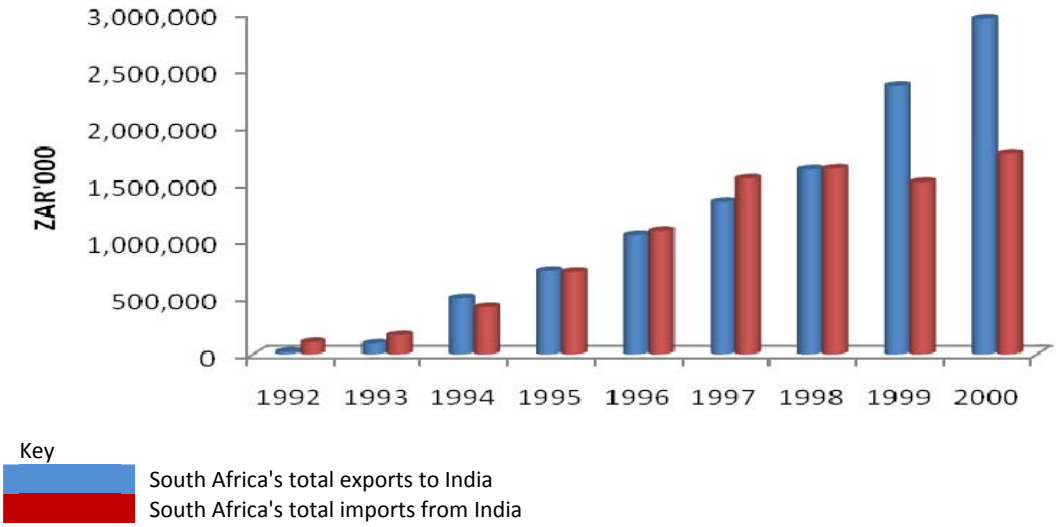
Figure 5: South Africa's trade with Brazil (1992-2000)



Source: Own figure based on statistical data from South Africa Department of Trade and Industry trade data bank

Trade between South Africa and India is shown in Figure 6. The figure reveals that exports to India expanded throughout the period although extremely high export growth rates occurred in 1993 and 1994 with export growth rates of 365% and 418%, respectively. South Africa's imports from India also grew except in 1999 when they fell slightly. Very high export growth rates were experienced up to 1997, ranging between 42% and 142%. For most years - , i.e. in 1992, 1993, and 1996-1998 -, South Africa experienced a trade deficit with India.

Figure 6: South Africa's trade with India (1992-2000)

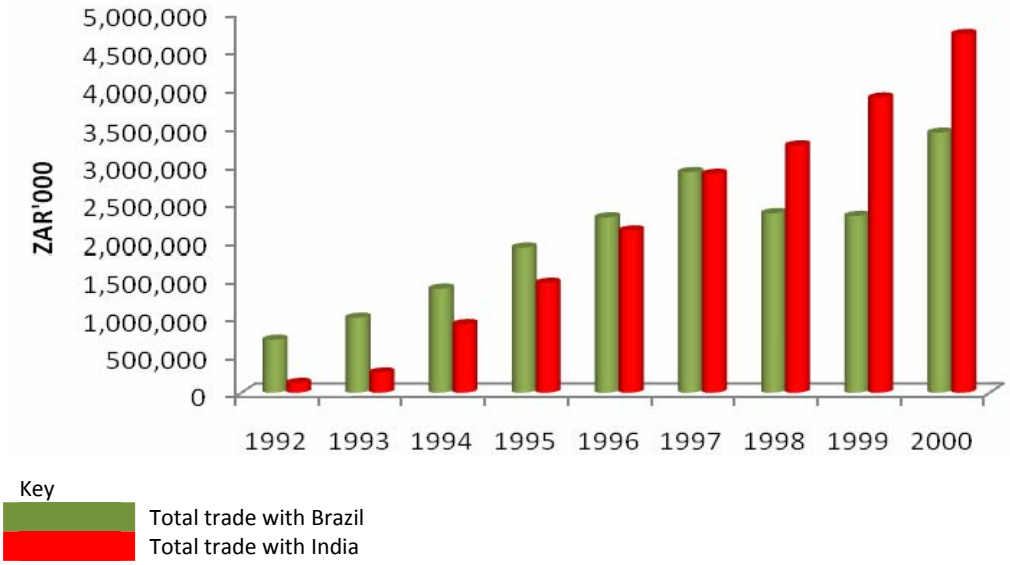


Source: Own figure based on statistical data from South Africa Department of Trade and Industry trade data bank

A comparison between South Africa's trade with India and with Brazil shows that South Africa experienced an expansion of its trade with India throughout the period, while with Brazil, the increase in trade was only up to 1997 after which it fell continuously for 2 years, rising up again in 2000 (Figure 7). South Africa tended to trade more with Brazil than with India between 1992 and 1997 after which it began to trade more with India than with Brazil. Throughout the period 1992-1999, South Africa's trade with India grew at a much faster rate than its trade with Brazil. In 2000, its trade with Brazil grew at a much faster (i.e. 47%) than with India (i.e. 21.7%) (see Table A-3, Appendix 2).

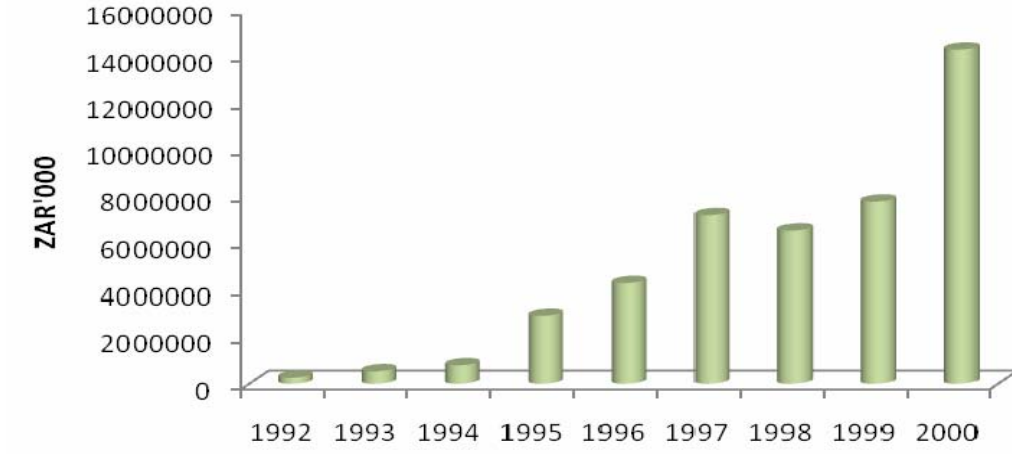
Figure 8 below shows South Africa's total IBSA trade. This trade was on a continuous increase up to 1997 after which it fell slightly in 1998. In 2000 it rose to almost twice the previous year's value. Extremely high trade growth rates were experienced in 1993 and 1995 (growth rates of 106.8% and 267.5%, respectively). The country experienced an average trade growth rate of 78.90% with IBSA (Table A-3, Appendix 2).

Figure 7: South Africa's trade with Brazil and India compared (1992-2000)



Source: Own figure based on statistical data from South Africa Department of Trade and Industry trade data bank

Figure 8: South Africa's total IBSA trade (1992-2000)



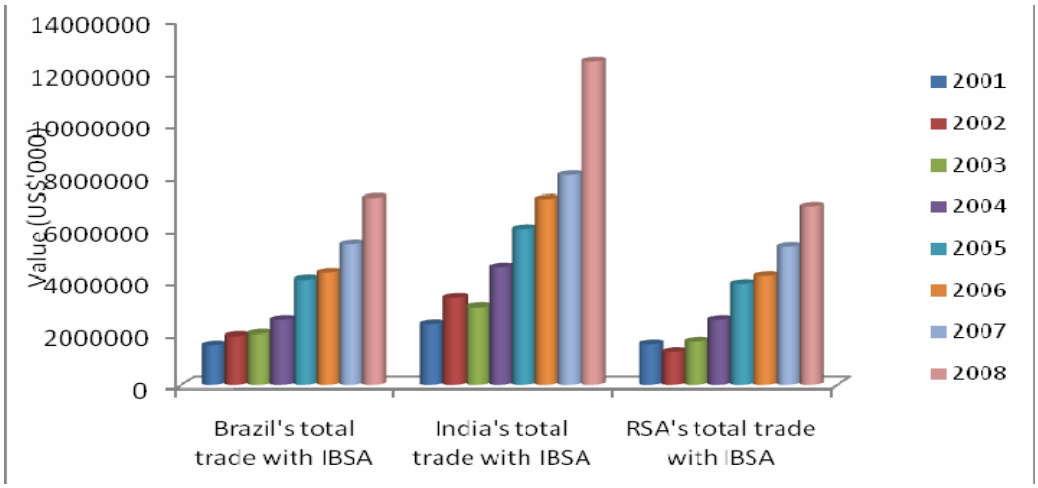
Source: Own figure based on statistical data from South Africa Department of Trade and Industry trade data bank

5.2 Intra-IBSA trade (2001-2008)

Figure 9 illustrates intra-IBSA trade for the period 2001-2008. The figure shows that, over the years, each country's trade with IBSA was generally growing, except for India and South Africa whose trade with IBSA fell slightly in 2003 and 2002, respectively. India recorded the highest average trade growth rate (i.e. 28.9%) with IBSA, followed by Brazil with an average

of 25.8% and South Africa had an average of 24.85% (Table A-4, Appendix 3). For India, this average trade growth rate was a significant improvement from that of 7.8% in the period before 2001 as shown in Table A-2 (Appendix 2). For South Africa, its average trade growth rate with IBSA was a significant fall from that for the period 1992-2000 where it averaged 78.90% (see Table A-3, Appendix 2).

Figure 9: Intra-IBSA trade (2001-2008)



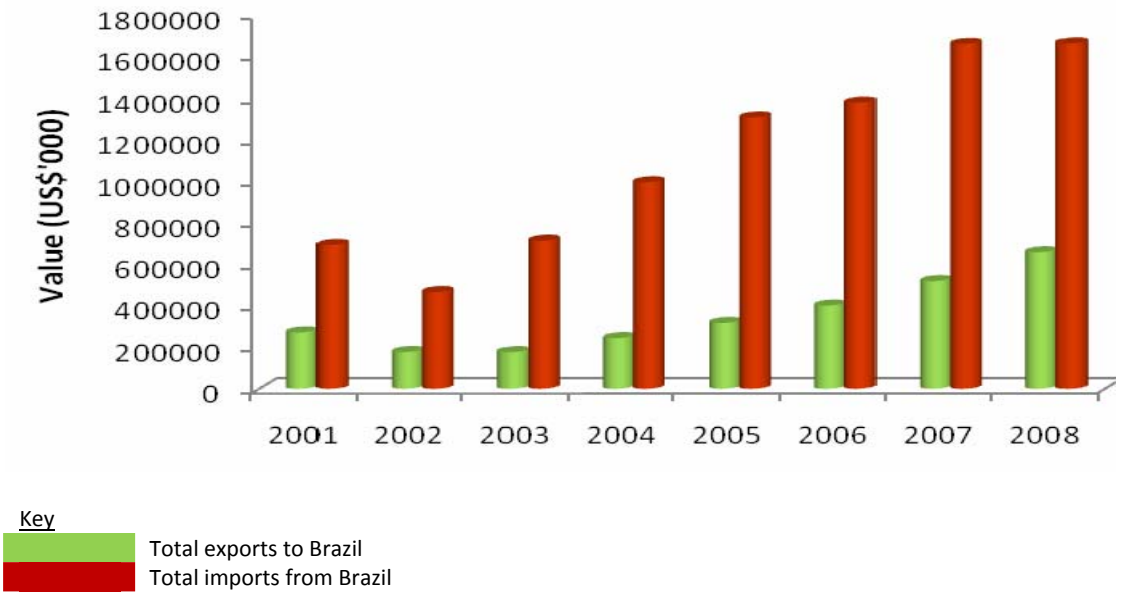
Source: Own Figure using statistical data from the ITC TradeMap database.

After the IBSA initiative was established in 2003, each country recorded a significant growth in its trade with IBSA in 2004 leading to a very big increase in intra-IBSA trade which rose by 43.45%. Intra-IBSA trade continued to rise thereafter peaking at US$26 497.7million in 2008 which was a 40.97% growth from the previous year (Table A-4, Appendix 3). Thus, as intra-IBSA trade continues to grow, IBSA countries could reinforce each other's economic strength and growth.

5.2.1 South Africa – Brazil trade

Figure 10 shows that throughout the 2001-2008 period, South Africa experienced an large trade deficit with Brazil though both its exports and imports to Brazil expanded from 2002. Thus, the pattern of trade deficits which South Africa experienced with Brazil in the period 1992-2000 (see Figure 5, Section 5.1.2) persisted.

Figure 10: South Africa's trade with Brazil (2001 – 2008)



Source: Own Figure using statistical data from the ITC TradeMap database.

The mining sector dominates South Africa's major exports to Brazil (see Table A-5, Appendix 4). In the manufacturing sector, high-technology followed by medium-technology manufactures dominate the country's major exports to Brazil. South Africa's top five chief exports to Brazil are HS72 (Iron and steel), HS84 (Nuclear reactors, boilers, machinery), HS29 (Organic chemicals), and HS26 (Ores, slag and ash) each of which experienced a significant surge in export value after 2002; while HS27 (Mineral fuels, oils, distillation products, etc) experienced a large increase in export value after 2003. These top five exports product categories registered exports valued between US$61million and US$193million by 2008.

The next five major export product categories are HS76 (Aluminium and articles thereof) which had a significant rise in exports in 2003; HS38 (Miscellaneous chemical products) whose export value has been on a continuous decline since 2002; HS85 (Electrical, electronic equipment) which only became a significant export from 2004; HS48 (Paper & paperboard, articles of pulp, paper & board) whose export value has been fluctuating up and down throughout the period; and HS87 (Vehicles other than railway, tramp) whose export value fell in 2008 to almost half the previous year. The exports in these product categories ranged between US$5million and US$20million in 2008 (Table A-5, Appendix 4).

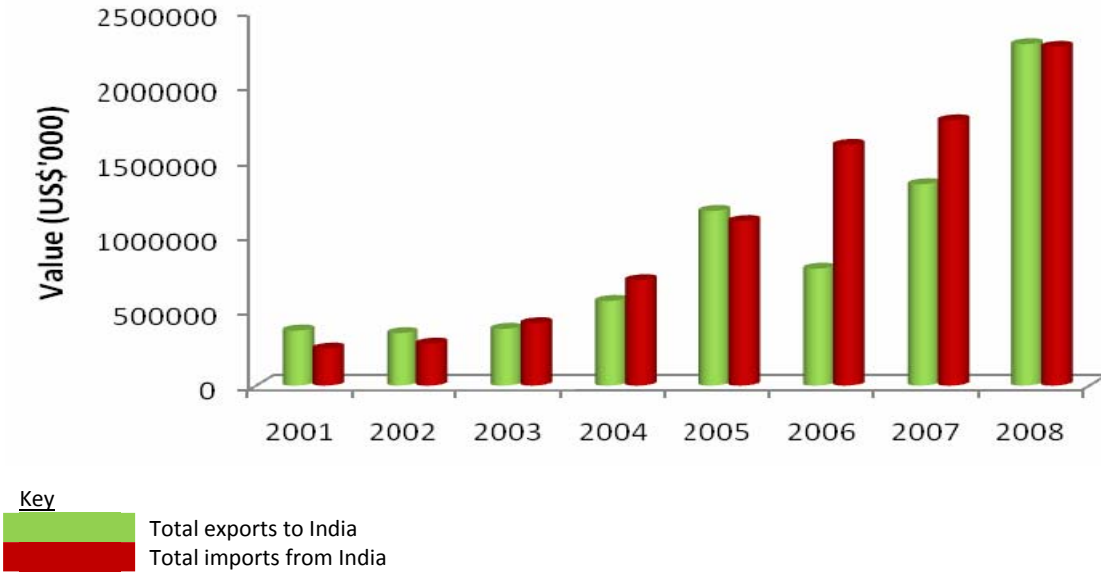
Table A-6 (Appendix 4) shows that South Africa's chief imports from Brazil are dominated by manufactures, with high-technology manufactured imports contributing most followed by medium-technology imports. This is not surprising bearing in mind that Brazil has a relatively more complex manufacturing sector than South Africa as evidenced by the share of its high-technology exports to total manufactured exports (see Table A-1, Appendix 1). The agricultural sector is the second significant sector after manufacturing. South Africa's chief imports from Brazil are: HS84 (Nuclear reactors, boilers, machinery); HS87 (Vehicles other than railway, tramway); HS02 (Meat & edible meat offal); HS15 (Animal, vegetable fats & oils, cleavage products, etc); and HS85 (Electrical, electronic equipment). For each product

category mentioned above, 2003 marked the significant increase in their import values. These product categories had imports valued between US$125million and US$404million by 2008. The second group of major imports is made up of HS17 (Sugar & sugar confectionery) whose imports in 2003 and 2004 more than doubled the respective previous years'; HS26 (Ores, slag & ash) which only became a significant import from 2005; HS39 (Plastics & articles thereof) whose most significant import value increase was in 2002; HS29 (Organic chemicals) which tended to fluctuate up and down throughout the period; HS24 (Tobacco & manufactured tobacco substitutes) which after 2004 has been fluctuating; and HS41 (Raw hides & skins-other than fur- & leather) which after 2006 has been on a continuous decline. Imports in these product categories were valued between US$22million and US$67million by 2008.

5.2.2 South Africa – India trade

Figure 11 shows that South Africa's exports to India expanded, except in 2006 when there was a fall. Exports grew at a much faster rate between 2006 and 2008 however. South Africa's imports from India also expanded between 2001 and 2008, growing at a much faster rate in the period 2003-2006. In some years, i.e. 2003, 2004, 2006 and 2007, South Africa experienced a trade deficit with India which peaked in 2006. Thus, the trade pattern in which the two countries alternated trade surpluses and trade deficits with each other has carried on from the period 1992-2000 (see Figure 6, Section 5.1.2).

Figure 11: South Africa's trade with India (2001 – 2008)



Source: Own Figure using statistical data from the ITC TradeMap database.

South Africa's chief exports to India are dominated by medium-technology manufactures followed by products from the mining sector (see Table A-7, Appendix 4). The chief exports to India are HS28 (Inorganic chemicals, precious metal compound, isotopes); HS27 (Mineral

fuels, oils, distillation products, etc) and HS72 (Iron & steel) both of which had exports surging up significantly after 2004; HS26 (Ores, slag & ash) whose exports became more significant from 2004 with extremely high export value increases in 2007 and 2008; HS76 (Aluminium & articles thereof) whose significant surge in export values was in 2007; and HS71 (Pearls, precious stones, metals, coins, etc) which in 2003 and 2004 more than doubled the value of its exports, with a significantly very high increase in 2005 followed by a very big decline in 2006 to almost a quarter of its previous year's export value. The value of exports of these products ranged between US$108million and US$691million in 2008.

The next group of major exports were valued between US$16million and US$53million by 2008. This group is made up of HS47 (Pulp of wood, fibrous cellulosic material, waste, etc); HS29 (Organic chemicals) with a significant fall in 2006 of almost half the export value of the previous year; HS84 (Nuclear reactors, boilers, machinery) which in 2003 more than doubled its export value, while in 2007 registered less than half its previous year's export value with a continuous decline into 2008; HS51 (Wool, animal hair, horsehair yarn & fabrics thereof) whose export value more than doubled in 2005 becoming more significant in 2007; HS31 (Fertilisers) whose export value has been on a continuous decline from 2001 to 2005, only gaining significance in 2008; and HS85 (Electrical, electronic equipment) whose export value has been fluctuating throughout the period (Table A-4, Appendix 2).

South Africa's chief imports from India are primarily composed of high-technology manufactures, followed by mining products; with medium-technology manufactures ranking third (see Table A-8, Appendix 4). This is not surprising as India has a much more developed and competitive manufacturing sector as evidenced by the share of its manufactured exports to total merchandise exports[5]. The major imports from India are HS27 (Mineral fuels, oils, distillation products) with the import value surging up significantly from 2004; HS85 (Electrical, electronic equipment) whose import value in 2008 almost trebled the previous year's; HS30 (Pharmaceutical products) whose import value in 2008 almost doubled the previous year's; HS87 (Vehicles other than railway, tramway) with imports increasing significantly after 2002 with further import value upsurges after 2004; and HS84 (Nuclear reactors, boilers, machinery) with the import value almost doubling in 2003 and maintaining a continuous increase for the rest of the period. Imports from these product categories ranged between US$116million and US$728million in 2008. The second group of major imports had imports valued between US$48million and US$82million by 2008. In order of import value, these imports are HS72 (Iron and steel) with the import value surging up significantly after 2002, although fluctuating up and down after 2004; HS29 (Organic chemicals) and HS73 (Articles of iron & steel) both of which had their import values increasing significantly after 2002 and maintained a continuous rise for the rest of the period; and HS10 (Cereals) whose import value fell significantly in 2008 to almost half that in the previous year's.

High import values were also recorded in the following product categories: HS 40 (Rubber & articles thereof) which experienced a very big increase in import value after 2002 and maintained a continuous robust increase in import value for the rest of the period; HS39 (Plastics & articles thereof) whose significant increase in import value occurred in 2004 where imports almost trebled the previous year's; HS71 (Pearls, precious stones, metals,

[5] See Table A-1, Appendix 1.

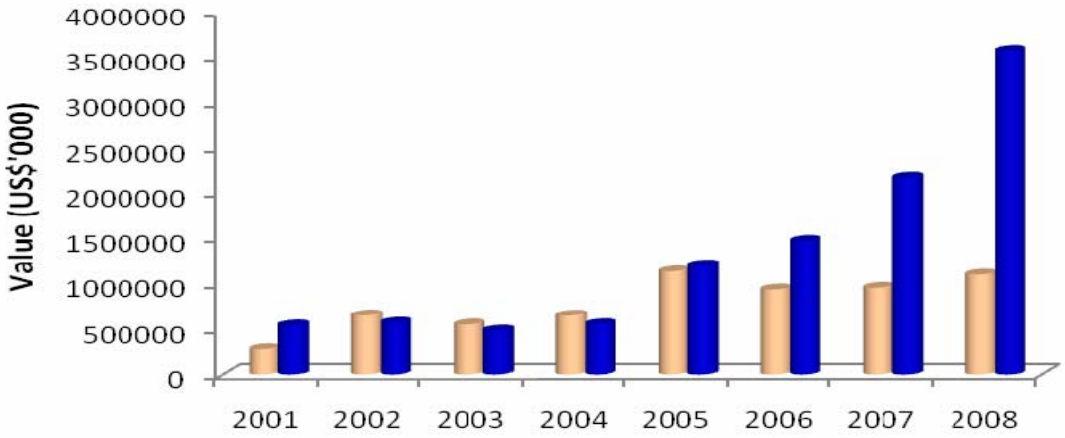
coins) whose import value has been on a continuous rise since 2001, almost doubling the previous year's value in 2003 and thereafter maintained a continuous robust increase in value for the rest of the period; HS38 (Miscellaneous chemical products) whose imports surged up significantly after 2003; HS62 (Articles of apparel, accessories, not knit or crochet) whose import value rose significantly after 2002; HS61 (Apparel, accessories, knitted or crochetted) which since 2003 has maintained a continuously very high increase in import value up to 2007; HS03 (Fish, crustaceans, molluscs, aquatic invertebrates) whose import value almost quadrupled in 2004 thereafter maintaining high levels; and HS32 (Tanning, dying extracts, tannins, derivatives, pigments) with the import value rising up significantly after 2003. These product categories had import values ranging from US$22million to US$39million by 2008 (Table A-8, Appendix 4).

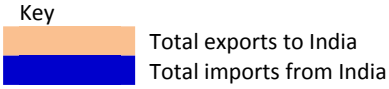
5.2.3 Brazil-India trade

Figure 12 presents Brazil's trade with India for the period 2001-2008. Brazil's exports to India expanded between 2001 and 2005 before falling and stagnating. Brazil's imports from India grew from 2003, rising at a much faster rate in the period 2006-2008. The most significant increase was experienced in 2008. Brazil experienced a continuous trade deficit with India from 2005, with such a trade deficit rising continuously peaking in 2008. Thus, the trade surplus which Brazil experienced with India before 2001, (see Figure 1, Section 5.1.1), persisted up to 2004.

The mining sector dominates Brazil's chief exports to India followed by the agricultural sector (see Table A-9, Appendix 4). The manufacturing sector ranks third with high-technology manufactures dominating. This trade pattern with regards to manufactures is not surprising since India has a more competitive manufacturing sector than Brazil – see Table A-1, Appendix 1 -. Brazil's most significant exports to India are HS26 (Ores, slag & ash); HS 15 (Animal, vegetable fats & oils, cleavage products); and HS84 (Nuclear reactors, boilers, machinery). Each of these product categories experienced significant increases in export value after 2003, and by 2008, the export values of these products ranged between US$108million and US$286million.

Figure 12: Brazil's trade with India (2001 – 2008)





Source: Own Figure using statistical data from the ITC TradeMap database.

The second group of Brazil's major exports to India had export values ranging between US44million and US$70million by 2008. The products categories are HS72 (Iron & steel) with export value rising significantly in 2005 (more than quadrupling the previous year's level); HS29 (Organic chemicals) which experienced a very high export surge in 2003 doubling the previous year's level; HS85 (Electrical, electronic equipment) which, except for 2004, has been maintaining a continuous increase in export values; and HS17 (Sugars & sugar confectionery) whose most significant export levels were in 2004 and 2005 (Table A-9, Appendix 4).

The other group of products that can be regarded as major exports had export values ranging between US$11million and US$33million by 2008 include HS25 (Salt, sulphur, earth, stone, plaster, lime & cement) which maintained a continuous rise in export value peaking in 2007 where the value more than doubled that of the previous year; HS22 (Beverages, spirits & vinegar) whose notable increases in export values in 2004 and 2005 could not be sustained thereafter falling in 2008 to less than a quarter of the 2005 value; HS87 (Vehicles other than railway, tramway) whose export values have been fluctuating up and down throughout the period; HS88 (Aircraft, spacecraft & parts thereof) which only started recording export values in 2005, immediately followed by a drastic fall in export value in 2006 with the value falling even further by 2008 to almost a quarter of the 2006 value; HS27 (Mineral fuels, oils, distillation products) whose most significant export values were in 2002, 2003 and 2006, with the 2008 export value falling to almost a tenth of the 2006 value; HS39 (Plastics & articles thereof) which tended to fluctuate throughout the period; HS90 (Optical, photo, technical, medical, etc apparatus) and HS41 (Raw hides & skins-other than furskins- & leather) both of which had export values peaking in 2006 after which there has been a continuous decline; and HS40 (Rubber & articles thereof) which after experiencing a continuous increase from 2001, had a big fall in 2007 recording less than half the previous year's level (Table A-9, Appendix 4).

Brazil's chief imports from India are dominated by manufactured goods followed by iron and steel (Table A-10, Appendix 4). Within the manufacturing sector, high-technology manufactures are the most dominant. Brazil's imports from India are dominated by HS27 (Mineral fuels, oils, distillation products) which by 2008 were valued at US$1 699million. HS29 (Organic chemicals) is the second most dominant import which has been on a continuous rise peaking at US$432million by 2008. HS85 (Electrical, electronic equipment), HS30 (Pharmaceutical products), HS52 (Cotton), HS84 (Nuclear reactors, boilers, machinery) and HS54 (Manmade filaments) form a group of significant imports whose values ranged between US$131million to US$167million in 2008. Each of these product categories experienced a significant increase in import value after 2003 as well as maintaining a continuous and robust increase in value for the rest of the period.

Very high import values were also recorded in HS55 (Manmade staple fibres), HS39 (Plastics & articles thereof), HS72 (Iron & steel), HS87 (Vehicles other than railway, tramway), and

HS32 (Tanning, dyeing extracts, tannins, derives, pigments). The import values in these products ranged between US52million and US$87million in 2008. Also to note is that each of these product categories experienced a significant increase in import value after 2003 as well as maintaining a continuous and robust increase in value for the rest of the period, except for HS39 and HS72 which experienced a fall in 2006 and 2007 respectively (Table A-10, Appendix 4).

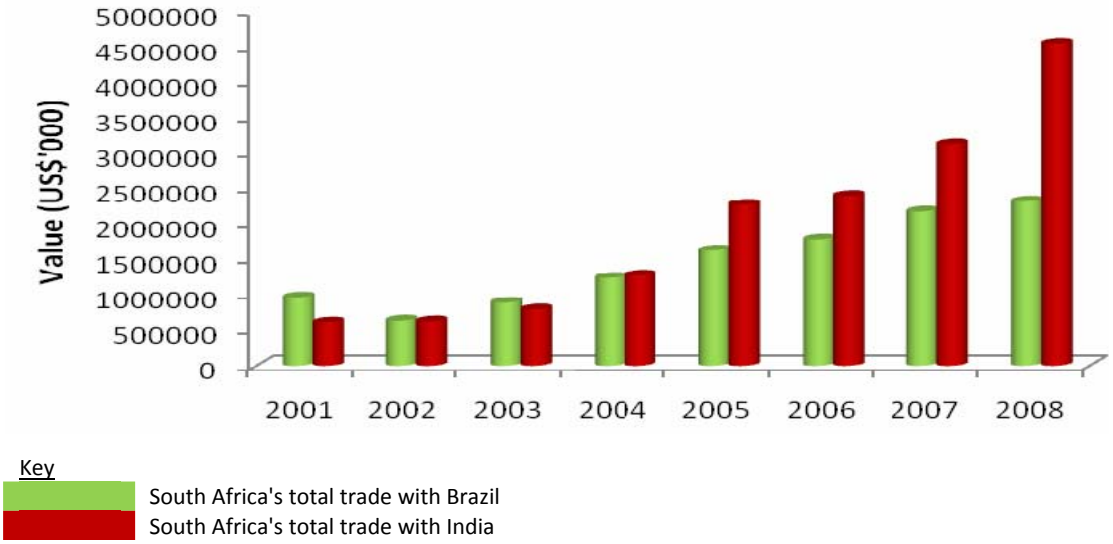
Also to note from Table A-10 (Appendix 4) is that HS38 (Miscellaneous chemical products), HS73 (Articles of iron or steel), HS62 (Articles of apparel, accessories not knit or crochet), HS40 (Rubber & articles thereof) and HS28 (Inorganic chemicals, precious metal compound, isotopes) recorded import values which ranged between US29million and US$35million in 2008. Each of these product categories experienced a significant upsurge in import value after 2004 as well as maintaining a continuous and robust increase in value for the rest of the period, except for HS62 and HS40 which both experienced a fall in 2006. The last group for major imports is comprised of HS90 (Optical, photo, technical, medical, etc apparatus) and HS70 (Glass & glassware) which both experienced a continuous increase in import value throughout the period; HS82 (Tools, implements, cutlery, etc of base metal), HS09 (Coffee, tea, mate & spices) and HS57 (Carpets & other textile flooring coverings) which recorded a continuous increase in value after 2003; and HS24 (Tobacco & manufactured tobacco substitutes) which only became a significant import after 2003 with its import value rising very significantly in both 2007 and 2008. For this last group of product categories, the import values ranged between US$10million and US$16million in 2008.

5.2.4 South Africa's trade with Brazil and India compared

Figure 13 shows that in the period 2001-2003, South Africa tended to trade more with Brazil, while from 2004 to 2008 it tended to trade more with India. South Africa's total trade with both countries expanded. Yet, South Africa's trade with India increased at a faster rate than its trade with Brazil. It is interesting to note that just as it was before 2001, South Africa's trade with India has continued to grow at a faster rate than its trade with Brazil (see Table A-3, Appendix 2).

To ***both*** countries, South Africa's chief exports are: HS28 (Inorganic chemicals, precious metal compound, isotopes), HS27 (Mineral fuels, oils, distillation products), HS72 (Iron and steel), and HS85 (Electric, electronic equipment) most of which go to India every year; HS84 (Nuclear reactors, boilers, machinery) and HS29 (Organic chemicals) most of which have been going to Brazil after 2003 and 2004, respectively; HS26 (Ores, slag and ash) most of which has been going to Brazil up to 2006; as well as HS76 (Aluminium & articles thereof) for which there is no particular preference market (Tables A-5 and A-7 in Appendix 4).

Figure 13: South Africa's trade with India and Brazil compared (2001 – 2008)



Source: Own Figure using statistical data from the ITC TradeMap database.

South Africa's chief imports from ***both*** countries are in: HS84 (Nuclear reactors, boilers, machinery) and HS38 (Miscellaneous chemical products) both of which come mainly from Brazil every year; HS85 (Electrical, electronic equipment) and HS39 (Plastics & articles thereof) both of which have been coming from Brazil for most years; HS87 (Vehicles other than railway, tramway) which came mainly from Brazil except for the period 2005 – 2007; HS73 (Articles of iron and steel) which comes mainly from India each year; HS27 (Mineral fuels, oils, distillation products) and HS29 (Organic chemicals) both of which have been coming mainly from India after 2003; and HS72 (Iron and steel) which has been coming mainly from India since 2006. Furthermore, with regard to its chief manufactured imports, South Africa tends to rely mostly on Brazil for high-technology manufactured imports, whereas for the chief medium-and low-technology manufactured imports, it tends to rely mostly on India (Tables A-6 and A-8 in Appendix 4). This trade relation is quite understandable as Table A-1 (Appendix 1) shows that Brazil is relatively more able to export high-technology manufactures than India, as evidenced by the relatively high share of high-technology manufactured exports in its total manufactured exports.

Table A-17 (Appendix 5) shows that irrespective of whether South Africa's chief exports are to both Brazil and India, or to Brazil only, or to India only, in most cases, India provides much better market access (compared to Brazil), for South Africa's chief exports. This is because India tends to apply relatively much lower tariffs (compared to Brazil), on South Africa's chief exports. The generally much easier market access through relatively lower tariffs which India provides to South Africa helps to explain why South Africa has tended to trade more with India than Brazil as shown in Figure 13 above. It should however be noted that with regards to South Africa's chief exports to ***both*** Brazil and India, the latter's relatively much lower tariffs have not given it an absolute advantage, as South Africa's export levels have not necessarily been skewed towards India. For example, for product

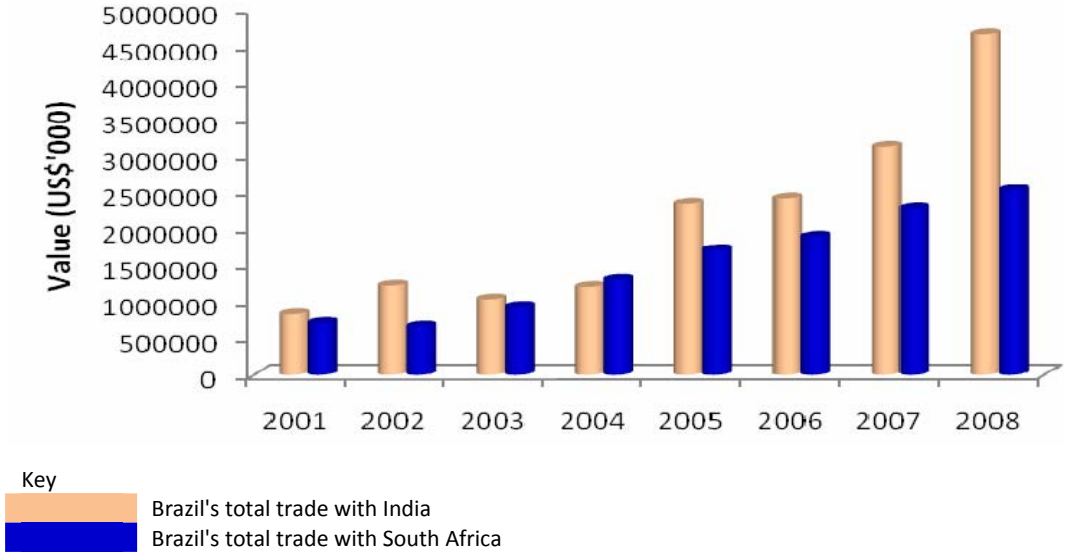
categories HS84, HS29 and HS26, South Africa has exported relatively much higher levels to Brazil (as shown in Tables A-4 and A-6 in Appendix 3) despite the fact that India applied lesser tariffs, especially with regards to product category HS84.

Table A-17 (Appendix 5) also shows that for South Africa's chief exports to Brazil ***only***, the relatively much higher tariffs which Brazil applies to South Africa have not deterred the latter from continuing to export significantly much higher levels to Brazil as shown with product categories HS39, HS48, HS54, and HS73. Similarly, there are cases where South Africa's chief exports face significantly lower tariffs in Brazil than in India (i.e. product categories HS27, HS87, HS22, HS47, HS31 and HS25), but despite such significantly low tariffs, South Africa has tended to continue to export much higher levels to India than Brazil, except in product categories HS87 and HS22. Therefore, apart from levels of applied tariffs, other market access conditions have helped to influence South Africa's trade patterns with India and Brazil.

5.2.5 Brazil's trade with South Africa and India compared

Figure 14 below shows that over the years, Brazil has been trading more with India than with South Africa. Its trade with both countries has been on a continuous rise although its trade with India has been rising at a faster rate, especially after 2004.

Figure 14: Brazil's trade with India and South Africa compared (2001 – 2008)



Source: Own Figure using data from the ITC TradeMap database.

Tables A-9 and A-11 (Appendix 4) show that Brazil's chief exports to ***both*** countries are: HS87 (Vehicles other than railway, tramway), HS84 (Nuclear reactors, boilers, machinery), HS85 (Electrical, electronic equipment), HS39 (Plastics & articles thereof), and HS41 (Raw

hides & skins-other than furskins- & leather) all of which mainly go to South Africa every year; HS17 (Sugars & sugar confectionery) which went mainly to South Africa in most years; HS15 (Animal, vegetable fats and oils, cleavage products), HS29 (Organic chemicals), and HS90 (Optical, photo, technical, medical, etc apparatus) all of which mainly go to India every year; HS72 (Iron and steel), HS27 (Mineral fuels, oils, distillation products) and HS40 (Rubber and articles thereof) which for most years went to India; and HS26 (Ores, slag & ash) which has been mainly going to India after 2003.

Brazil's chief imports from ***both*** countries are: HS72 (Iron & steel) which mainly comes from South Africa every year; HS38 (Miscellaneous chemical products) which until end of 2005 was coming mainly from South Africa; HS27 (Mineral fuels, oils, distillation products), HS29 (Organic chemicals), HS85 (Electrical, electronic equipment), HS84 (Nuclear reactors, boilers, machinery), and HS39 (Plastics and articles thereof) all of which mainly come from India each year; and HS54 (Manmade filaments) which started coming mainly from India from 2002. Furthermore, for its entire chief manufactured imports, (i.e. high-technology, medium-technology and low-technology) Brazil relies mostly on India (Tables A-10 and A-12 in Appendix 4). Brazil's reliance mostly on India for its chief manufactured imports is understandable as India has a more competitive manufacturing sector than South Africa as shown in Table A-1 (Appendix 1).

Table A-18 (Appendix 5) shows that irrespective of whether Brazil's chief exports are to both India and South Africa, or to India only, or to South Africa only, in most cases, South Africa provides better market access (compared to India) for Brazil's exports, since South Africa tends to apply much lower tariffs on Brazil's exports than India does. However, it is interesting to note that the much easier market access into the South African market through the much lower tariffs has not (in quite a number of cases), been necessarily accompanied by higher export levels of Brazil's chief exports compared to those that go to India. For example, this is evident in product categories HS26, HS15, HS72, HS29, HS27, and HS90, where despite these being Brazil's chief exports to ***both*** South Africa and India, with South Africa applying much lower tariffs on these product categories, Brazil exported significantly much higher levels of exports in each of these product categories to India than to South Africa, as shown in Tables A-9 and A-11 (Appendix 4).

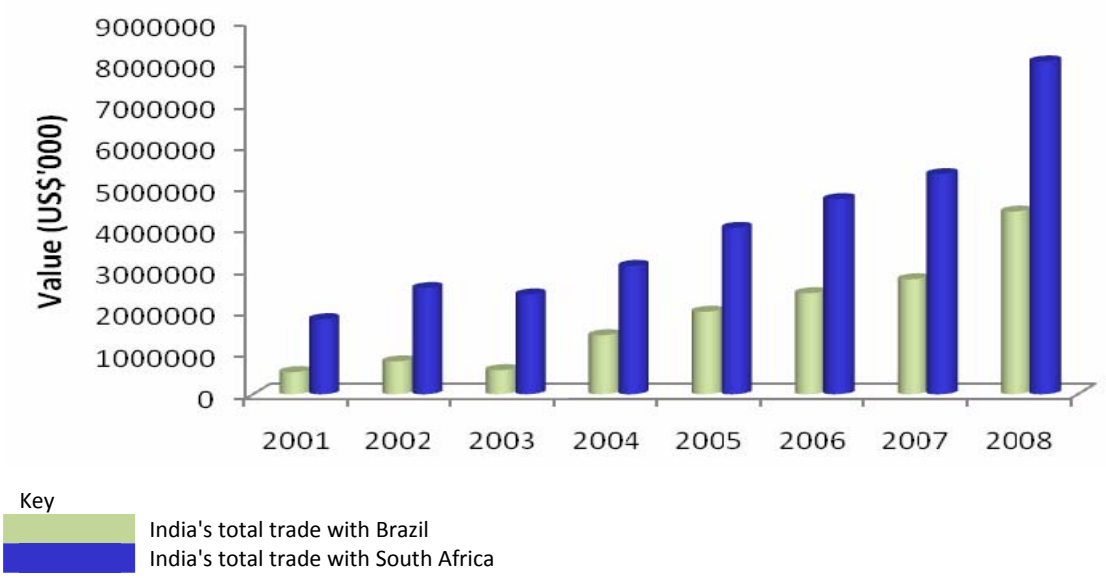
Furthermore, there is a group of products, i.e. HS25, HS22, HS88, and HS10 which are Brazil's chief exports to India and not to South Africa despite the fact that South Africa applies significantly lower tariffs on these product categories than India does (see Table A-18, Appendix 5). Therefore, the fact that Brazil tends to continue to export relatively more to India than South Africa despite the latter's much lower tariffs helps to explain the observation in Figure 14 above that, over the years, Brazil has been trading more with India than with South Africa. Brazil is thus attracted by other favourable market access conditions in India which are either not available or less available in South Africa.

5.2.6 India's trade with South Africa and Brazil compared

Figure 15 below shows that over the years India has been trading more with South Africa than with Brazil. However, its trade with each country has been on a continuous increase,

with trade with both countries growing highest in 2008. It is interesting to note that even before 2001, India always traded more with South Africa than with Brazil and its trade with South Africa tended to grow at a much faster rate than its trade with Brazil (see Figure 3, Section 5.1.1). Thus, such a trade pattern between the two countries has been maintained.

Figure 15: India's trade with Brazil and South Africa compared (2001 – 2008



Source: Calculated using data from the ITC TradeMap database

Tables A-13 and A-15 (Appendix 4) show that India's chief exports to both countries are: HS29 (Organic chemicals), HS38 (Miscellaneous chemical products), and HS32 (Tanning, dying extracts, tannins, derivs, pigments) all of which mainly go to Brazil every year; HS27 (Mineral fuels, oils, distillation products) which mainly went to Brazil in most years; HS55 (Manmade staple fibres) which mainly went to Brazil after 2004; HS30 (Pharmaceutical products) which up to 2006 mainly went to Brazil; HS87 (Vehicles other than railway, tramway), HS72 (Iron and steel), HS73 (Articles of iron & steel), HS24 (Tobacco and manufactured tobacco substitutes), HS62 (Articles of apparel, accessories, not knit or crochet), HS63 (Other made textiles, sets, worn clothing), HS90 (Optical, photo, technical, medical, etc apparatus), HS82 (Tools, implements, cutlery, etc of base metal), HS57 Carpets & other textile floor coverings, and HS28 (Inorganic chemicals, precious metal compound, isotopes), all of which mainly go South Africa every year; HS 40 (Rubber & articles thereof) which for most years mainly went to South Africa; HS85 (Electrical, electronic equipment) and HS84 (Nuclear reactors, boilers, machinery) which up to 2006, mainly went to South Africa; and HS39 (Plastics & articles thereof) which tend to have no particular favourite destination.

India's chief imports from both countries are: HS71 (Pearls, precious stones, metals, coins, etc), HS27 (Mineral fuels, oils, distillation products, etc) and HS72 (Iron & steel) all of which every year mainly come from South Africa; HS85 (Electrical, electronic equipment) which

for most years came from South Africa; HS84 (Nuclear reactors, boilers, machinery) which mainly come from Brazil every year; HS26 (Ores, slag & ash) which has been coming mainly from Brazil after 2001; HS29 (Organic chemicals) which has been coming mainly from Brazil after 2004 and HS75 (Nickels and articles thereof) which comes from Brazil in most years. Also to note is that for most of its chief manufactured imports, India tends to rely mostly on Brazil with regard to both high-technology and low-technology manufactured imports, whilst it tends to rely mostly on South Africa for its chief medium-technology manufactured imports (Tables A-14 and A-16 in Appendix 4). Relying mostly on Brazil for high-technology manufactured imports is consistent with the observation in Table A-1 (Appendix 1) that Brazil has a relatively more developed manufacturing sector with regards to high-technology manufactures.

Table A-19 (Appendix 5) shows that irrespective of whether India's chief exports are to both Brazil and South Africa, or to Brazil only, or to South Africa only, in most cases, South Africa provides much better market access (compared to Brazil) for India's exports, since South Africa tends to apply much lower tariffs on India's exports than Brazil does. In most cases, the easier market access into South Africa is accompanied by significantly higher levels of exports (compared to those going into Brazil) in the respective product categories, as shown in Tables A-13 and A-15 (Appendix 4). In some case where South Africa applied relatively higher tariffs compared to Brazil, India has tended to continue to export relatively higher levels of exports in such product categories to South Africa, as evidenced by product categories HS62, HS24, HS61, and HS23. The easier accessibility of the South Africa market due to much lower tariffs helps to explain why over the years India has tended to trade more with South Africa than with Brazil, as shown in Figure 15 above.

5.3 IBSA complementarity and competitiveness

In empirical trade literature it is important to analyse specialisation patterns of countries and see where complementarities exists and are being exploited, and revealed comparative advantage (RCA) measures/indexes are customary used to measure international trade specialisation. Batra and Khan (2005:5) note that this is based on the assumption that "the commodity pattern of trade reflects the inter-country differences in relative costs as well as non-price factors". Thus, the indexes will ***reveal*** the comparative advantages of the trading countries considering the intrinsic advantage of a particular export commodity which is shaped by changes in an economy's factor endowment and productivity. This is based on the Heckscher-Ohlin theorem which is a neoclassical trade theory discussed in Section 3.1.

RCA shows the relative export performance of individual countries in particular industry/commodities, and is defined as a country's share of world exports of a commodity divided by its share of total world exports (Batra and Khan, 2005:5; CUTTS-CITEE, 2005:2; De Benedicts and Tamberi, 2001:5, Yeats, 2004:9). In this paper, Balassa' (1965) measure of revealed comparative advantage, as presented by Batra and Khan (2005:5), De Benedicts and Tamberi (2001:5) and Yeats (2004:9) is used. The index for country i commodity/industry j is calculated as follows:

$$RCAij = \frac{(X_{ij}/X_{wj})}{(X_i/X_w)} \quad \text{----------} \quad [1]$$

Where:

X_{ij} = ith country's exports of commodity/industry j
X_{wj} = world exports of commodity/industry j
X_i = total exports of country i
X_w= total world exports
If $0 < RCAij < 1$, country i has a comparative disadvantage in commodity/industry j
If $1 < RCAij$, country i has a comparative advantage in commodity/industry j

For IBSA countries, RCA analysis was undertaken at HS 2-digit for 37 product categories. These are product categories that constitute ***significant/chief exports and imports*** between the IBSA countries as shown in Tables A-5 to A-16 (Appendix 4). The results for the RCA analysis on the 37 product categories for each country are given in Tables A-21 to A-23 (Appendix 5) which shows the specific product categories in which each country has revealed comparative advantages. Table A-27 (Appendix 8) compares the RCA indexes between the three countries so as to compare areas of specialisation between the IBSA countries.

Table 1 below derives from Table A-27 (Appendix 8) and shows the 31 out of 37 product categories in which countries have, as well as, share comparative advantages. The table shows that (i) India is the only IBSA country with comparative advantages in HS29, HS30, HS32, HS55, HS57, HS61 and HS62. All these are manufactured products and it should not be surprising since it had been pointed earlier in Section 4 that of the three IBSA countries, India has the most competitive manufacturing sector as evidenced by its very high share in manufactured exports to total merchandise trade manufactures; (ii) Brazil is the only country with comparative advantages in HS15 and HS88. With regards to HS88, this is not surprising as in Section 4 it had been noted that Brazil has the most complex manufacturing sector as shown by the share of its high-technology manufactured exports to total manufactured exports; and (iii) South Africa is the only country with comparative advantages in HS22, HS31, HS38, HS48, HS51, HS76 and HS87.

In such cases where only one country has a comparative advantage in a product category, it is recommended that the country takes advantage of the wide market which the IBSA countries provide and develop its areas of comparative advantages further. In addition, the country ought to identify significant import demand in each IBSA country for the particular product category and utilise this more fully so as to develop the concerned sector more. Also to note (based on the indexes showing only one country with a comparative advantage in a product category), is that there is considerable opportunities for complementary integration among IBSA countries, thus, putting the countries in a good position to trade advantageously with each other in these areas.

Table 1: Revealed comparative advantages between IBSA countries (2002 – 2008)

Product (HS code)	Countries with a comparative advantage (RCA >1)
HS17 Sugars & sugar confect	India, Brazil and South Africa
HS24 Tobacco & manufactured substitutes	
HS25 Salt, sulphur, earth, stone, plaster, lime & cement	
HS26 Ores, slag and ash	
HS28 Inorganic chemicals, precious metal compound, isotopes	
HS41 Raw hides & skins (other than furskins) & leather	
HS72 Iron and steel	
HS03 Fish, crustaceans, molluscs, aquatic invertebrates	India and South Africa
HS10 Cereals	
HS71 Pearls, precious stones, metals, coins, etc	
HS73 Articles of iron or steel	
HS82 Tools, implements, cutlery, etc of base metals	
HS09 Coffee, tea, mate and spices	India and Brazil
HS40 Rubber and articles thereof	Brazil and South Africa
HS47 Pulp of wood, fibrous cellulosic material, waste etc	
HS29 Organic chemicals	India
HS30 Pharmaceutical products	
HS32 Tanning, dyeing extracts, tannins, derivs, pigments etc	
HS55 Manmade staple fibres	
HS57 Carpets and other textile floor coverings	
HS61 Articles of apparel, accessories, knit or crochet	
HS62 Articles of apparel, accessories, not knit or crochet	
HS15 Animal, vegetable fats and oils, cleavage products, etc	Brazil
HS88 Aircraft, spacecraft, and parts thereof	
HS22 Beverages, spirits and vinegar	South Africa
HS31 Fertilisers	
HS38 Misc. chemical products	
HS48 Paper & paperboard, articles of pulp, paper and board	
HS51 Wool, animal hair, horsehair yarn and fabric thereof	
HS76 Aluminium and articles thereof	
HS87 Vehicles other than railway, tramway	

Source: Derived from Table A-24 (Appendix 6).

Table 1 also shows that there are common products in which the IBSA countries have comparative advantages, e.g. (i) all three countries have comparative advantages in HS17, HS24, HS25, HS26, HS28, HS41, and HS72; (ii) both India and South Africa have comparative advantages in HS03, HS10, HS71, HS73 and HS82; (iii) India and Brazil both have comparative advantages in HS09; while (iv) both Brazil and South Africa have comparative advantages in HS40 and HS47. In such cases, where more than one IBSA country has a comparative advantage in a product category, it is recommended that the countries concerned embark on structured cooperation to jointly develop these industries

further so as to jointly improve their competitiveness at the international level instead of competing against each other.

It is also recommended that the countries should seek areas for intra-industry trade potentials in the product categories in which more than one IBSA country has revealed comparative advantages. Each IBSA country provides a wide market and the whole IBSA region provides an even wider market which enables industries to benefit from economies of scale. Thus, even though the countries may have comparative advantages in common products, production of differentiated goods would, as the new trade theory models would argue (see Section 3.2.1), enable each IBSA country to specialise in a limited variety of production and benefit from increasing returns to scale (i.e. economies of scale) without necessarily competing against each other nor reducing the variety of goods available for consumption within IBSA as they would trade among each other for the other brands. Section 5.4 below explores the possibilities for intra-industry trade between the IBSA countries. The implications of intra-industry trade for the three countries will also be discussed.

5.4 Intra-industry trade (IIT) opportunities

OECD (2002:160, 161), Mahon (2003:9) and Appleyard, *et al* (2008:191-194) observe that IIT opportunities are typically much higher in manufacturing goods than in non-manufactures. Furthermore, IIT is highest for more sophisticated manufactured products (e.g. chemicals, machinery and equipment) because sophisticated manufactures are more likely to benefit from economies of scale in production and are easier to differentiate so as to facilitate trade in similar goods.

The IBSA countries have 37 product categories which can be categorised as their ***chief*** exports and imports to and from each other. Due to the vastness of statistical data, (i) only the product categories for manufactures were considered; and (ii) among the product categories for manufactures, only categories that show high technology and technologically complex manufactures were considered. Thus, out of the 37 product categories, 14 were selected, *viz*., HS28, HS29, HS30, HS31, HS38, HS70, HS72, HS73, HS76, HS84, HS85, HS87, HS88 and HS90. Each category was disaggregated to HS 4-digit product categories so as to get the more specific manufactured products.

Kocyigit and Sen (date unknown:80) note that the extent of intra-industry trade is positively correlated with trade intensity and therefore, as the trade volume with trade partners increases, there will be more opportunity for more differentiated goods to be traded. Based on this understanding therefore, only those products whose imports as well as exports were valued at US$100 000 and above were considered. Therefore, all in all 228 manufactured products (see Tables A-28 to A-30 in Appendix 9) were considered to be high technology or technologically complex (or to embody high technology or technologically complex manufacturing processes) and their intra-industry trade indices were calculated.

Intra-industry trade indices were calculated for 2008 which is the most recent year for which time series statistical data by product category were available for trade between the IBSA

countries. The level of intra-industry trade in each product category was measured using the Grubel-Lloyd intra-industry index stated below as equation [2].

$$B_i = \left[1 - \frac{X_i - M_i}{|(X_i + M_i)|} \times 100 \right] \quad \text{---------- [2]}$$

Where:

X_i = exports of product i
M_i = imports of product i
$(X_i + M_i)$ = total trade
$|X_i - M_i|$ = the degree of non-overlap, i.e. the extent to which trade is unbalanced
Bi = the intra-industry trade index

Source: OECD (2002:160); Tiis and Juriado (20006:4); Luey (1978:64); Hakura and Jaumotte (1999:5); Krugman (1981:964).

Only 89 out of the 228 manufactured products considered had an intra-industry index of above 50% (see Tables A-31 to A-33 in Appendix 10). This shows that for now trade between IBSA countries in high-technology and technologically complex manufactures is still mainly inter-industry.

Tables A-31 to A-33 (Appendix 10) show that trade between India and Brazil presents the highest number of intra-industry trade potentials in high-technology and technologically complex manufactures. Out of the 228 products considered, 41 products had intra-industry trade indexes above 50% (see Table A-33 in Appendix 10). The first group of products in which intra-industry trade potentials are concentrated are HS2903, HS7304, HS9018, HS7219, HS8512, HS8413, HS8483, HS8409, HS8479, HS8536, HS8708 and HS8473. As Table A-30 (Appendix 8) shows, these are products which display high to very high trade values (i.e. trade values of between US$1million and US$24million) between the two countries as well as high to very high intra-industry trade indexes (i.e. intra-industry trade indexes ranging from 70.85% to 99.96%). The second group of products in which intra-industry trade potentials are concentrated are HS2827, HS8474, HS7318, HS3002, HS8529, HS9032, HS8541 and HS8466. In this group, there is moderately high to high trade between the two countries (i.e. trade values of between US$397 000 and US$936 000) with high to very high intra-industry trade indexes (i.e. intra-industry trade indexes ranging from 70% to 99.62%). The third group of products in which intra-industry trade potentials are concentrated are HS8481, HS7326, HS8443, HS8546, HS2905, HS2918, HS8422 and HS8532. In this group, there is moderately high to very high trade between the two countries (i.e. trade values of between US$836 000 and US$5.23million) with moderate intra-industry trade indexes (i.e. intra-industry trade indexes ranging from 54.51% to 68.08%).

Trade between India and South Africa presents the second highest number of intra-industry trade potentials in high-technology and technologically complex manufactures. Out of the 228 products considered, 27 products had intra-industry trade indexes above 50% (see Table

A-32 in Appendix 10). The first group of products in which intra-industry trade potentials are concentrated are HS9013, HS3002, HS7208, HS8501, HS7209, HS7607 and HS8507. Table A-32 (Appendix 10) shows that these products display moderately high to very high trade values between the two countries (i.e. trade values of between US$803 000 and US$7.222million) as well as high to very high intra-industry trade indexes (i.e. intra-industry trade indexes ranging from 71.7% to 94.31%). The second group of products in which intra-industry trade potentials are concentrated are HS2939, HS9030, HS3824, HS8439, HS3816 and HS8417. This group shows low trade between the two countries (i.e. trade values of between US$139 000 and US$603 000) with moderate intra-industry trade indexes (i.e. intra-industry trade indexes ranging from 55.3% to 67.56%). The third group of products in which intra-industry trade potentials are concentrated are HS8426, HS8467, HS8483 and HS8438. This group displays low to high trade between the two countries (i.e. trade values of between US$263 000 and US$1.951million) with moderate intra-industry trade indexes (i.e. intra-industry trade indexes ranging from 52.14% to 65.75%).

Trade between South Africa and Brazil presents the least opportunities for intra-industry trade in high-technology and technologically complex manufactures. Out of the 228 products considered, 21 products had intra-industry trade indexes above 50% (see Table A-31 in Appendix 10). The first group of products in which intra-industry trade potentials are concentrated are HS7228, HS8409, HS8482, HS8431, HS2811, HS8421 and HS3823. As shown in Table A-31 (Appendix 10), these products display high to very high trade values between the two countries (i.e. trade values of between US$1million and US$15million) as well as high to very high intra-industry trade indexes (i.e. intra-industry trade indexes ranging from 71.76% to 96.25%). The second group of products in which intra-industry trade potentials are concentrated are HS7309, HS8523, HS8484, HS7307, HS8514, HS9029, and HS3824. This group displays low trade between the two countries (i.e. trade values of between US$103 000 and US$440 000) with high to very high intra-industry trade indexes (i.e. intra-industry trade indexes ranging from 70.08% to 98.78%). The third group of products in which intra-industry trade potentials are concentrated are HS8419, HS8430, and HS8455. This group shows moderate to high trade between the two countries (i.e. trade values of between US$493 000 and US$1.199million) with very high intra-industry trade indexes (i.e. i.e. intra-industry trade indexes ranging from 83.14% to 98.14%).

5.4.1 Implications of IIT trade for IBSA countries

While the bulk of IBSA trade is inter-industry, intra-industry trade opportunities do exist. In this regard therefore, IBSA countries should take advantage of these opportunities which are largely driven by economies of scale and promote intra-industry trade in identified industries in specific countries.

As Krugman and Obstfeld (1994:132) observe, intra-industry trade allows countries to benefit from large markets and a country can simultaneously lower the number of products it produces and increase the variety of goods available to domestic consumers. Producing fewer varieties enables a country to produce each variety at a larger scale with increased productivity and lower costs. This would lead to industrial expansion with improved industrial performance/efficiency in IBSA countries. As consumers benefit from a wider range of choice at a lower cost, this results in welfare improvement for the countries.

Increasing and promoting intra-industry trade could enable IBSA countries to strengthen their trade linkages. This is because there will be mutual interdependence on differentiated products and mutual interdependence on markets for the differentiated products. As countries specialise and produce more at lower costs, there will be a need for a larger market to sell products, while consumers in both continents would want easier access to the differentiated products only available from the other countries in the other continent. In this regard therefore, these mutual needs would lead to a deliberate creation of stronger IBSA trade linkages.

Specialisation within industrial categories may also stimulate innovation, and as intra-industry trade increases, this stimulates innovation further, because as Gould and Ruffin (1993) cited in Ruffin (1999:7) notes, innovation begets more innovation. Furthermore, utilising intra-industry trade opportunities more fully would enable IBSA countries to benefit from an invaluable interchange of knowledge about technology leading to improvements in specific manufacturing industries because as Ruffin (1999:7) notes, producing a greater variety and number of goods increases our general knowledge about technology, and greater knowledge implies smaller costs of knowledge accumulation.[6] Mutambara (2004:259) concurs noting that as intra-industry trade becomes a significant part of bilateral trade, technology diffusion becomes more possible through the consumption of similar but differentiated products. Furthermore, intra-industry trade encourages joint research as firms seek to share ideas and to seek better ways of producing high technology and technologically complex products. Hakura and Jaumotte (1999:14) observe that intra-industry trade is more effective in transferring technology arguing that this is because "a country is more likely to absorb the innovations embodied in foreign technology when it is already engaged in producing and exporting goods from the same product category as those it is importing".

Promoting intra-industry specialisation in the appropriate industries and sectors would benefit IBSA countries by making the adjustment to IBSA trade expansion less disruptive. This is so because as Behar (1991:533) notes, it is widely argued that it will be easier for firms and plants to cease producing a given line of goods and start producing a closely defined variety than to move to another industry as would be the case with inter-industry trade based on comparative advantage. Also to note is the argument by Krugman (1981:969, 970) that changes in income distribution that arise with trade expansion may not be so dramatic under intra-industry specialisation as both productive factors could gain from trade compared to the wider income distribution disparities associated with inter-industry trade. The Stolper–Samuelson theorem suggests that international trade can cause a redistribution of income from scarce factors to abundant factors since trade expansion results in reduced demand for the scarce factors and increased demand for the abundant factors (Ruffin, 1999:4; Appleyard *et al*., 2008:139-139; Leamer, 1995:7-8, 39; Dornbusch *et al*., 1980:213). Thus, as Ruffin (1999:7) notes that 'if most international trade is intra-industry, the impact on internal income distribution should be relatively minor; thus, trade expansion need not result in large changes in the distribution of income'.

[6] For example, he notes that the United States importation of Japanese cars and trucks has led to improvements in United States car and truck manufacturers.

Due to the differences in the levels of industrial development in specific sectors between the IBSA countries, intra-industry trade could enable the relatively more developed country to specialise in and exporting specific relatively high-technology differentiated manufactures, thus providing that country with opportunities to consolidate and develop further that particular manufacturing sector in high value manufacturing activities. The relatively less developed country(ies) would specialise in the specific low-value manufactures, thus providing them with opportunities to consolidate and utilise their industrial capacities in these products more fully. Therefore, with countries focussing on different levels of manufacturing activities, this would stimulate and increase trade to benefit all countries.

Also to note is that intra-industry trade reduces the demands for protection because in any industry there are both exports and imports, making it difficult to achieve unanimity among those demanding protection. This would help strengthen IBSA trade linkages as levels of protection are reduced allowing much easier access into each other's markets. Thus, intra-industry trade would continue to offer all three countries more learning opportunities and a testing ground for structural transformation to fuel transformation of productive structures and move to more sophisticated manufacturing export sectors, thus helping countries to develop their industries further.

5.5 Market access issues of concern

A number of constraints have been raised which continue to hinder and thus limited trade between IBSA members. These concerns relate to both tariff and non-tariff barriers which IBSA members continue to apply on each other. This section tries and highlights some of the concerns raised by business persons in the three countries.

5.5.1 Tariff barriers

Puri (2007:15) notes that even though the three countries have taken initiatives to liberalise so as to reduce applied tariffs, most of intra-IBSA trade is conducted on an MFN basis under that WTO. As the three countries move towards forming preferential trade areas or free trade areas with each other (i.e. India-Brazil FTA, India-MERCOSUR PTA, SACU-MERCOSUR PTA as well as India-SACU PTA), deeper tariff concessions will have to be exchanged to aid increased market access and much more product lines will need to be put in the IBSA liberalisation basket if the countries are to increase trade benefits resulting from trade creation.

Despite the initiatives to reduce applied tariffs, Soko (2006:18-19) notes that concerns have been raised by South Africa's business persons noting that market access into Brazil is hampered by high tariffs, tariff peaks, tariff escalation on finished goods originating from South Africa, as well as, the Brazilian government's use of subsidies in the form of tax, tariff, and financing inducements so as to promote export production. In the light of this, Marconini (2005) notes that companies in South Africa often perceive Brazil to be a closed and highly protected economy. Office of the United States Trade Representative (2009:235) and Soko (2006:19) acknowledge that while India has been reducing tariff levels; business persons

continue to complain that India's average applied tariffs remain among the highest in the world. Office of the United States Trade Representative (2009:235) notes that this is mainly due to significantly high tariff peaks on some of the products, especially on industrial goods.

Office of the United States Trade Representative (2009:39, 236) observes that in both Brazil and India, each of them has disparities between its bound tariffs and applied rates. This results in exporter uncertainty as both countries have been known to each raise its applied tariff rates to bound levels so as to manage prices and supply. This presents a significant barrier to trade as trade could be inhibited.

In South Africa, some industries continue to request for tariff protection which has often led to protective tariffs which inhibit trade (Office of the United States Trade Representative, 2009:444). Soko (2006:18) also notes that growing scepticism about trade liberalisation in South Africa's business sector often reinforces the protectionist stance taken by the domestic sectors who are opposed to trade agreements between South Africa and India as well as between South Africa and MERCOSUR.

5.5.2 Non-tariff barriers

Geographical distance coupled with poor, limited and expensive air and shipping connections have been cited by business persons in all three countries as a significant constraint in accessing partner countries' markets (CUTS-CITEE, 2005:1; Kulkarni, 2005; Soko, 2005; Marconini; 2005; Puri, 2007:27, 28, Campbell, 2008; Jayanthi, 2008). Soko (2006:20, 24) notes that this is coupled with frequent port delays due to loading and unloading, insufficient cooperation among shipping lines, cargo owners and marine operations. Puri (2007:27, 28) and Campbell (2008) note that there is no dedicated cargo vessels on the India-Brazil route and as such cargo has to go through Europe involving more than one operator. With regards to inland transport, Soko (2005, 2006) and Marconini (2005) note that all three countries have infrastructure bottlenecks such as congested roads, poor road networks, and poor railway networks which lead to high inland costs. All these constraints lead to high transport/freight costs which hinder intra-IBSA trade.

Given the transport infrastructure constraints, building key infrastructure services linkages as well as trans-shipment facilities to facilitate connectivity and easier flow of goods is urgent. At a national level, the IBSA countries should have and implement plans to expand their port capacity so as to alleviate congestion as intra-IBSA trade expands in the future. Also, in order for the IBSA countries to establish smooth connectivity between their markets, they should build on each other's expertise and experiences in transport issues, for example, India has long experience with railways' automation; they should harness together their experiences in private-public sector partnership in infrastructure development; as well as utilising South Africa's experience and expertise in port management. In an effort to eliminate transport constraints, Puri (2007:28) notes that work is underway aimed at a maritime transport agreement between IBSA countries so as to form a Trilateral Maritime Transport Corridor between India, South Africa and Brazil. Amorim (2005) notes that with regards to improving transport between the three countries, there are two initiatives, one that will lead to an air transport memorandum of understanding and another to a freight transport memorandum of

understanding. With regards to containerised shipping, Campbell (2008) notes that in 2007, a route linking the three countries, the Vasco Express, was introduced and operates on a weekly basis. To augment current air routes, air transport agreements have been made between South Africa and Brazil, South Africa and India and between Brazil and India.

Another non-tariff barrier cited by business persons in all three countries is lack of adequate knowledge and information about the IBSA initiative and the trade opportunities in the respective markets, while other business persons query what IBSA would contribute to already existing trade relations among the three countries (CUTS-CITEE, 2005:1; Soko, 2005; Kulkarni, 2005; da Fonseca, 2005). Marconini (2005) note that business persons in Brazil regard IBSA as a political-driven initiative and not about trade and economic benefits for business and as such have either never heard of it or have very little interest in it. As such they tend to focus on MERCOSUR as well as their other long-standing regional groupings.

It has also been argued that IBSA is not yet as advanced and comprehensive as the existing regional trade arrangements (RTAs) which the IBSA members have with their respective long-standing regional groupings. Therefore, relations with the long-standing RTAs are stronger and more important, and more predictable/certain than the new IBSA initiative, thus business persons are bound to be more sceptical and maybe not give the latter particularly high priority, especially if coupled with the information gap between the politicians behind the IBSA initiative and the business communities in the respective countries (CUTS-CITEE, 2005:4).

The above observations have negative effects with regards to willingness and enthusiasm on the part of business to explore and harness trade opportunities in IBSA markets. Therefore, Kulkarni (2005) recommends that there is a need for the respective governments to create a positive image of their countries to business persons so as to reduce the fear of conducting business in unfamiliar developing countries which tends to be rife among business persons. Furthermore, he notes that IBSA discussions should not remain at high-level political levels without reaching down to the business community where such discussions should have the practical effects. Soko (2005) suggests that there is a need for awareness through well informed business media with governments communicating effectively with business organisations in their respective countries. Da Fonseca (2005) and Banerjie (2008) recommend that the private sector in each member country should seek greater involvement with the respective governments reaching out to the private sector for advice and support to further IBSA aims and objectives. Furthermore, the Business Summits which bring together business and industry leaders from the three countries would go a long way to create awareness and identifying trade opportunities in the IBSA markets.

The import licensing systems as well as the customs regimes in the three countries have been cited as significant non-tariff barriers by business persons, where they complain of the following:

(i) non-transparent, time-consuming and costly customs regime with onerous and burdensome documentation requirements leading to considerable and frequent delays (Soko, 2006:18, 20, 23; Office of the United States Trade Representative, 2009:40, 236, 237, 238);

(ii) burdensome and restrictive import licensing systems so as to restrict certain manufactures with import bans and controlled imports in some cases (Soko, 2006:18, 19; Office of the United States Trade Representative, 2009:39, 40, 237; 445).

(iii) lack of adequate and centralised information about import regulations, tariff and other customs duty rates which has often lead to non-transparent standards. In some cases this has lead to misclassification and inaccurate valuation of goods for the purposes of duty assessment as well as valuation above invoice prices as in some cases the customs officials disregard the values on invoices (Soko, 2006:18, 20; Office of the United States Trade Representative, 2009:40, 237, 239, 445);

Other non-tariff barriers which have been cited in all three countries include the following:

(i) cultural differences, lack of extensive cultural links, as well as the language barrier, although this is hardly an issue of concern between India and South Africa (CUTS-CITEE, 2005:1; Kulkarni, 2005; Soko, 2006:20; Puri, 2007:36; Marconini, 2005b);

(ii) crime (especially in South Africa and Brazil) as well and corruption in all three countries (Kulkarni, 2005; Soko, 2005, 2006:23);

(iii) high-level red tape, inefficient bureaucracy and excessive regulation all of which often lead to long delays and high costs of doing business (Soko, 2006:18, 20, Office of the United States Trade Representative, 2009:40, 445; Kulkarni, 2005b). In India, this is coupled with restriction imposed by state monopolies as well as arbitrary decisions on the part of the government officials (Soko, 2006:20; Office of the United States Trade Representative, 2009:237).

(iv) challenges with regards to sufficient and enforcement of protection of intellectual property rights, although progress is being made (Soko, 2006:20; Office of the United States Trade Representative, 2009:44, 241, 445, 448);

(v) excessive anti-dumping regulations and measures as well as transparency and due process in administering these regulations continue to be a challenge (Soko, 2006:18, 20; Office of the United States Trade Representative, 2009:40, 248, 445);

(vi) numerous and ever changing laws, provisional measures and decrees that regulate Brazil's foreign trade as well as high transaction and import costs due to levying different charges and taxes on top of the duty-paid value (Soko, 2006:18, 19; Office of the United States Trade Representative, 2009:39; Jennings, 1994); and

(vii) cumbersome and time-consuming procedures for obtaining travel visas (Soko, 2006:20; Office of the United States Trade Representative, 2009).

6. IBSA TRADE WITH THE WORLD

Table 2 examines how the respective IBSA countries have been trading with the rest of the world trade in the period 2001-2008. Special focus is made on individual countries' trade with Latin America and the Caribbean region, Africa, Asia, as well as each country's total world trade.

With regards to the Latin American and Caribbean region, each country's trade with the region has been rising over the years, except for Brazil and India when it fell in 2002 and 2003, respectively. For each country, significantly very high trade growth rates were recorded for the first time in 2004, and the momentum for such very high growth rates was maintained for the rest of the period. India experienced the highest average trade growth rate (i.e. 42%) with the region, followed by South Africa with an average of 24.95% and Brazil with an average of 20.2%.

With Africa, each IBSA country has been experiencing increased trade with the region, except for Brazil when it had a fall in 2002. For each country, 2004 kick started significantly very high trade growth rates with Africa, with high growth rates experienced thereafter. India experienced the highest average trade growth rate (i.e. 46.3%) with the Africa, followed by Brazil with an average of 27%, with South Africa's average trade growth rate being 23.1%.

Each country's trade with Asia has been on a continuous increase, except for South Africa when it fell in 2002. For each IBSA country, 2002 kick started significantly very high trade growth rates with Asia with each country recording its significantly very high trade growth rate for the first time. Thereafter, each country maintained the momentum of very high trade growth rates with Asia. India had the highest average trade growth rate (i.e. 36.4%) with the region, followed by Brazil with an average of 27.1% and South Africa with 23.5%.

Table 2: IBSA trade with the world (2001-2008)

	Total trade (US$ million) and growth (%)							
	2001	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
Brazil's trade with								
IBSA	1 538.2	1 886.8	1 975.6	2 513.9	4 053.5	4 310.4	5 403.0	7 193.7
Growth (%)		(22.67)	(4.71)	(27.25)	(61.24)	(6.34)	(25.35)	(33.14)
L.A. & C	23 764.5	19 961.3	23 396.8	33 334.1	42 285.6	53 295.9	63 243.2	79 935.3
Growth (%)		(-16.00)	(17.21)	(42.47)	(26.86)	(26.03)	(18.66)	(26.39)
Africa	5 319.1	5 036.2	6 149.5	10 425.8	12 630.5	15 536.9	19 903.7	25 919.3
Growth (%)		(-5.32)	(22.11)	(69.54)	(21.15)	(23.01)	(28.11)	(30.22)
Asia	27 367.4	32 029.2	39 912.1	53 125.1	68 173.8	87 409.5	106 516.3	145 544.1
Growth (%)		(17.03)	(24.61)	(33.11)	(28.33)	(28.22)	(21.86)	(36.64)
World	113 888	107 681	121 529	159 513	192 129.1	229 149.0	281 269.7	371 139.1

Growth (%)		(-5.45)	(12.86)	(31.26)	(20.45)	(19.27)	(22.75)	(31.95)
India's trade with								
IBSA	2 345.7	3 357.6	2 991.1	4 520.3	6 005.8	7 150.1	8 088.8	12 442.1
Growth (%)		(43.14)	(-10.92)	(51.13)	(32.86)	(19.05)	13.13)	(53.82)
L.A. & C	2 022.0	2 371.1	2 315.3	4 061.5	5 683.9	10 366.0	11 251.5	19 438.2
Growth (%)		(17.27)	(-2.35)	(75.42)	(39.94)	(82.37)	(8.54)	(72.76)
Africa	5 546.2	6 532.0	6 964.7	9 130.6	11 880.7	24 944.0	30 752.6	42 036.6
Growth (%)		(17.77)	(6.62)	(31.10)	(30.12)	(109.95)	(23.29)	(36.69)
Asia	31 391.8	39 052.8	53 552.1	72 980.9	94 602.1	160 601.8	192 896.9	264 816.3
Growth (%)		(24.40)	(37.13)	(36.28)	(29.63)	(69.77)	(20.11)	(37.28)
World	96 215.0	113 590	140 236	188 082	253 154.1	311 510.4	364 543.3	497 573.0
Growth (%)		(18.06)	(23.46)	(34.12)	(34.60)	(23.05)	(17.02)	(36.49)
South Africa's trade with								
IBSA	1 582.5	1 276.3	1 690.1	2 514.8	3 900.4	4 179.9	5 305.5	6 861.9
Growth (%)		(-19.35)	(32.42)	(48.80)	(55.10)	(0.72)	(26.93)	(29.34)
L.A. & C	1 649.1	1 336.5	1 671.2	2 450.5	2 941.4	3 937.4	5 051.5	5 145.6
Growth (%)		(18.96)	(25.04)	(46.63)	(20.03)	(33.86)	(28.30)	(1.86)
Africa	4 733.4	5 035.0	6 189.0	7 941.5	9 704.0	12 392.4	15 239.0	20 034.8
Growth (%)		(6.37)	(22.92)	(28.32)	(22.19)	(27.70)	(22.97)	(31.47)
Asia	14 804.2	13 876.9	20 319.5	29 117.2	35 381.2	43 658.1	52 396.3	60 995.9
Growth (%)		(-6.26)	(46.43)	(43.30)	(21.51)	(23.39)	(20.02)	(16.41)
World	51 592.8	49 276.4	66 178.9	87 866.8	102 023.7	121 070.9	143 899.2	161 558.6
Growth (%)		(-4.49)	(34.30)	(32.77)	(16.11)	(18.67)	(18.86)	(12.27)+

Source: Own table derived from Table 1 and Tables A-20 to A-23 in Appendix 6.

Notes: L.A. & C = Latin America and the Caribbean

Each country's total world trade has been on a continuous increase, except for 2002 when it fell for both South Africa and Brazil. In 2003, each country started recording significantly high trade growth rates and each country maintained this momentum for the rest of the period. India recorded the highest average trade growth rate (i.e. 31.6%) followed by Brazil with an average growth rate of 19.01% and South Africa with an average of 18.4%.

The significance of the individual IBSA countries in international trade is evidenced by the way each country's trade has been growing over the years in the various regions examined above as well as their respective total world trade. IBSA countries are not only increasing trade in the regions in which they are located but are also increasingly raising inter-regional South-South trade as evidenced by each IBSA country's trade growth rates with other regions, as shown in Table 2 above. Thus, the growth of interregional trade by the IBSA countries is illustrative of their role as emerging engines of interregional South-South trade as each IBSA country uses its other partners as a gateway for intensifying intercontinental trade.

7. CONCLUSION

Intra-IBSA for the period 2001-2008 has been on the increase. After the IBSA initiative was established in 2003, each country recorded a significant growth in its trade with other IBSA countries in 2004, leading to a very big increase in intra-IBSA in that year with intra-IBSA trade continuing to rise thereafter.

The mining sector dominates South Africa's major exports to Brazil. In the manufacturing sector, high-technology followed by medium-technology manufactures dominate South Africa's major exports to Brazil. South Africa's chief imports from Brazil are dominated by manufactures, with high-technology manufactured imports contributing most followed by medium-technology imports. The agricultural sector is the second significant sector after manufacturing. South Africa's chief exports to India are dominated by medium-technology manufactures followed by products from the mining sector. South Africa's chief imports from India are dominated by high-technology manufactures, followed by mining sector products; with medium-technology manufactures ranking third. The mining sector dominates Brazil's chief exports to India followed by the agricultural sector. The manufacturing sector ranks third with high-technology manufactures dominating. Brazil's chief imports from India are dominated by manufactures followed by Iron and steel. Within the manufacturing sector, high-technology manufactures are the most dominant.

In the period 2001-2003, South Africa tended to trade more with Brazil, while from 2004 to 2008, it tended to trade more with India. South Africa's total trade with both countries was on a continuous increase, although its trade with India was increasing at a faster rate. Furthermore, India tends to apply relatively much lower applied tariffs (compared to Brazil), on South Africa's chief exports, thus providing much easier market access (compared to Brazil).

Over the years, Brazil has been trading more with India than with South Africa. However, its trade with both countries has been on a continuous rise although its trade with India has been rising at a faster rate, especially after 2004. South Africa applies much lower applied tariffs (compared to India) for Brazil's exports. However, the much easier market access into the South African market through the much lower applied tariffs has not (in quite a number of cases), been necessarily accompanied by higher export levels of Brazil's chief exports compared to those that go to India.

In the period under study, India has been trading more with South Africa than with Brazil, although its trade with either country has been on a continuous increase. In most cases, South Africa applies much lower applied tariffs (compared to Brazil) for India's exports. In most cases, this is accompanied by significantly higher levels of exports (compared to those going into Brazil) in the respective product categories.

IBSA members continue to apply tariff and non-tariff barriers on each other and these include: (i) lack of information and knowledge about each other; (ii) geographical distance

coupled with poor, limited and expensive air and shipping connections; (iii) cultural differences and lack of extensive cultural links; (iv) language barriers; (v) crime and corruption; (vi) high-level red tape, inefficient bureaucracy and excessive regulation; (vii) insufficient enforcement of protection of intellectual property rights; (viii) excessive anti-dumping regulations and measures; as well as, (ix) complicated and non-transparent import licensing systems and customs regimes.

In examining IBSA countries' trade with the rest of the world trade, special focus was put on each country's trade with Latin America and the Caribbean, Africa, Asia, as well as total world trade. With regards to the Latin American and Caribbean region, each country's trade with the region has been rising over the years. For each country, significantly very high trade growth rates were recorded for the first time in 2004, and the momentum for such very high growth rates was maintained for the rest of the period. With regards to Africa, each IBSA country has been experiencing increased trade with the region, and for each country, 2004 kick started significantly very high trade growth rates with the region, with high growth rates experienced thereafter. With regards to trade with Asia, each country's trade has been on a continuous increase, with 2002 kick starting significantly very high trade growth rates for each country with Asia, with each country maintaining the momentum of very high trade growth rates with the region. Each country's total world trade has been on a continuous increase and in 2003, each country started recording significantly high trade growth rates and this momentum was maintained for the rest of the period.

The significance of the individual IBSA countries in international trade is evidenced by the way each country's trade has been growing over the years. IBSA countries are not only increasing trade in the regions in which they are located but are also increasingly raising inter-regional South-South trade as evidenced by each IBSA country's trade growth rates with other regions. Thus, the growth of interregional trade by the IBSA countries is illustrative of their role as emerging engines of interregional South-South trade as each IBSA country uses its other partners as a gateway for intensifying intercontinental trade.

REFERENCES

Amorim, H.E. (2005) Comments made during an IBSA Consultation Meeting. *IBSA National Consultation Meeting Report.* Report from the National Consultative Meeting held in Johannesburg, South Africa on 27th October.

Appleyard, D.R. Field, A.J. and Cobb, S.L. (2008) *International Economics*, McGraw-Hill Irwin. USA.

Banerjie, I. (2008) "Development: Turning South-South rhetoric into action", Available online: http://ipsnews.net/news.asp?idnews=44265

Barbosa-Filho, N.H. (2008) "Inflation targeting in Brazil: 1999-2006", *International Review of Applied Economics*, 22(2), 187-200.

Batra, A. and Khan, Z. (2005) "Revealed comparative advantage: An analysis for India and China" Working Paper No. 168. Indian Council for Research on International Economic Relations

Behar, J. (1991) "Economic integration and intra-industry trade: The case of the Argentine-Brazil Free Trade Agreement", *Journal of Common Market Studies*, 29(5), 527-552.

Bukhari, S.A.H.A. Ahmad, M.H. Alam, S. Bukhari, S.S.H.A. and Butt, M.S. (2005) "An empirical analysis of the Linder theory of international trade for South Asian countries", *Pakistan Development Review,* 44(3), 307-320.

Campbell, K. (2008) "Trilateral trade surging, but economic relations still well below potential", *Creamer Media's Engineering News*, South Africa. Available online: http://www.bilaterals.org/article.php3?id_article=13697

Cavoli, T. and Rajan, R. (2008) "Should emerging economies like India adopt inflation targeting arrangements?" *Roubini Global Economics*, Available online: http://www.roubini.com/asia-monitor/252725

Central Bank of Brazil, (1999) “Monetary policy operating procedures in Brazil”, *BIS Policy Papers*, March 1999, p73-81.

CUTS-CITEE (2005) “India and Mercosur: Boosting trade through regionalism”, *Briefing Paper IBSA 1/2005*. Cuts Centre for International Trade, Economics and Environment.

Da Fonseca, R.G. (2005) Comments made during an IBSA Consultation Meeting. *IBSA National Consultation Report.* Report from the National Consultative Meeting held in Sao Paulo, Brazil on 31st October.

Davis, D.R. (1995) “Intra-industry trade: A Heckscher-Ohlin Ricardo approach”, *Journal of International Economics*, 39(3/4) November 1995, 201-226.

Davis, D.R. and Weinstein, D.E. (1996) “Empirical tests of the factor abundance theory: What do they tell us”? *Eastern Economic Review*, (Fall 1996).
De Benedictis L. and Tamberi M. (2001) “A note on the Balassa Index of revealed comparative advantage”.

Department of Commerce Government of India (2009) “India-MERCOSUR PTA”. Available online http://commerce.nic.in/flac/india_mercusor_pta.html

Dornbusch, R. Fischer, S. and Samuelson, P.A. (1980) “Heckscher-Ohlin trade theory with a continuum of goods”. *Quarterly Journal of Economics*, 95(2), 203-224.

Hakura, D, and Jaumotte, F (1999) “The role of inter- and intra-industry trade in technology diffusion”, *IMF Working Paper WP/99/58*.

Hallak, J.C. (2006) “A product-quality view of the Linder Hypothesis”, *NBER Working Paper No. 12712*. National Bureau of Economic Research, Cambridge.

Hendricks, F. (2007) “South Africa: Leaders meet to promote global South trade”. Available online: http://allafrica.com/stories/200710150008.html

Holland, M. (2005) “Monetary and exchange rate policy in Brazil after inflation targeting”. Proceedings of the 33rd Brazilian Economics Meetings, No 032. *Brazilian Association of Graduate Programmes in Economics*.

IBSA Trilateral Official Website (2008a) “Declarations/Communiqués”, Available online: http://www.ibsa-trilateral.org/
IBSA Trilateral Official Website (2008b) “Areas of Cooperation”, Available online: http://www.ibsa-trilateral.org/

IBSA Trilateral Official Website (2008c) “About IBSA”, Available online: http://www.ibsa-trilateral.org/

Jha, R. (2005) “Inflation targeting in India: Issues and prospects”, *ASARC Working Papers*, No. 2005-04.

Jayanthi, C. (2008) “IBSA: Connectivity will ensure the way forward”, *Financial Express*, India. Available online: http://www.bilaterals.org/article.php3?id_article=13528

Jones, R.W. (2008) “Heckscher-Ohlin trade flows: A Re-appraisal”, *Trade and Development Review*, 1(1), 1-6.

Klinger, B. (2009) “Is South-South trade a testing ground for structural transformation”? *Policy issues in International Trade and Commodities Study Series No. 40*. United Nations, New York and Geneva.

Kocyigit, A and Sen, A (Date unknown) “The extent of intra-industry trade between Turkey and European Union: The impact of Customs Unions”, *Journal of Economic and Social Research*, 9(2), 61-84.

Krugman, P.R. and Obstfeld, M. (1994) “Economies of scale, imperfect competition and international trade” In *International Economics: Theory and Policy* (3e). Harper Collins College Publisher, USA.

Krugman, P.R. (1981) “Intra-industry specialization and the gains from trade” *Journal of Political Economy*, 89 (October), 959–973.

Kulkarni, P. (2005) “India Report”. *IBSA National Consultation Meeting Report.* Presented at the National Consultation Meeting held in Johannesburg, South Africa on 27th October.

Lai, K. (2006) “India-Brazil-South Africa: The southern trade powerhouse makes it debut”, Council on Hemispheric Affairs (COHA) Memorandum to the press, 15th March

Leamer, E.E. (1995) “The Heckscher-Ohlin model in theory and practice” *Princeton Studies in International Finance*, No 77.

Luey, P (1978) “Intra-industry trade levels: Hong Kong and the rest of the world”, *Hong Kong Economic Papers, No. 12* July 1978.

Marconini, M. (2005) “Brazil Report”, *IBSA National Consultation Meeting Report.* Presented at the National Consultative meeting held in Johannesburg, South Africa on 27th October.

Mboweni, T.T. (2006) “South Africa’s economic policy challenges” Address given at the XVI meeting of the Central Bank Governor’s Club, Irkutsk, Russia in September.

Mahon, O (2003) “Intra-industry trade: The EU and South Korea”, *Asia in Extenso*, June 2003.

McPherson, M.A. Redfearn, M.R. and Tieslau, M.A. (2000) “A re-examination of the Linder hypothesis: A random-effects Tobit approach”, *International Economic Journal*, 14(3), 123-136.

Mnyande, M. (2007) “South Africa’s experiences of monetary policy within an inflation targeting policy framework” A presentation at the International Seminar on Monetary Policy in Emerging Markets, OECD, Paris 28th February 2007.

Mohan, R. (2006) “Monetary policy and exchange rate frameworks: The Indian experience”. Paper presented at the Second High Level Seminar on Asian Financial Integration organised by the International Monetary Fund and Monetary Authority of Singapore, Singapore, 25th May 2006.

Murinzi, T. (2007) “South Africa: IBSA Summit a political endorsement for future plans”. Available online: http://allafrica.com/stories/200710210032.html

Mutambara, T.E. (2004) “The nature and potential of industrial development within the Southern African Development Community and the facilitating role of trade liberalisation and foreign direct investment in selected countries”. Unpublished PhD thesis, Rhodes University, Grahamstown.

Nieuwoudt, S. (2008) “Africa: India, Brazil and South Africa should gang up with China”. Available online: http://allafrica.com/stories/200810140025.html

OECD (2002) “Intra-industry and intra-firm trade and the internationalisation of production”, *OECD Economic Outlook* 71, June 2002, 159-170.

Office of the United States Trade Representative (2009) “2009 National trade estimate report on foreign trade barriers”. Available online: http://www.ustr.gov/

Omar, J. (2009) “SACU-India trade pact likely by end of 2009”. The Economic Times (New Delhi, India). Available online: http://www.givengain.devel.givengain.com

Patnaik, I. and Shah, A. (2007) “Monetary policy in India” *DEA*, July 2007.

Principal Global Indicators, (2010) “Current query: Exchange rates”. Available online: http://www.principalglobalindicators.org

Puri, L. (2007) “IBSA: An emerging trinity in the new geography of international trade”, Policy *Issues in International Trade and Commodities Study Series No. 35*. United Nations Conference on Trade and Development.

Reserve Bank of India, (2009) “Handbook of statistics on Indian economy”. Available online: http://www.rbi.org.in/scripts/PublicationsView.aspx?id=11733

Ruffin, R.J. (1999) “The nature and significance of intra-industry trade”, *Economic and Financial Review*, Fourth Quarter 1999.

Siggel, E. (2009) “Is intra-industry trade driven by comparative advantage”? Paper written for 2009 congress of the Societe canadienne de science economique, as well as for the annual meeting of the Canadian Economic Association.

Society of India Automobile Manufacturers (SIAM) (2009) “India-MERCOSUR PTA” Available online: http://www.siamindia.com/scripts/PTA.aspx

Soo, K.T. (2005) “Integrated equilibrium in a Heckscher-Ohlin-Ricardo model”, *Lancaster University Management School Working Paper 2005/058*.

Soko, M. (2006) “South-South economic co-operation: The India-Brazil-South Africa case”. *Trade Policy Report No.12*. South African Institute of International Affairs.

Soko, M. (2005) Comments made at the National Consultation Meeting. *IBSA National Consultation Meeting Report*. Report from the National Consultation Meeting held in Johannesburg, South Africa on 27th October.

Southern African Customs Union (SACU) (2008) “Press release on the conclusion of the SACU-MERCUSOR Preferential Trade Agreement (PTA)”. Available online: http://www.sacu.int/docs/pr/2008/pr0627.pdf

Subasat, T. (2003) “What does Heckscher-Ohlin model contribute to international trade theory? A critical assessment”, *Review of Radical Political Economics*, 35(2), 148-165.

Tiis, M and Juriado, J (2006) “Intra-industry trade in the Baltic Sea region”, *Working Paper 2/2006*, Institute of Baltic Studies.

Venkitaramanan, S. (2008) “Inflation targeting and India”, *Business Line*, Available online: http://www.businessline.in

White, L. (2008) “The India, Brazil, South Africa alliance: A sensible alternative to South-South cooperation”, Paper presented at the annual meeting of ISA’s 49th Annual Convention, Bridging Multiple Divides. Hilton, San Francisco, March 26th 2008.

World Bank (2010) *World Development Report 2010*, World Bank, New York

World Bank (2009a) *2009 World Development Indicators*, World Bank, New York.

World Bank (2009b) *World Development Report 2009*, World Bank, New York.

World Bank (2008) *World Development Report 2008*, World Bank, New York.

World Bank (2007) *World Development Report 2007*, World Bank, New York.

World Bank (2006) *World Development Report 2006*, World Bank, New York.

World Bank (2005) *World Development Report 2005*, World Bank, New York.

Yeats, A.J. (2004) ‘On the appropriate interpretation of the revealed comparative advantage index: Implications of a methodology based on industry sector analysis”, Paper presented at the European Trade Study Group 6th Annual Conference, (RTSG 2004), Nottingham, September 2004.