

PROJECT ON ANALYSIS OF TERMS OF TRADE OF BRICS (BRAZIL, RUSSIA, INDIA, CHINA, SOUTH AFRICA)

Prepared for and under guidance of

Dr. R.P Pradhan (Department of Humanities and Social Sciences)

Prepared By

Viraj V Aute 2018B3A70741G

Aman Jain 2018B3A70768G

Siddharth Upadhyay 2018B3A80706G

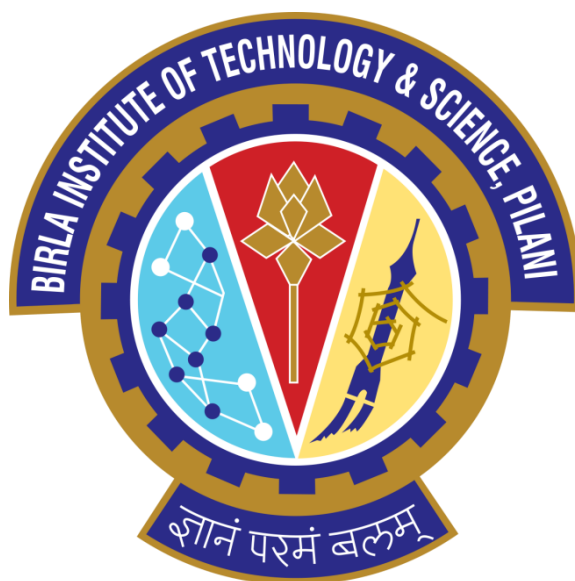
Aryansh Goel 2018AAPS0727G

Yash Bohra 2018B3AA0711G

Lakshay Dua 2018B3A70735G

In partial fulfilment of the requirements of the course

GS F234 : Development Economics



BITS Pilani, Goa Campus

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INTRODUCTION

HISTORY

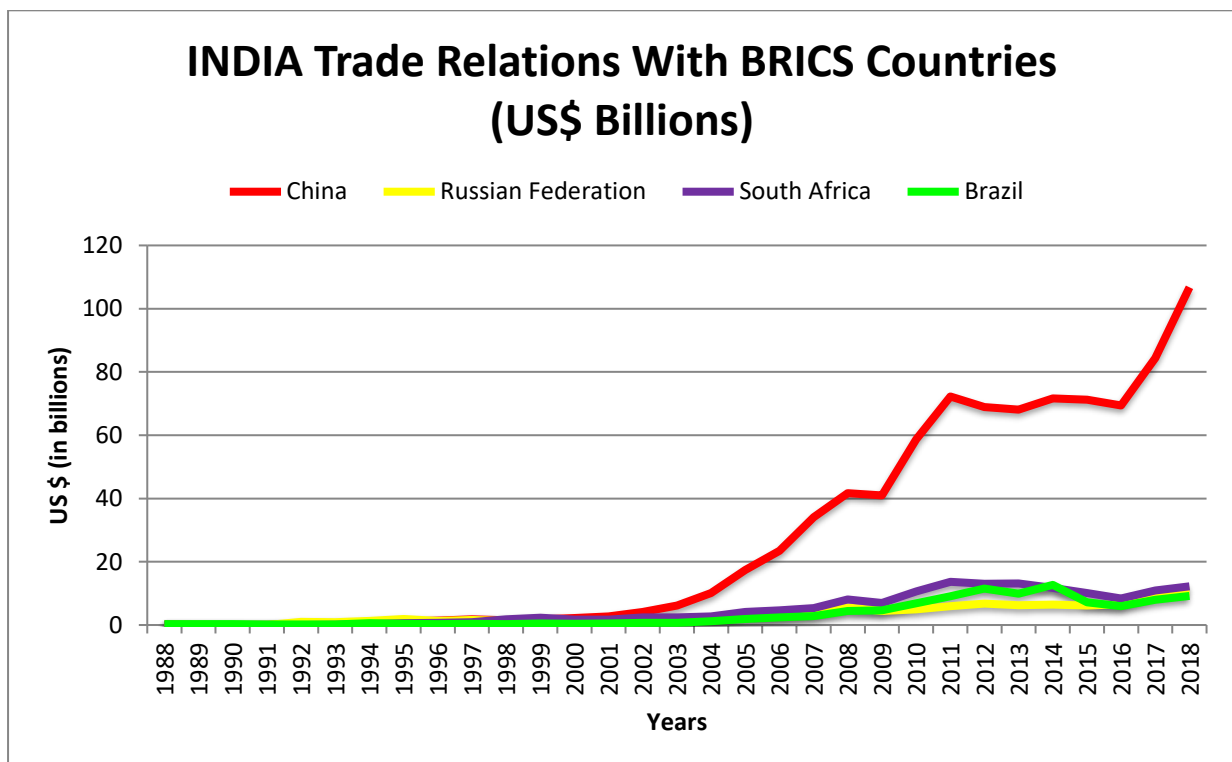
Initially, BRIC was 4 nation collaboration. The BRIC grouping's first formal summit commenced on 16 June 2009, with Luiz Inácio Lula da Silva, Dmitry Medvedev, Manmohan Singh, and Hu Jintao, the respective leaders of Brazil, Russia, India and China.

In 2010, South Africa began efforts to join the BRIC grouping. South Africa officially became a member nation on 24 December 2010, after being formally invited by China to join.

OBJECTIVES

- To form New Development Bank, an Alternative bank to World Bank and IMF, to challenge US supremacy.
- Act as a bridge between developed and developing nations.
- Promote a fair order regarding agricultural policies
- Form an information-sharing and exchange platform that expands beyond economic cooperation to also involve educational, cultural, and environmental engagement.

INDIA'S Trade Relations with BRICS Nations



Source- <https://wits.worldbank.org>

CHINA

In 1985, India's trade relations with China amounted to for \$45483.804 in terms of exports and \$95334.056 in terms of imports. It was in 1992 that the India and China got involved in a full-fledged bilateral trade relation. The year 1994 marked the beginning of a new era in the India-China economic relations. Bilateral trade between the two countries reached US\$73 billion in 2011, making China India's largest trade partner, but slipped to US\$68 billion in 2012. Bilateral trade between China and India touched US\$89.6 billion in 2017–18, with the trade deficit widening to US\$62.9 billion in China's favour. In 2019, the volume of bilateral trade between India & China stands at US\$106.76 billion.

RUSSIA

Enhancing trade and economic cooperation between India and Russia is a key priority for the political leadership of both the countries. The Bilateral trade between two countries amounted to USD .961 billion in 1992 which continued to increase over the years and amounted to USD 6.4 billion in 2014 wherein Indian exports were USD 2.2 billion and Russian exports were USD 4.2 billion. In 2018 bilateral trade between India and Russia amounted to USD 10.83 billion, with Indian exports to Russia worth USD 2.33 billion and Indian imports from Russia USD 8.55 billion.

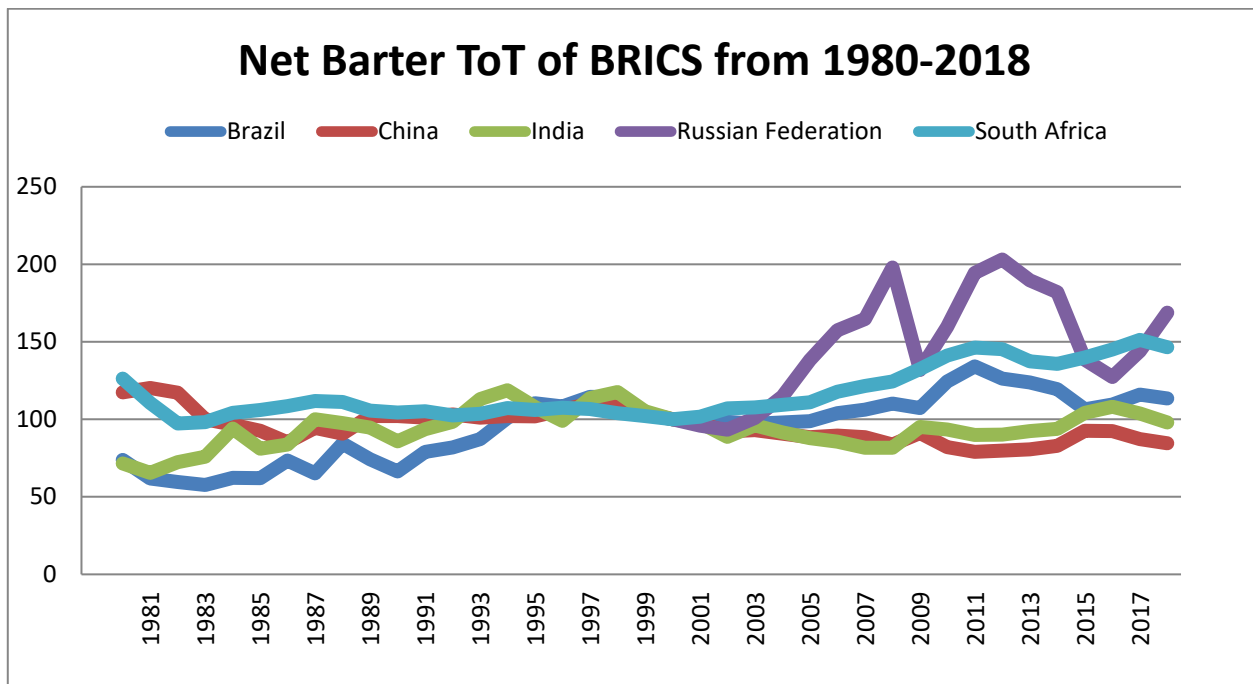
BRAZIL

India-Brazil bilateral trade has increased substantially in the last two decades. However, the global drop in commodity prices and the economic recession in Brazil started in 2015 affected Brazil's overall trade. Consequently, the negative impact was felt in bilateral trade as well when it came down to USD 7.2 Billion and USD 5.94 Billion in years 2015 and 2016 respectively. However, with slight recovery in Brazilian economy in year 2017, the bilateral trade between India and Brazil rose to USD 7.97 Billion with growth of 34.17%, the highest growth among the top 10 trading partners of Brazil. Indian exports to Brazil and imports from Brazil stood at US\$ 2.87 Billion and US\$ 5.10 billion respectively. In 2018 the bilateral trade between the two countries amounted to US\$ 9.19 Billion.

SOUTH AFRICA

India is South Africa's fifth-largest export destination and fourth-largest import origin and is the second-largest trading partner in Asia. Both countries are working to boost trade volumes in the coming years. In 1988 the Bilateral trade between two countries amounted to USD 4827 Thousand which continued to increase over the years. The Bilateral trade between India and South Africa currently stands at \$12.26 billion.

NET BARTER TERMS OF TRADE OF BRICS NATIONS



Source- <https://data.worldbank.org/indicator/TT.PRI.MRCH.XD.WD>

BRAZIL: Brazil's N-TOT has been increasing slowly and steadily with a few small fluctuations. It was the lowest (57.66) in 1983 and the highest (134.15) in 2011.

CHINA: China on the other hand has been seeing decline NTOT. It has declined from 120.23 in 1981 to 84.62 in 2018 (latest reading)

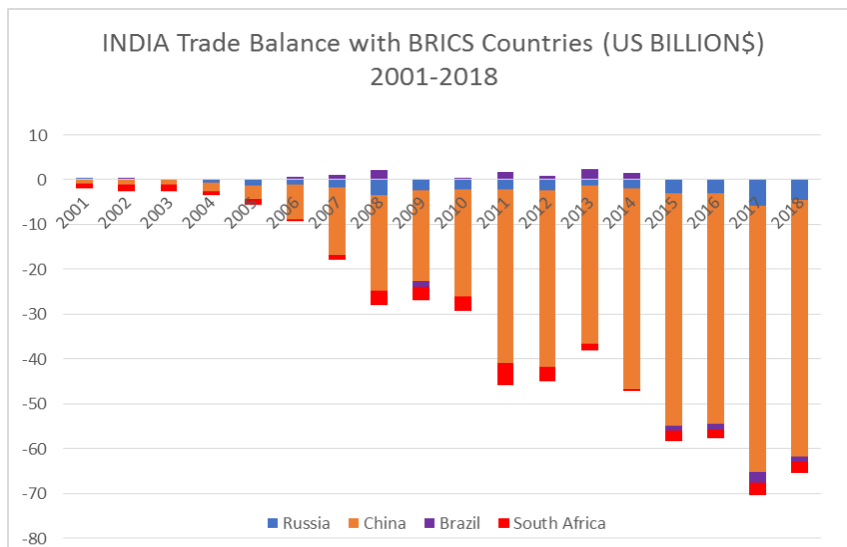
INDIA: India's NTOT has more or less remained constant. The lowest it has been in 65.46 in 1981, and the highest was 118.75 in 1994.

RUSSIA: Russia's Index experiences major fluctuation. The least it has been is 93.34 in 2002 if we don't look at the previous years before 2000 where it was 0. Even though it experiences major fluctuations, it has never been below 100 any time after 2002 the highest being 203.09 in 2012 and the recent reading being 168.86 in 2018.

SOUTH AFRICA: South Africa's NTOT has reduced from 1980 to 2000 and since then has been steadily growing until today. The least it has been was 97.32 in 1983 and the highest was 151.26 in 2017 and the recent 2018 reading is 149.49

INDIA

TRADE BALANCE



CHINA-India's import from China continued to rise in the last two decades. India's trade balance with China was USD .9050 Billion in 2001 in favour of China which continued to rise over the years with small dips in between (visible from the graph). Trade balance in 2018 amounted to USD 57.33 Billion.

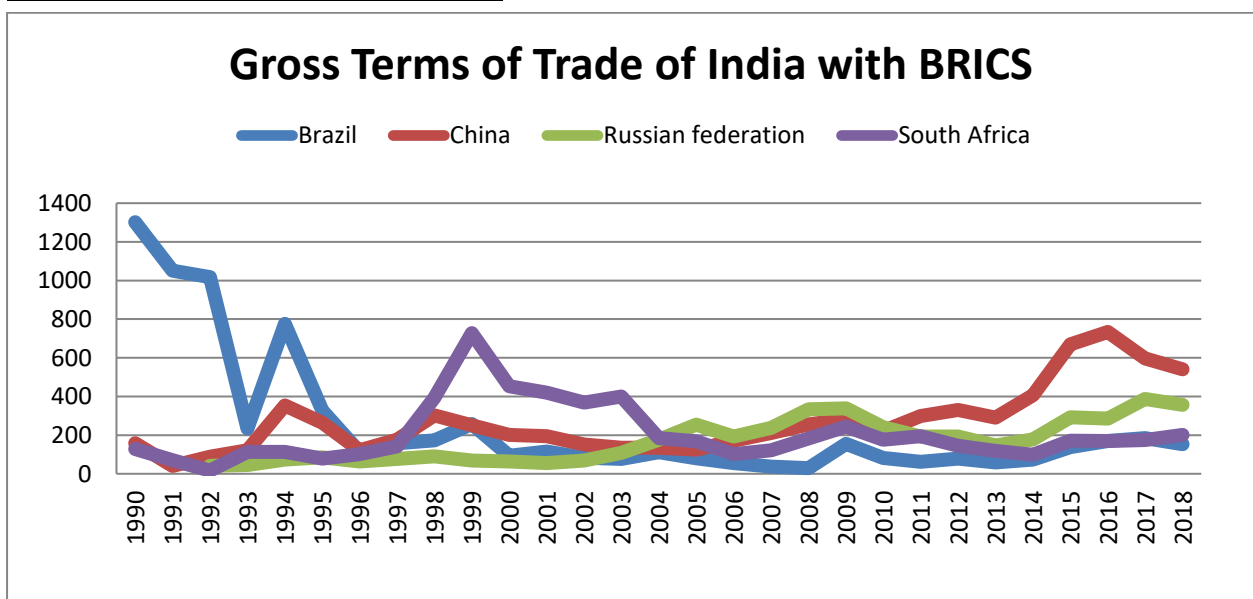
BRAZIL-India's trade balance with showed both positive and negative trends over the years. Trade balance between two countries was USD .0404 Billion in 2001 in Brazil's favour and USD 1.056 Billion in 2018.

RUSSIA-Initially India' trade balance with Russia was USD .361 Billion in India's favour. But over the India's Import from Russia rose more than its export. In 2018 Trade Balance between the two nations amounted to USD 4.51 Billion in favour of Russia.

SOUTH AFRICA-Trade Deficit of India with South Africa was USD 1.076 Billion in 2001 which showed both positive and negative dips over the years.

Source- <https://m.trademap.org/#/main>

GROSS TERMS OF TRADE



Source : <https://wits.worldbank.org/>
Source : <https://data.worldbank.org/>

for Export and Import data
for Index data

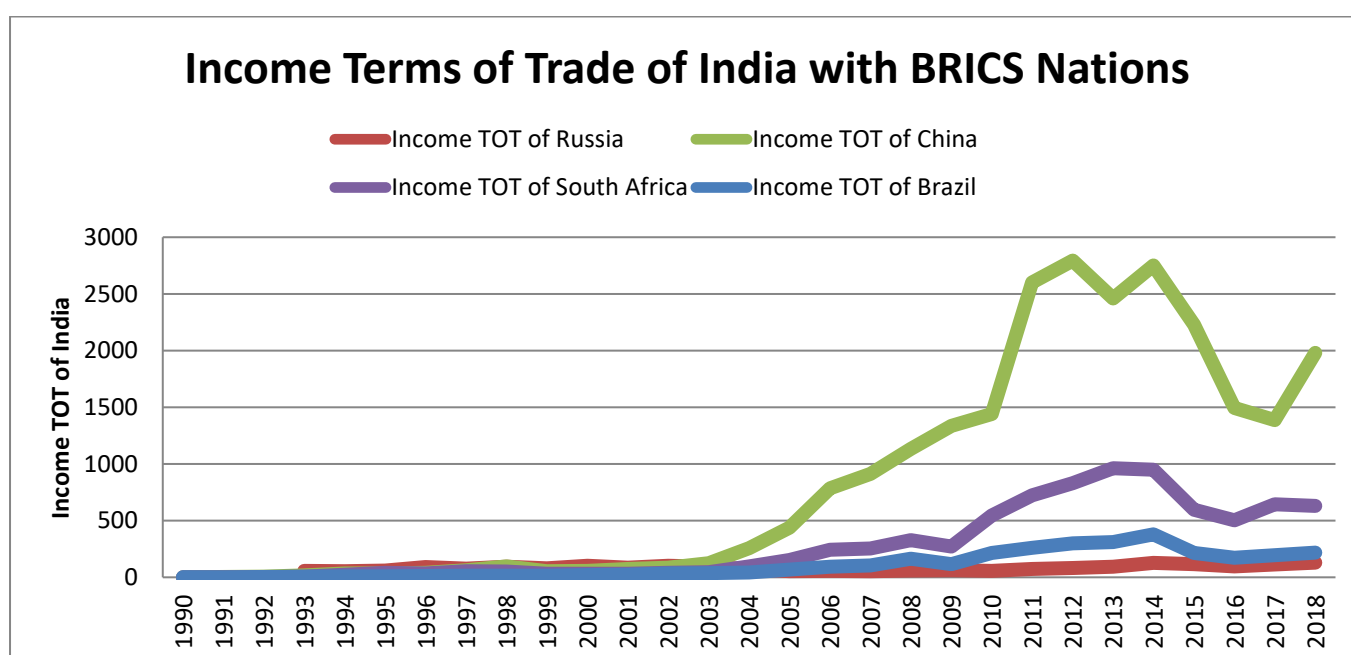
CHINA :India's exports to China in 2017 increased by 45.29% on year-year basis to USD 5.57 billion while India's imports from China saw a year--year growth of 14.48 % to USD 20.45 billion. This is evident from the GTOT values given in the table.

BRAZIL : The value of bilateral trade in 2018 between the two nations was USD 8.2 billion which included USD 3.8 billion worth of Indian exports to Brazil and USD 4.4 million as imports by India. More value of Imports as compared to exports suggest higher GTOT value. But this value dropeed considerably as India's trade with Brazil lowere from 2010-2015 due to economic recession in Brazil.

SOUTH AFRICA India's imports from South Africa peaked in 2014 at nearly US\$3.8bn but fell by 22% to 2015 due to the economic slowdown in South Africa associated with the commodity price slump effect. Also India's export to South Africa reached its highest value somewhere in the 2013 at nearly 5.4 billion USD and then fell around 35% in 2015. Whilst India's imports from South Africa are relatively concentrated, its exports are far less so. This is the reason for higher GTOT value barring 2014 where trade between two nations fell due to economic slowdown in South Africa.

RUSSIA : Bilateral trade between India and Russia in 2002 stood at \$1.5 billion and increased by over 7 times to \$11 billion in 2012 with both governments setting a bilateral trade target of \$30 billion by 2025. India imported 5176 shipments valued of USD 608734976.74 from Russia during the year 2016 .India Exported 17052 Shipments valued of USD 168041433.21999913 to Russia during the year 2016. As the shipments imported are considerably higher than shipments exported, GTOT values are higher.

INCOME TERMS OF TRADE



Source : <https://wits.worldbank.org/> for Export data
Source : <https://data.worldbank.org/> for index data

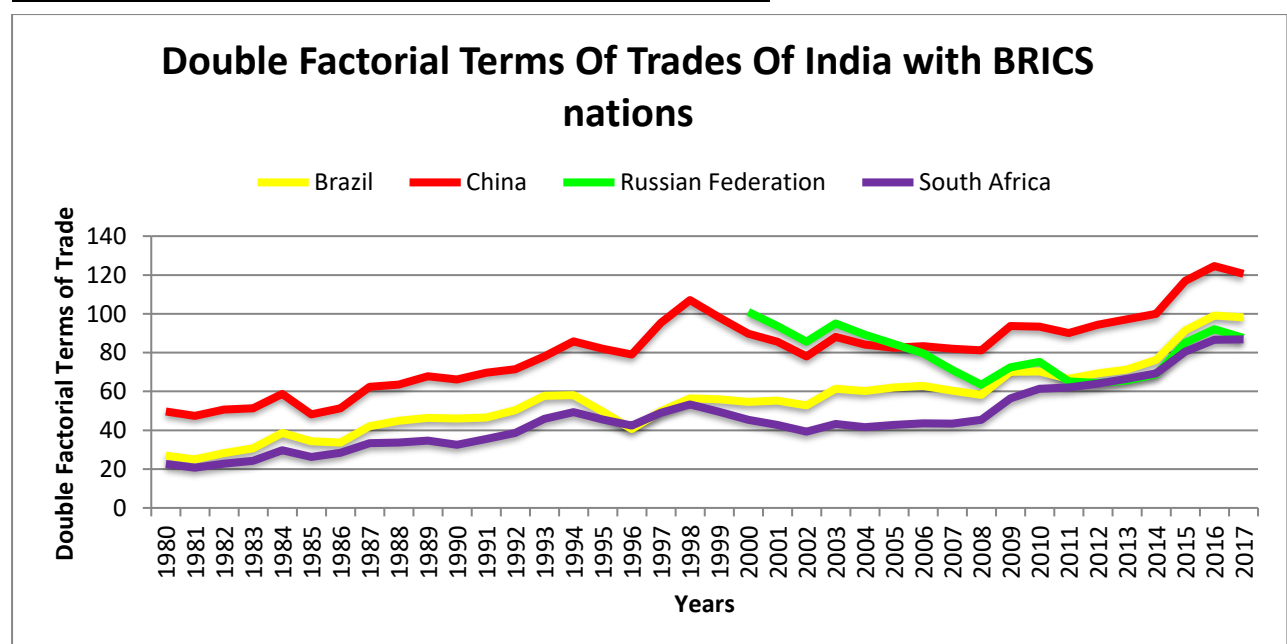
RUSSIA : The Income TOT with Russia has been fairly stable. India and Russia have stepped up to increase the trade to US \$30 Billion by 2030.

CHINA : China is India's largest trading partner. Till 2003 there was a negligible Income TOT with China. They entered into an open trade agreement in 2003 followed by formation of BRICS in 2006 which resulted in a high growth rate of Income TOT. The Income TOT spiked between 2008-2010, but returned to its level of 2008 in 2016 but is now rising rapidly.

SOUTH AFRICA : The Income TOT with South Africa was negligible until 2010. After the inclusion of South Africa in BRICS, the income TOT rose rapidly, peaking in 2014. In 2016, both countries set a target of increasing bilateral trade and agreement to US \$20 Billion.

BRAZIL : Income TOT with Brazil had a steady growth from 2004 after which it started rising rapidly with the formation of BRICS in 2006. However it decreased in 2015 due to an economic recession in Brazil. Since then the Income TOT has started recovering.

DOUBLE FACTORIAL TERMS OF TRADE



Source- <https://fred.stlouisfed.org/series/CTFPPPINA669NRUG>

BRAZIL-India has been doing well with Brazil because of its increasing productivity and decline in productivity of Brazilians. India's productivity increased by 160% between 1980- 2016.

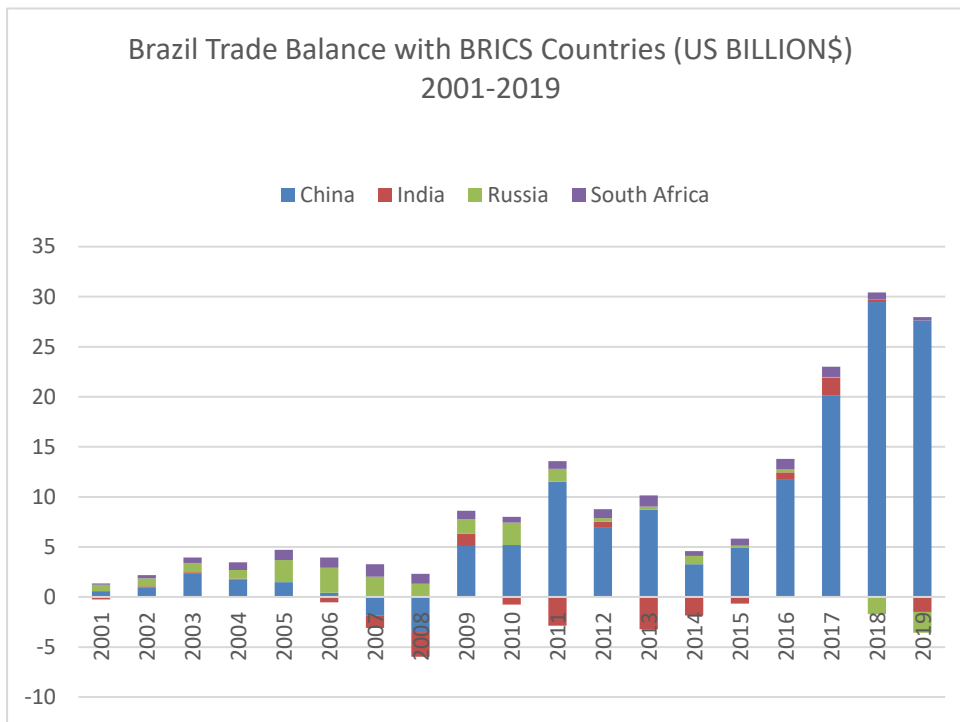
RUSSIA-Russia's productivity increased in more or less at the same rate as India's, however the decline near 2007-08 was due to economic recession.

CHINA- India has done well with china due to its increasing productivity and deteriorating NTOT of China.

SOUTH AFRICA- South Africa was also not able to increase its productivity instead it also suffered a decline in productivity hence DTOT of India with respect to south Africa also increased

BRAZIL

TRADE BALANCE



INDIA-Brazil's trade relations with India has shown both positive and negative trends. Trade Balance between two nations was USD 1.49 Billions in 2019 in favour of India.

CHINA -Brazil has been a prime exporters to China in the past decade. Trade Balance between the two nations was USD 24.40 Billions in Brazil's

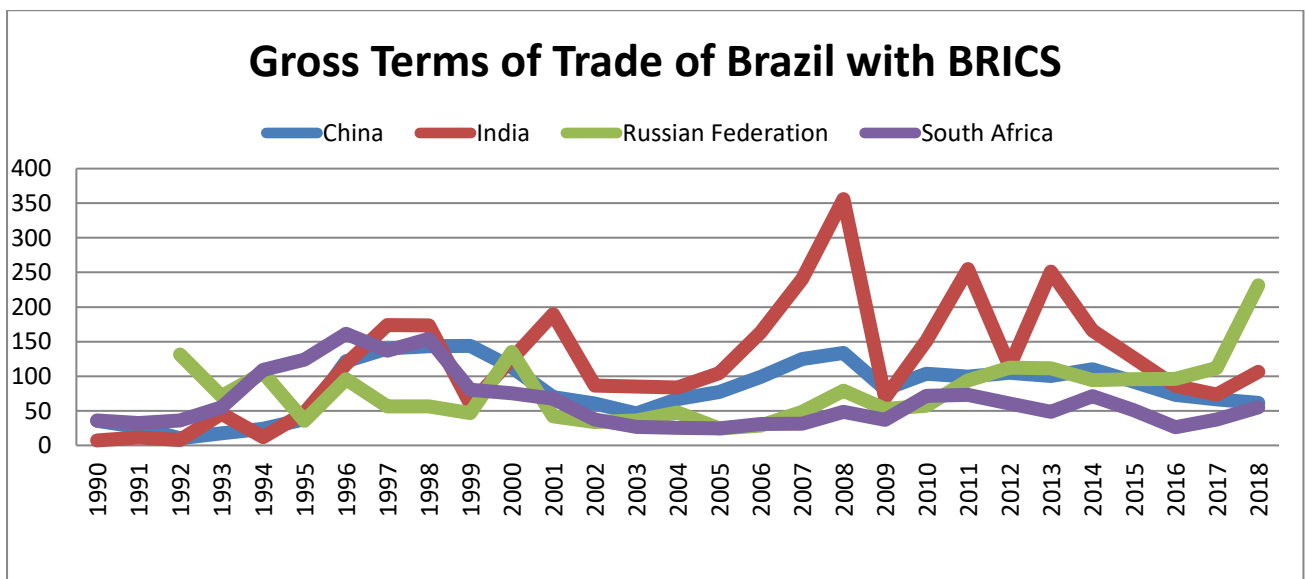
favour in 2019.

SOUTH AFRICA-Trade Balance between the two nations has been in Brazil's favour from last two decades which is also visible from the graph.

RUSSIA-Brazil's trade balance with russia was USD .068 Billions in 2001 and it amounted to USD 2.07 Billions in 2019 in Russia's favour.

Source- <https://m.trademap.org/#/main>

GROSS TERMS OF TRADE



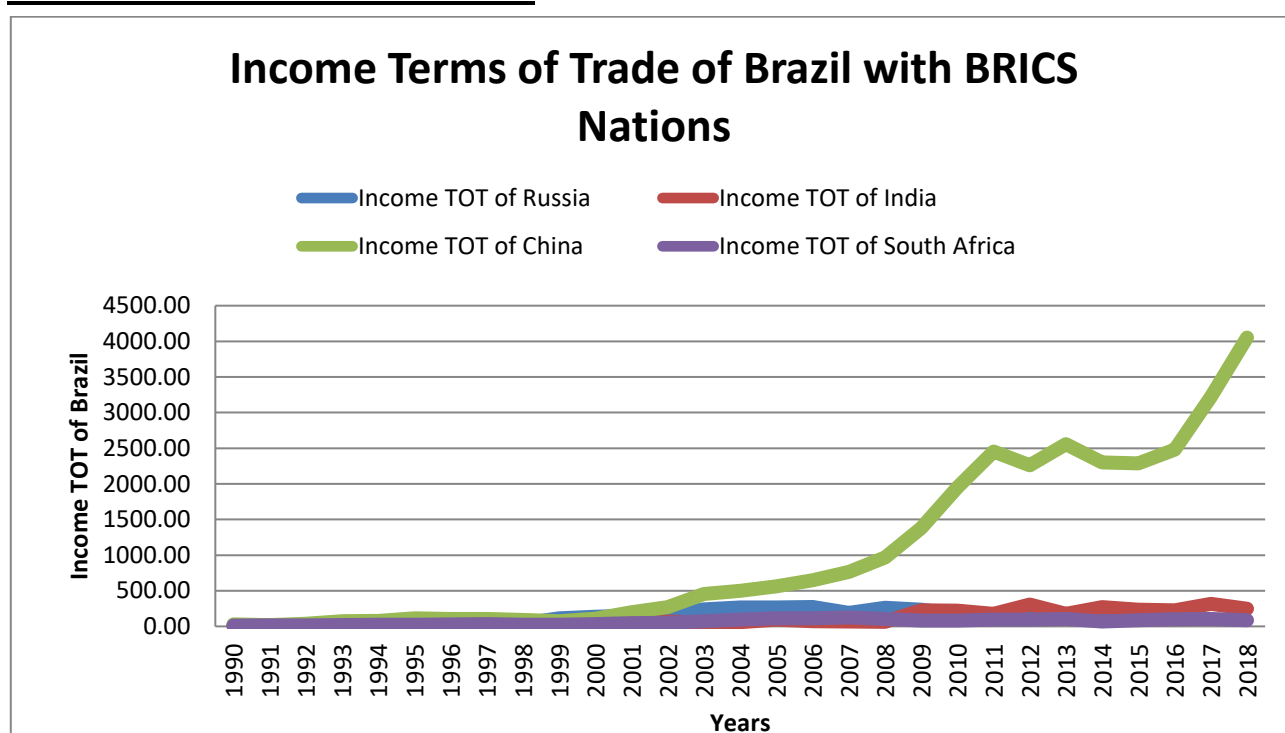
Source : <https://wits.worldbank.org/>
Source : <https://data.worldbank.org/>

for Export and Import data
for Index data

SOUTH AFRICA : GTOT values for Brazil's trade with South Africa are less than 100 in 2000s which could be a result of more quantity of exports as compared to import. Brazil has been a net exporter of goods to South Africa. In 2016, Brazil's exports to South Africa in the year 2016 reached US\$1.4 billion, while the nation's imports of South African goods only totalled US\$379 million.

INDIA, RUSSIA, CHINA : Similar, is the case with the other three nations which is evident from the fact that Brazil became the second largest intra-BRICS exporter (17.8 per cent) after China which has a 56.3% share in the intra-BRICS exports.

INCOME TERMS OF TRADE



Source : <https://wits.worldbank.org/> for Export data
Source : <https://data.worldbank.org/> for index data

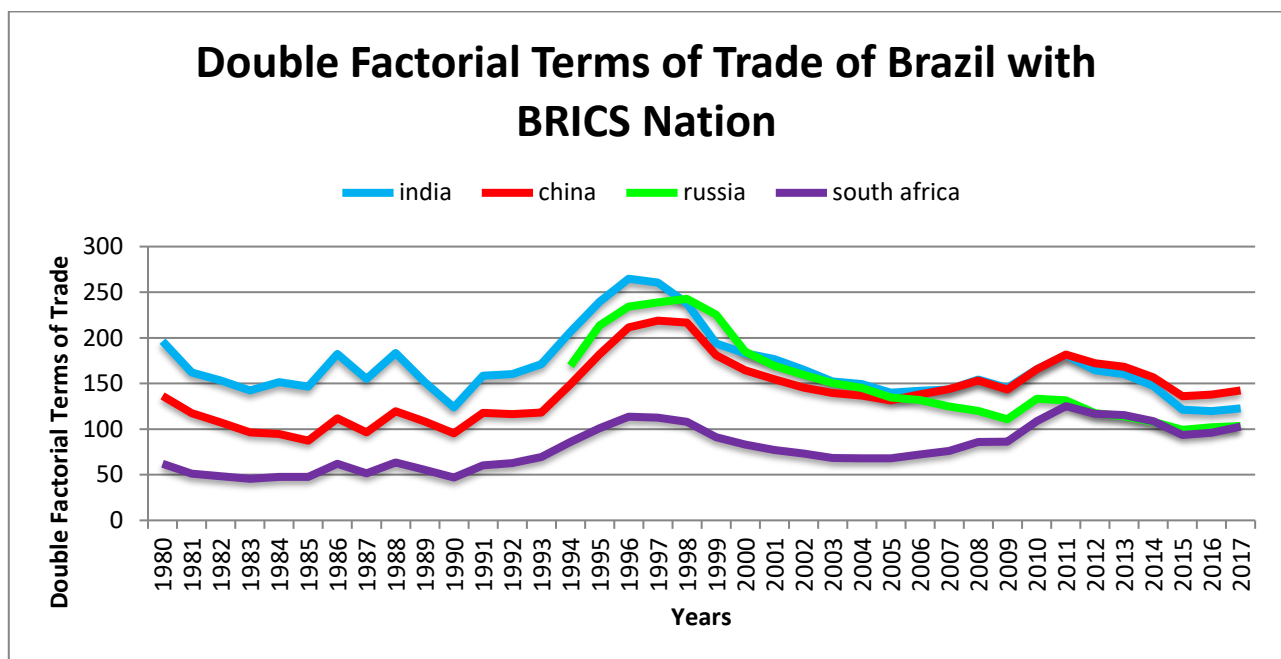
RUSSIA : Russia is one of the Brazil's largest trading partner. In 2002, the relations between both were elevated to a strategic partnership. The Income TOT with Russia plummeted in 2015 due to an economic recession in Brazil.

INDIA : The Income TOT with India started increasing with the signing of PTA of MERCOSUR with India in 2004 and formation of BRICS in 2006. It remained fairly stable even during the recession in 2015.

CHINA : Brazilian exports to China started rising in 2000 causing an increase in Income TOT. After the formation of BRICS, the Income TOT saw a high growth rate with China becoming Brazil's largest trading partner in 2009. The Income TOT stagnated between 2010-2015 but started rising rapidly afterwards.

SOUTH AFRICA: The Income TOT has remained fairly stable before and after the inclusion of South Africa in BRICS in 2010.

DOUBLE FACTORIAL TERMS OF TRADE

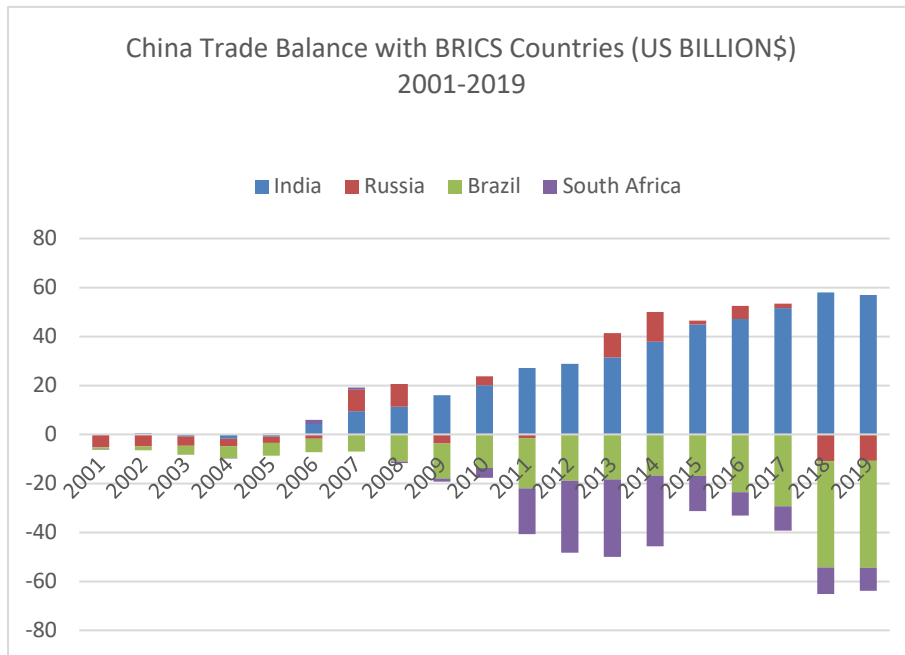


Source- <https://fred.stlouisfed.org/series/CTFPPPBRA669NRUG>

Brazil displayed more or less the same pattern with other countries. However the "big hump" in 1995-2000 was because of "The Plano Real" which sought to break inflation expectations by pegging the real to the US dollar. Inflation was brought down to single digit annual figures, but not fast enough to avoid substantial real exchange rate appreciation during the transition phase of the Plano Real. This appreciation meant that Brazilian goods were now more expensive relative to goods from other countries.

CHINA

TRADE BALANCE



INDIA -China Trade Balance with India in 2001 was USD .196 Billion with in China's favour wich continously rose over the year (visible from the graph) with some dips . Trade balance between two nations amounted to USD 56.95 Billion in 2019 in China' favour.

RUSSIA- China and Russia's trade trade relations haven't seen a constant trend over the years (visible

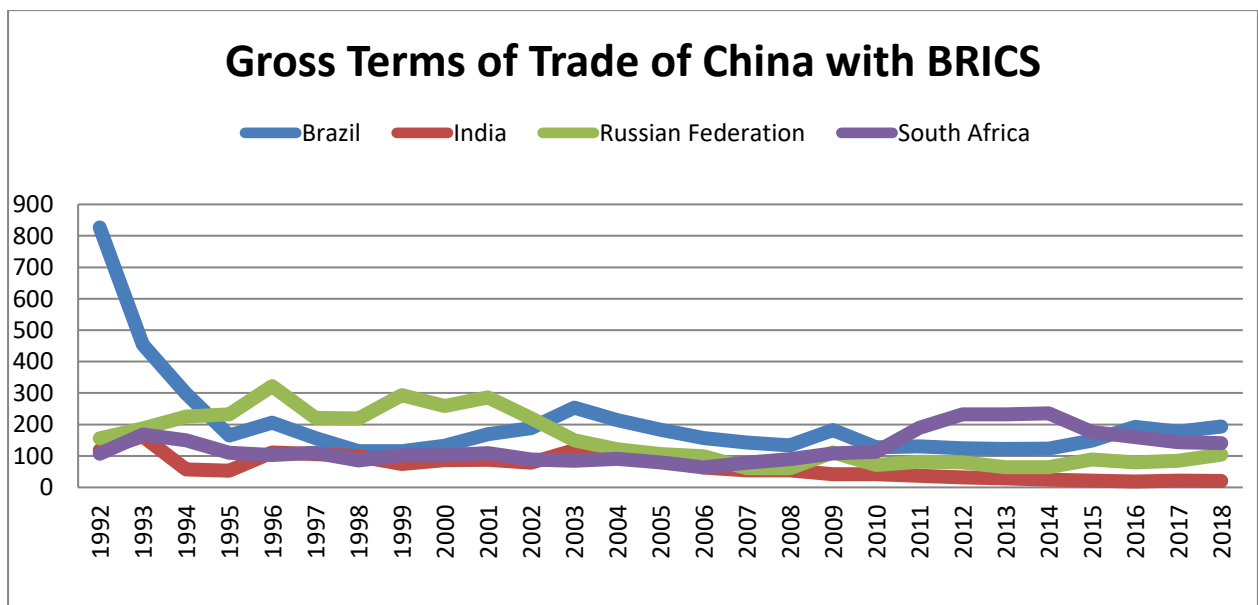
from the graph). Trade balance was USD 5.24 Billions in 2001 in favour of Russia and it amounted to USD 10.77 in Russia's favour.

SOUTH AFRICA-China's trade balance with South Africa was USD .124 Billion in 2001 in South Africa's favour which showed irrregular trend over the years . Trade balance between two nations was USD 10.90 and 9.37 Billions in the year 2018 and 2019 respectively.

BRAZIL-China has been a prime importers from Brazil which is shown by negative trade deficits over the years. Trade balance between two nations amounted to USD 43.72 Billions in Brazil's favour in 2019.

Source- <https://m.trademap.org/#/main>

GROSS TERMS OF TRADE

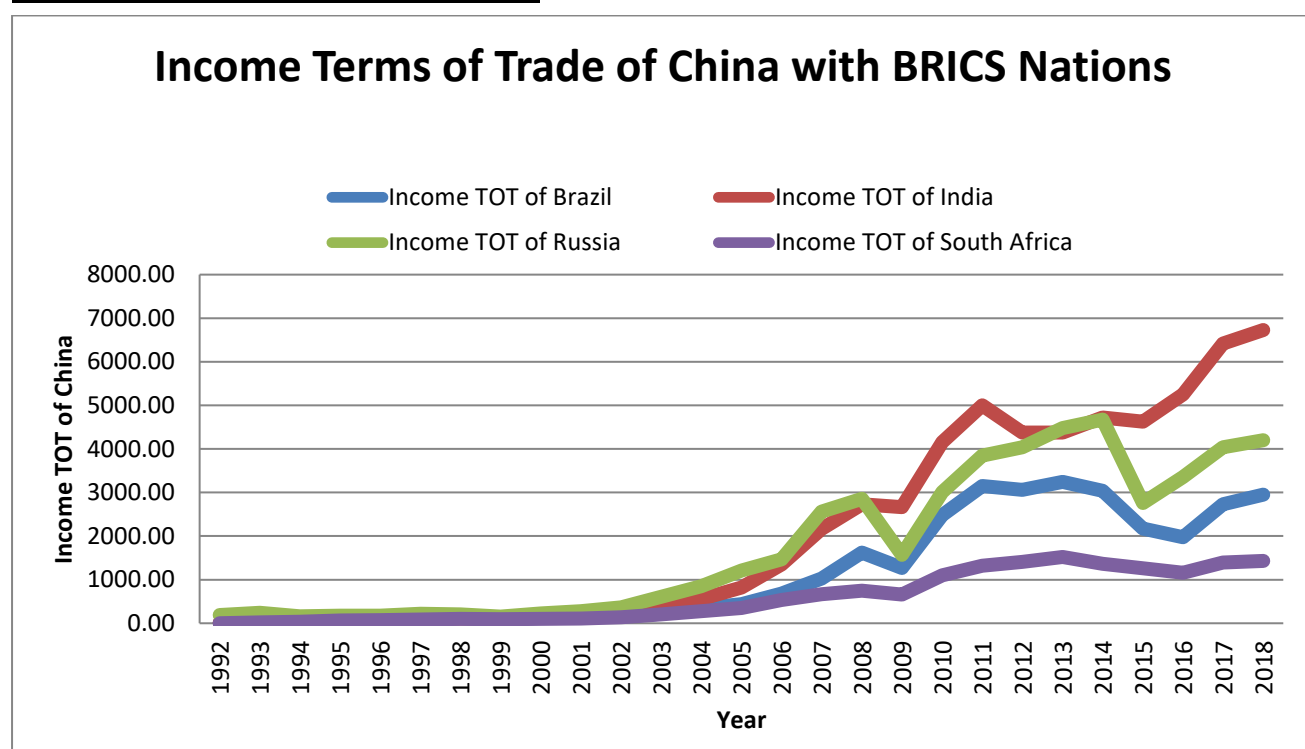


Source : <https://wits.worldbank.org/> for Export and Import data
Source : <https://data.worldbank.org/> for Index data

BRAZIL, RUSSIA, SOUTH AFRICA : GTOT values for China's trade with Brazil, Russian Federation and South Africa can be termed as stable. The reason could be that China has registered the fastest growth in intra-BRICS exports, with a CAGR of 13.5 per cent during 2006-2015. Furthermore, China is also the largest importer from the rest of the BRICS countries. China accounts for 40.8 per cent of the intra-BRICS imports. As a result, China stood as the largest trading country both in terms of imports and exports among BRICS nations . Thus, our point is justified.

INDIA : Also, the GTOT values are less for China's trade with India. This could be due to more imports as compared to exports. India-China trade in the first four months of 2017 increased by 19.92% year-on-year to US\$ 26.02 billion. India's exports to China increased by 45.29% year-on-year to US\$ 5.57 billion while India's imports from China saw a year-on-year growth of 14.48 % to US\$ 20.45 billion.

INCOME TERMS OF TRADE



Source : <https://wits.worldbank.org/> for Export data
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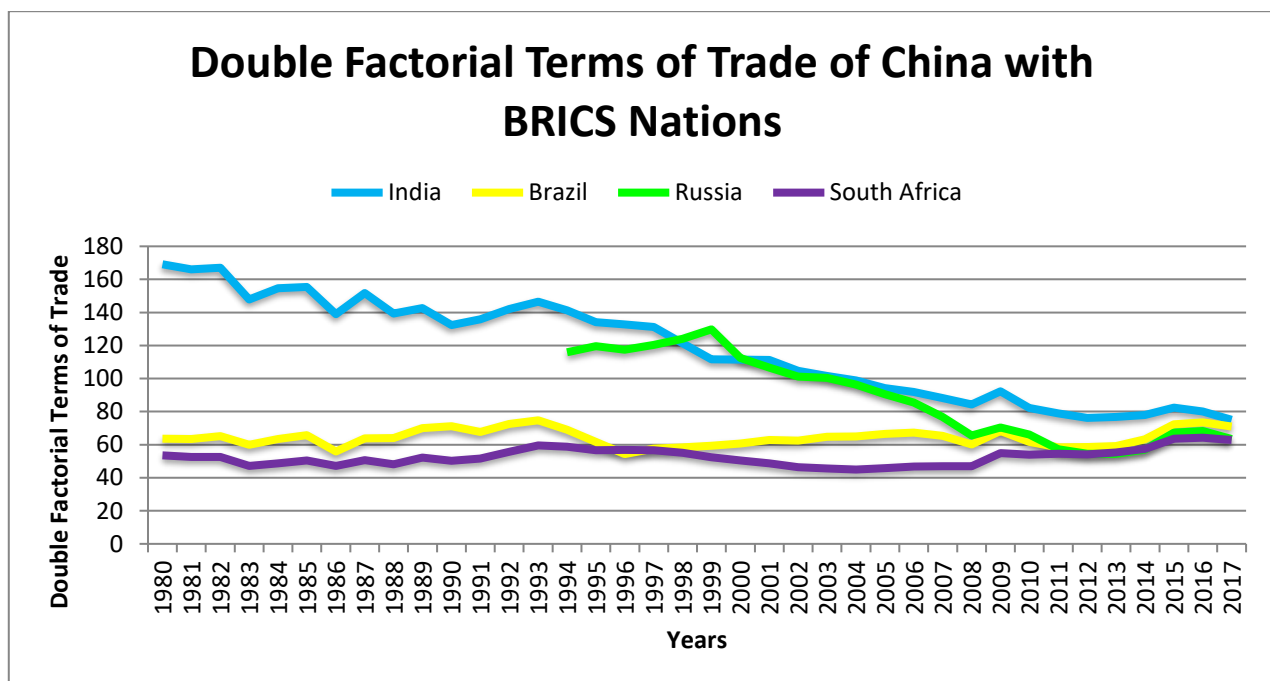
BRAZIL : China Became Brazil's largest trading partner in 2009. From 2006, with the formation of BRICS in 2006, the income TOT had been rising rapidly. But it plummeted in 2015 due to the economic recession in Brazil. It had started recovering since then.

INDIA : India had been China's largest trading partner. With the signing of an Open Trade Agreement in 2003 and formation of BRICS in 2006, the Income TOT with India has been rising rapidly with no signs of slowing down.

RUSSIA : China had been Russia's largest trading partner. The Income TOT with China started increasing in 2002 and was given a boost in 2006 with the formation of BRICS. The Income TOT plummeted in 2015 due to decrease in oil prices but has started recovering since then.

SOUTH AFRICA : China is South Africa's largest trading partner. With the inclusion of South Africa in BRICS in 2010, the Income TOT with South Africa has started rising rapidly.

DOUBLE FACTORIAL TERMS OF TRADE



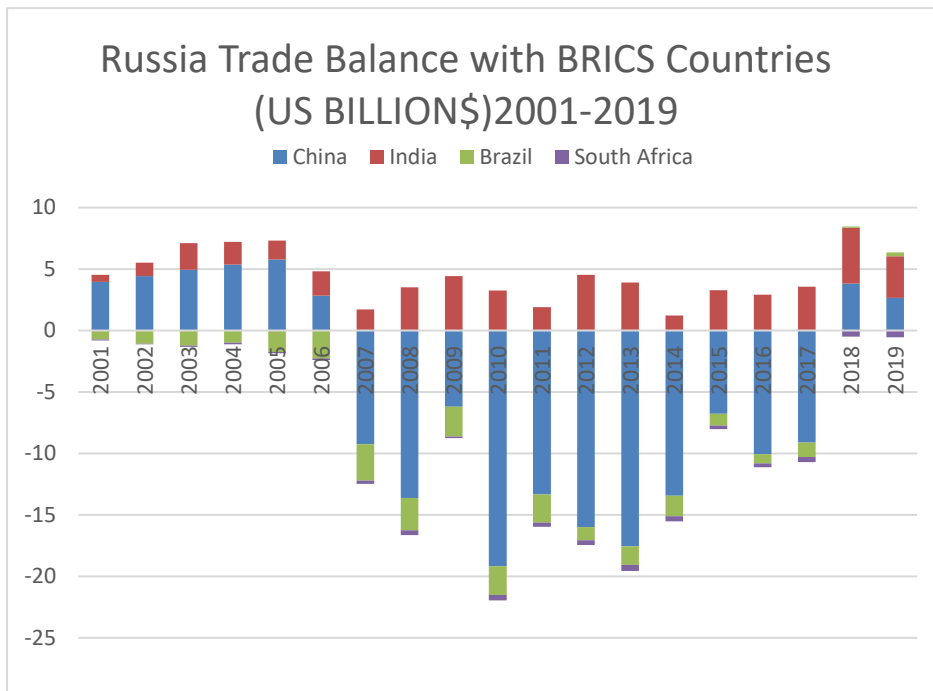
Source-<https://fred.stlouisfed.org/series/CTFPPPCNA669NRUG>

BRAZIL and SOUTH AFRICA - The DTOT of China with these 2 nations were almost constant over time because increase in productivity of china with respect to these nations was compensated by decline in NTOT.

INDIA and RUSSIA- China's DTOT declined with respect to these nations because of decline in NTOT which was because China was manufacturing Goods at much lower cost and selling large quantities of it.

RUSSIA

TRADE BALANCE



INDIA-Russia's trade balance with India has been in Russia's favour from past 2 decades. Trade balance between two nations was USD 5.81 Billion in 2019.

CHINA-Trade balance between these two nations has seen some irregular trends . Trade Balance between two nations was USD

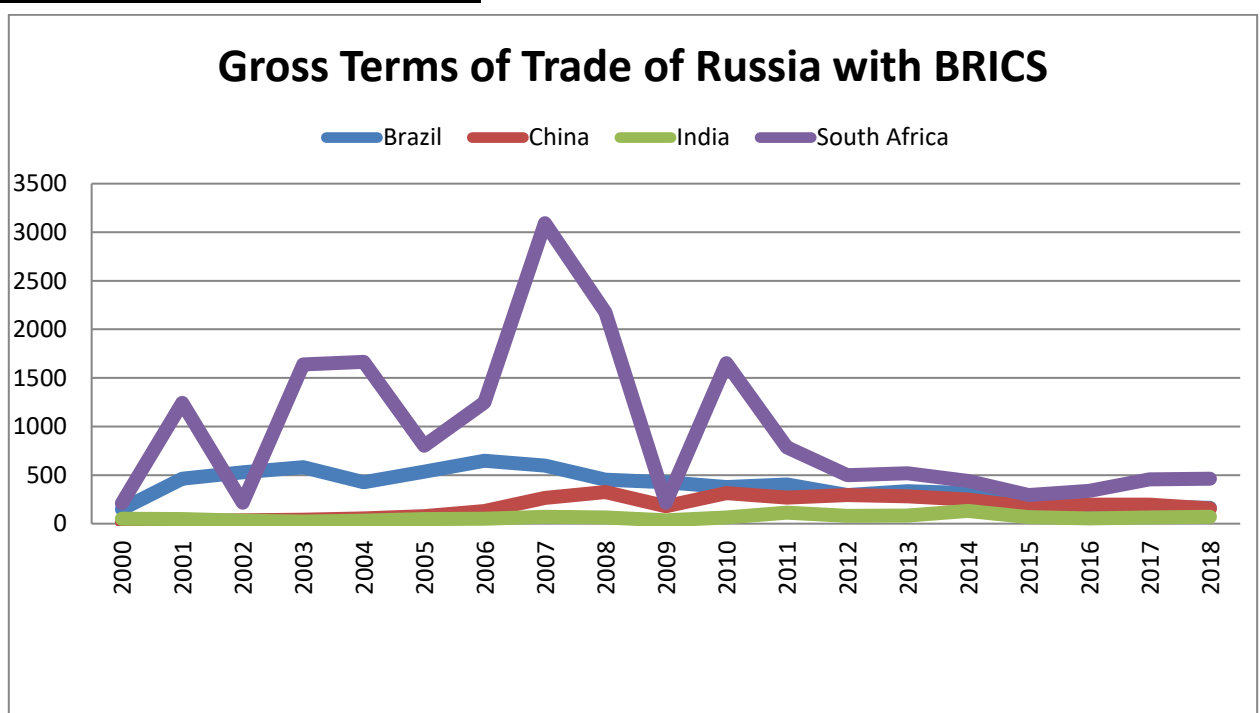
9.23 Billions in 2007 in China's favour while it was USD 2.66 Billions in 2019 in Russia's favour

SOUTH AFRICA-Russia's trade balance with South Africa has been in South Africa's favour from past 2 decades.

BRAZIL-Russia's trade balance with Brazil was USD .731 Billions in 2001 and it amounted to USD .30 Billions in 2019 in Russia's favour.

Source- <https://m.trademap.org/#/main>

GROSS TERMS OF TRADE



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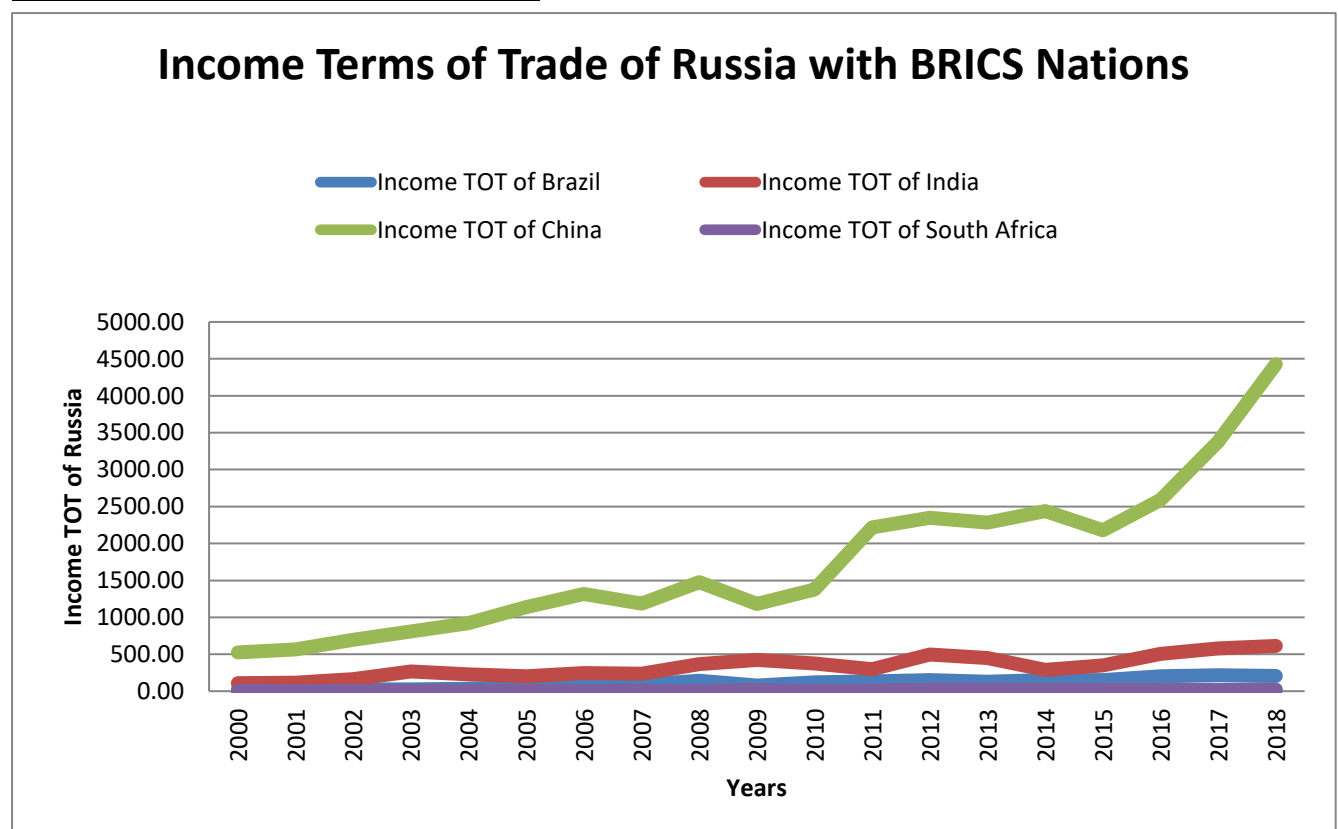
for Export and Import data
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INDA : Russia's export to India rose to USD 4782 million in 2016 from 2015's USD 4527 million. The values have been almost similar since 2012 except in the year 2013. Moreover, India's exports to Russia have seen fluctuations since 2012. This could justify low GTOT value for Russia's trade with India.

CHINA, BRAZIL : The two-sided trade between Russia and China has grown swiftly as both the countries have vowed to boost economic cooperation. After dissolution of the Soviet Union(USSR) in 1991, the relations between Russia and China have dramatically improved.Total Russia's imports from China amounted to USD 38086 million in 2016. Since 2012, Russia has been reducing its imports from China as the import value has been declining rapidly so GTOT value also falls after 2012. From 2012 onwards USD 51767 million, the import value decreased to USD 38086 million in 2016. And total Russia's exports to China amounted to USD 28081 million in 2016, which also declined greatly from 2012's USD 35766 million.Similar is the situation for Russia-Brazil trade.

SOUTH AFRICA : A trade surplus was recorded for South Africa with Russia from 2010 to 2012, rising from USD 178.7 million to USD 208.8 million. Russia's import from South Africa amounted to USD 412.3 million in 2012, compared to exports valued at approximately USD 204 million leading to higher GTOT value.

INCOME TERMS OF TRADE



Source : <https://wits.worldbank.org/> for Export data
Source : <https://data.worldbank.org/> for index data

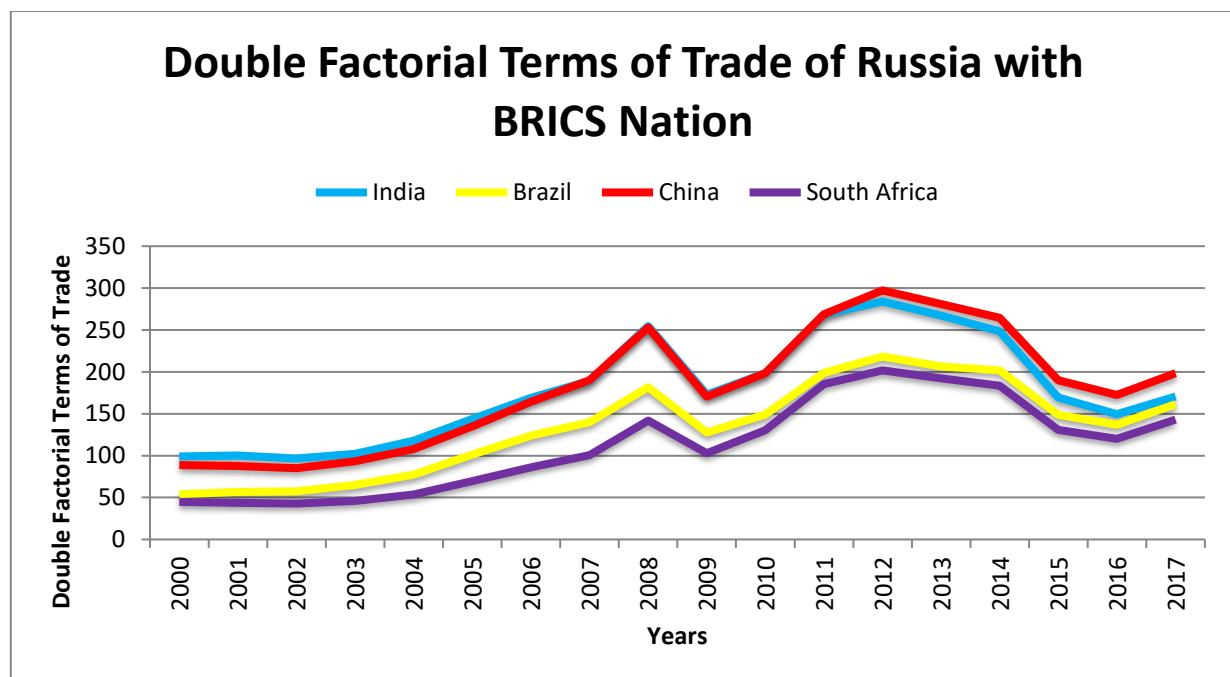
BRAZIL : In 2002 Russia signed a pact elevating the relations with Brazil to a strategic partnership. The Income TOT started increasing after the BRICS formation in 2006 and remained stable even in the economic recession of Brazil in 2015.

INDIA : India and Russia had always been in good trade relations even before and after BRICS. The Income TOT had remained fairly stable between 2000 and 2018.

CHINA : China has been one of the Russia's largest trade partner. In 2001, they signed a treaty of good neighbourliness and friendly cooperation. The Income TOT rose rapidly from 2006 with the formation of BRICS and had been increasing with a high growth rate since then.

SOUTH AFRICA: The Income TOT with South Africa has remained negligible.

DOUBLE FACTORIAL TERMS OF TRADE

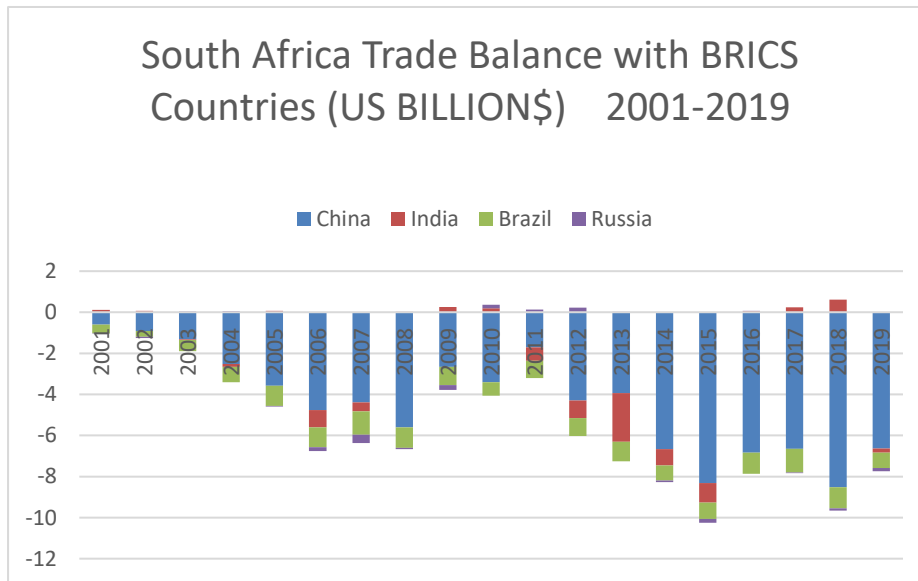


Source- <https://fred.stlouisfed.org/series/CTFPPPRUA669NRUG>

Russia's trend was similar with respect to each country. The sharp increase in 2008 can be attributed to the GREAT RECESSION in Russia.

SOUTH AFRICA

TRADE BALANCE



INDIA-SA's Trade balance with has not been regular in past 2 decades . Trade balance between two nations was USD .01 Billions in 2008 is SA's favour while it was USD .20 Billions on 2019 in India's favour .

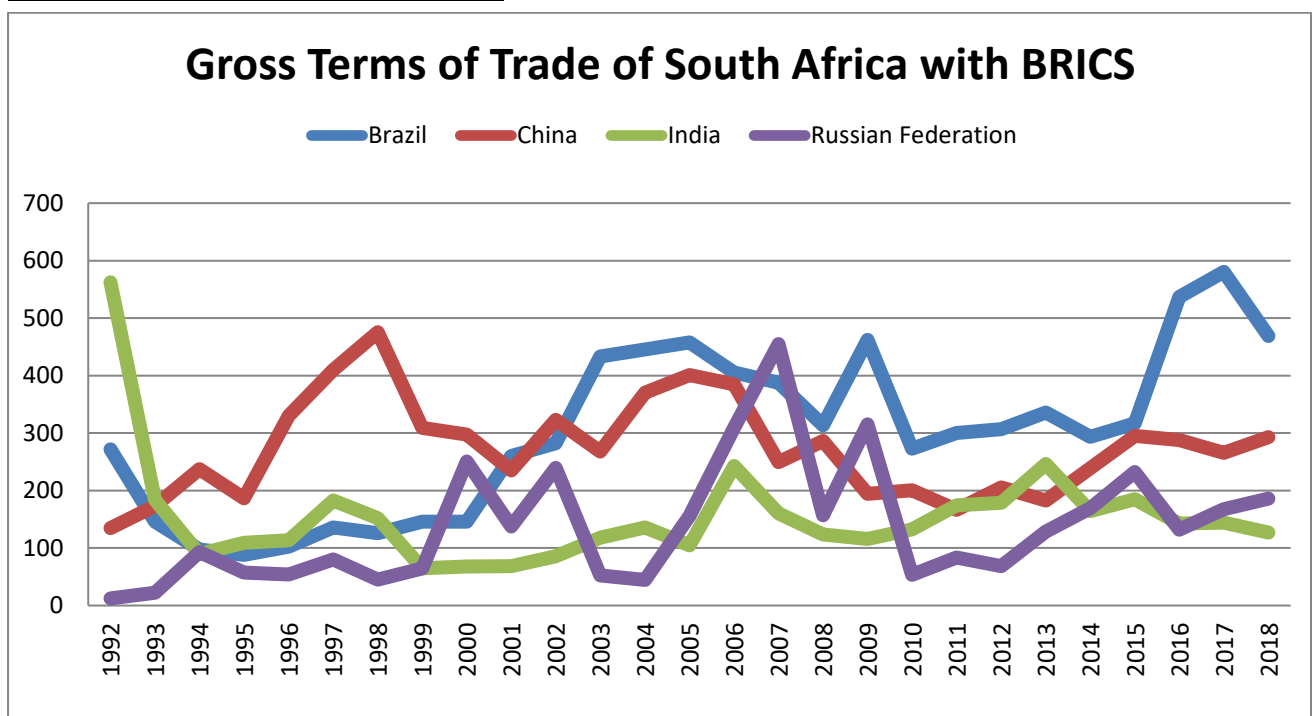
CHINA-Trade balance between two nations has been in China's favour from past two decades . Trade Balance between two nations was USD 6.63 Billions in 2019.

RUSSIA -South Africa's trade balance with Russia in 2001 was USD 0.01 Billions in Russia's favour and USD .15 Billions in 2019.

BRAZIL-Trade Balance between the two nations has been in Brazil's favour from last two decades which is also visible from the graph.

Source- <https://m.trademap.org/#/main>

GROSS TERMS OF TRADE

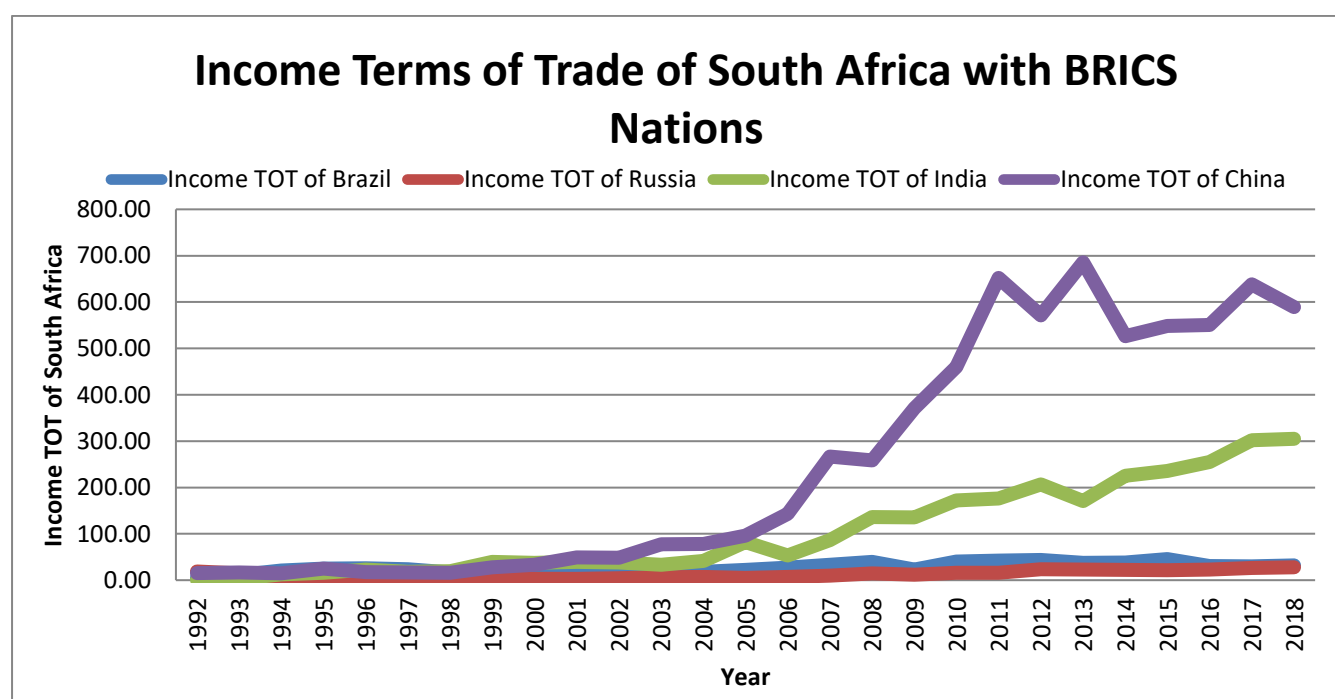


Source : <https://wits.worldbank.org/> for Export and Import data
Source : <https://data.worldbank.org/> for Index data

INDIA, BRAZIL, RUSSIA : The GTOT value are very low in case of Russia in 1990s and then increased considerably in 2010s, particularly from 2015 onwards. The values are comparatively higher for Brazil as compared to other three. Brazil has been a net exporter of goods to South Africa. Brazil's exports in 2016 to South Africa reached US\$1.4 billion, while its imports of South African goods only totalled US\$379 million. As a result, trade deficit of South Africa with Brazil enlarged from USD 637 million in 2010 to USD 882 million in 2012, with exports totalling USD 790 million compared to an imports from Brazil which is valued at almost USD 1.7 billion. A trade surplus was also recorded with Russia from the time period 2010 to 2012, rising from USD 178.7 million to USD 208.8 million. Exports of South Africa to Russia amounted to USD 412.3 million in 2012, compared to imports which are valued at approximately USD 204 million. South Africa has also recorded trade surpluses with India over the time period 2008 to 2010 due to which a deficit emerged in 2011 which further widened in 2012 to almost USD 923 million. South Africa's exports to India rose to USD 3.7 billion in 2012 yet these fell short of the higher import demand from India which amount to USD 4.6 billion.

CHINA : China has become South Africa's key export destination at the individual country level and is the most important market for South Africa amongst the BRICS nation . China was the destination for almost 84% of South Africa's exports to other BRICS economies in 2012(i.e. USD 44.7 billion out of USD 54.3 billion), followed by India (which has around 15% share, or USD 8 billion), while the shares claimed by Brazil and Russia were very small and can be considered negligible.

INCOME TERMS OF TRADE



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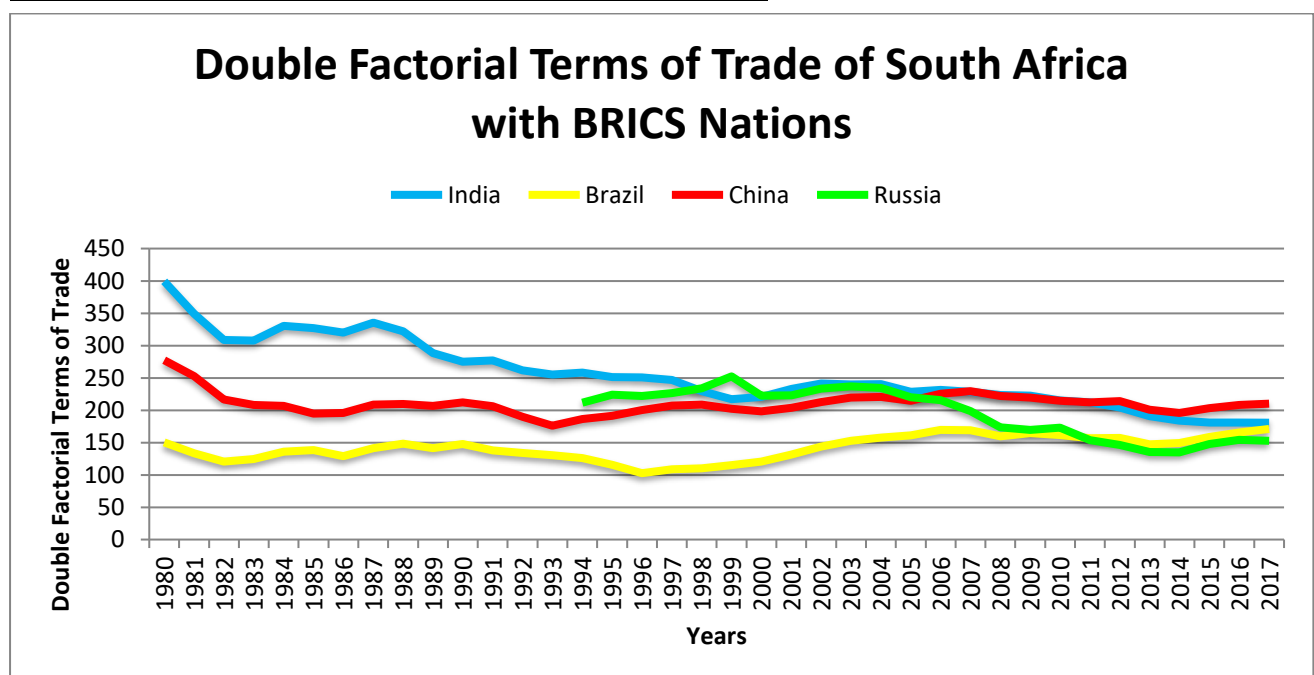
BRAZIL : The Income TOT with Brazil has remained fairly stable both before and after the inclusion of South Africa in BRICS in 2010.

RUSSIA : The Income TOT with Russia has remained negligible even after the inclusion in BRICS

INDIA : The Income TOT with India has been increasing since 2004 which was further boosted in 2010 by inclusion of South Africa in BRICS. It decreased after 2012 due to economic slowdowns but recovered in 2014 and had been increasing since then.

CHINA : China had been South Africa's largest trading partner. The Income TOT had been rising rapidly since the establishment of relations in 1998. It had been rising rapidly since then and was given a boost in 2010 with the inclusion of South Africa in BRICS.

DOUBLE FACTORIAL TERMS OF TRADE

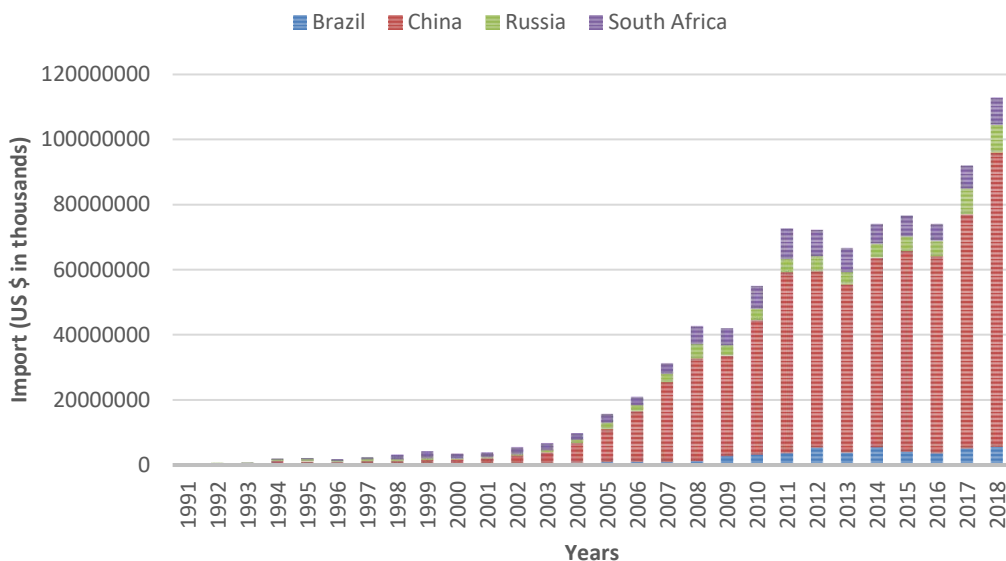


Source - <https://fred.stlouisfed.org/series/CTFPPPZAA669NRUG>

Like many other countries, South Africa also suffered from a decline in productivity which shows a decline with respect to India, where productivity increased and not much decline with respect to China, where productivity also constant and almost same as with Brazil, where productivity declined. However after 2000 due to increase in its NTOT the decline rate reduced with India and it even improved with China, Russia and Brazil.

PRODUCT BASKET of INDIA

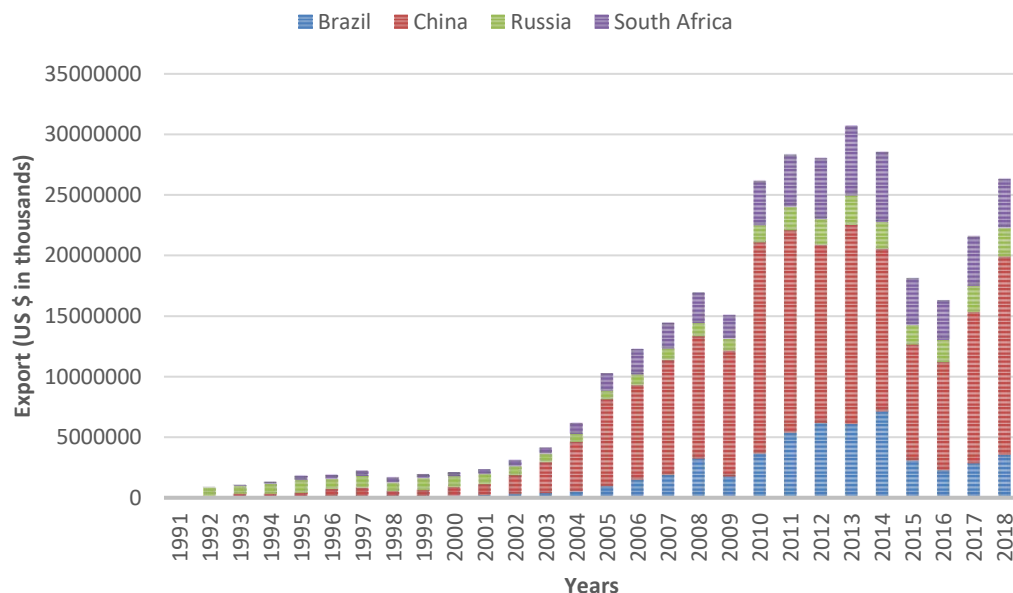
IMPORT SHARE BASKET OF INDIA WITH BRAZIL/RUSSIA/CHINA/SOUTH AFRICA



Majority of import of India from BRICS nations has been from China, in 2018 almost 80 % of imports from BRICS nations had been from China alone.

Source- <https://wits.worldbank.org>

EXPORT SHARE BASKET OF INDIA WITH BRAZIL/RUSSIA/CHINA/SOUTH AFRICA

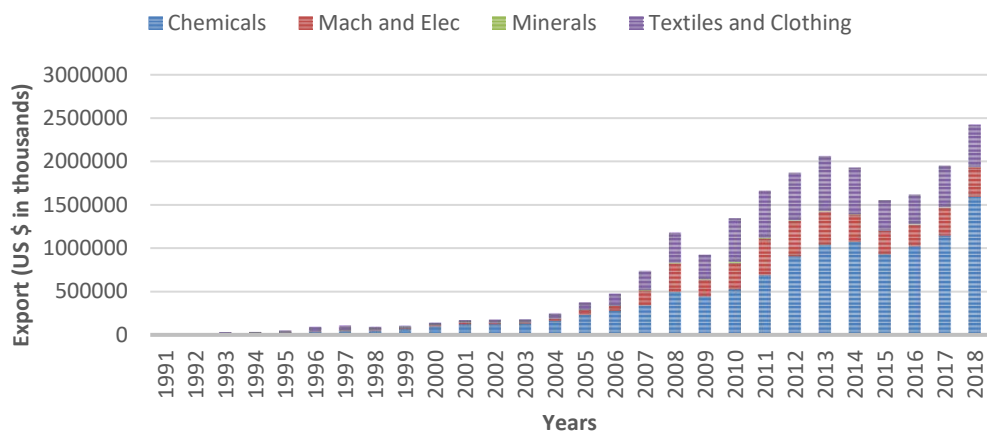


Majority of exports from India to BRICS nations has been mainly to China, in 2018 accounts for more than 70% of exports of India to BRICS.

Exports to Brazil show increasing trends. However, in 2015 there was a significant drop in the exports.

Source- <https://wits.worldbank.org>

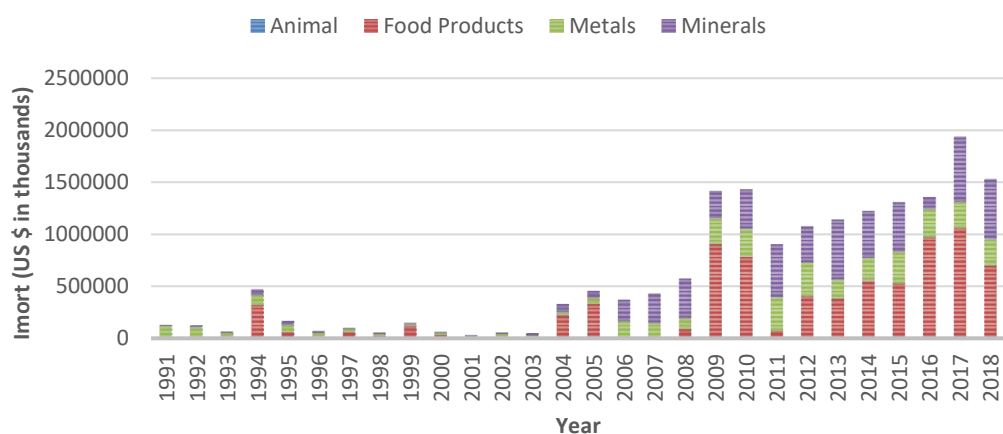
PRODUCT BASKET OF INDIA EXPORT TO BRAZIL



Source- <https://wits.worldbank.org>

Export Basket: Over the years, India's Major export to Brazil remains as chemicals and continues to grow. The second and the third place is tied between machines and textiles and minerals with almost negligible contribution.

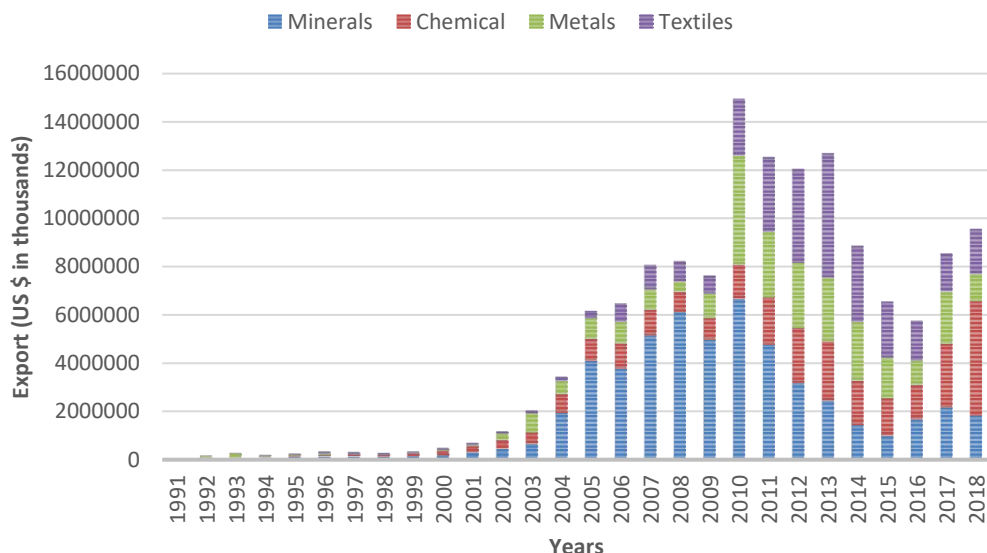
PRODUCT BASKET OF INDIA IMPORT FROM BRAZIL



Source- <https://wits.worldbank.org>

Import Basket from Brazil: India's trade with Brazil has been very limited until around 2005 where it starts to pick up the pace with food products playing a major role followed by Minerals, metals and animal products in that order.

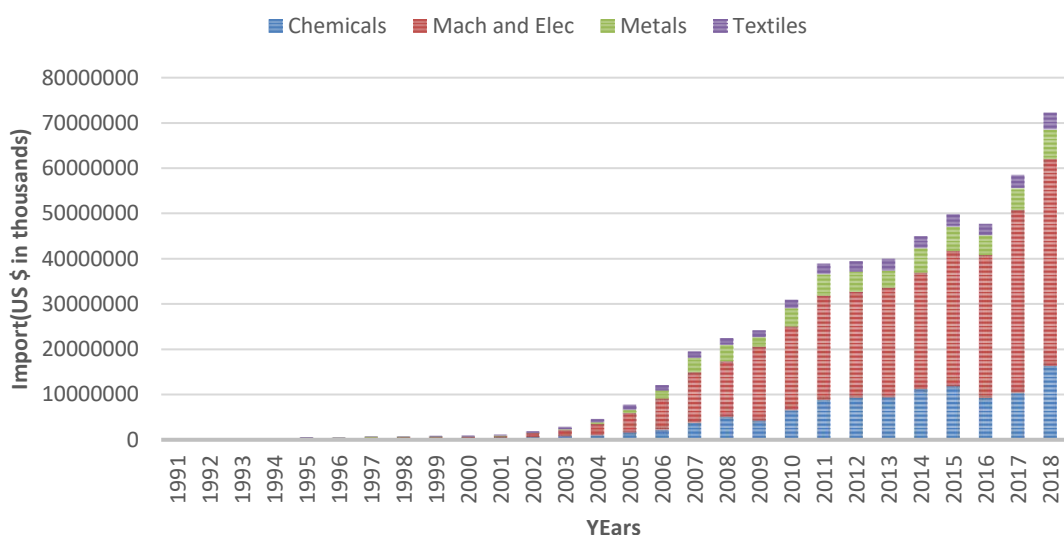
PRODUCT BASKET OF INDIA EXPORT TO CHINA



Export basket to China:
The major export to China up until 2011 was minerals. It is then overtaken by textiles until 2016 and from then, the major export is chemicals. The contribution of metals remains fairly constant with an exception in 2010 where it is substantially more than the previous years but is diminished gradually in the coming years.

Source- <https://wits.worldbank.org>

PRODUCT BASKET OF INDIA IMPORT FROM CHINA



Import Basket from China: The Major import from China is machines and electronics to this date followed by Chemicals whereas metals and textiles stay almost constant.

Source- <https://wits.worldbank.org>

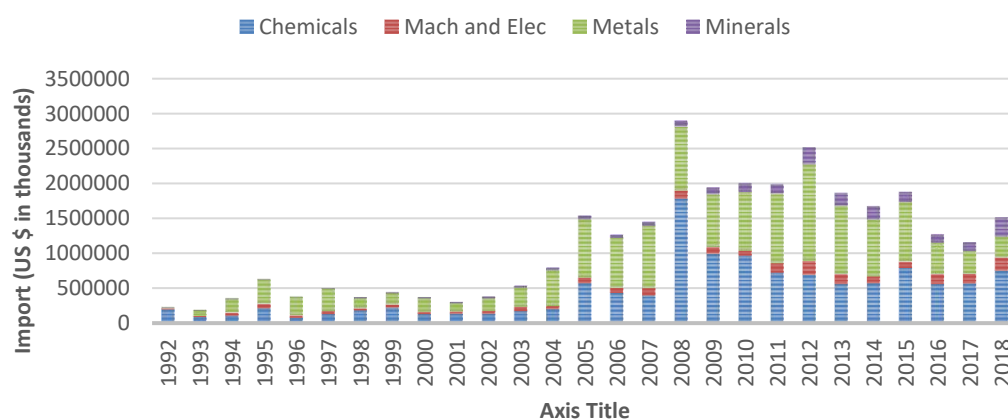
PRODUCT BASKET OF INDIA EXPORT TO RUSSIA



Export Basket to Russia:
Until 2005, textile was the major export which gets taken over by Machinery and Chemicals bith equal parts. According to the latest data, vegetables rank third in the group followed by textiles which contribute the least.

Source- <https://wits.worldbank.org>

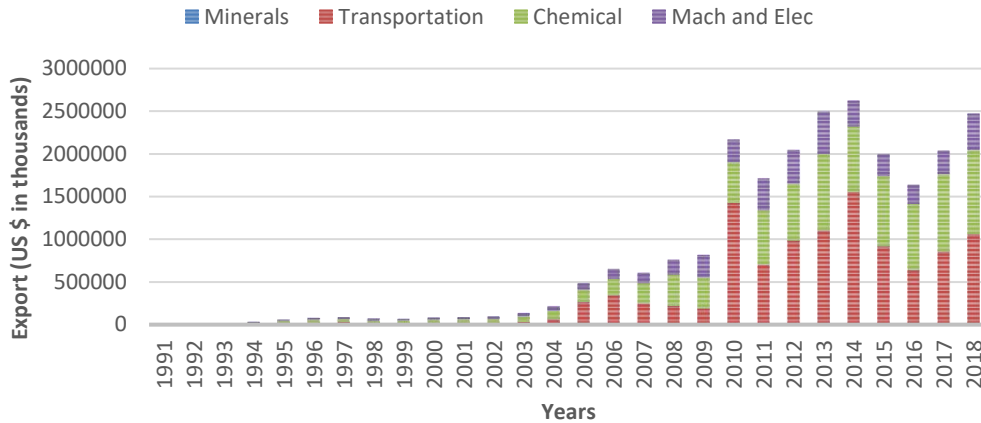
PRODUCT BASKET OF INDIA IMPORT FROM RUSSIA



Import Basket from Russia: The major import has been metals except in 2010 where it was Chemicals. Machines and Minerals stay almost constant throughout.

Source- <https://wits.worldbank.org>

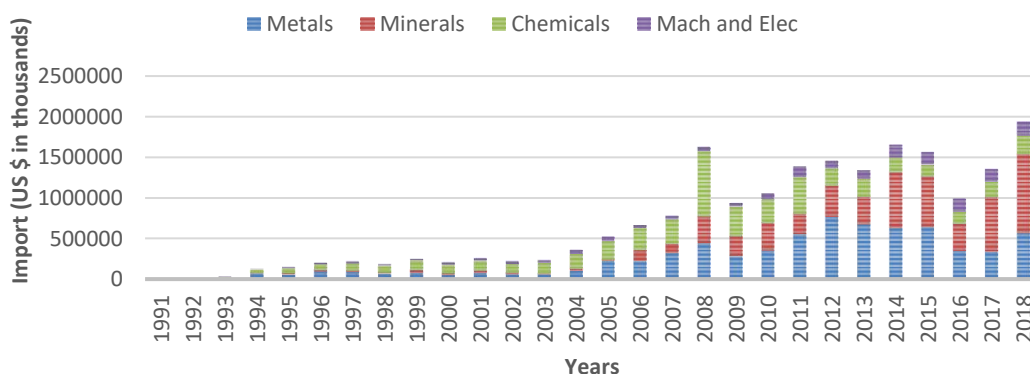
PRODUCT BASKET OF INDIA EXPORT TO SOUTH AFRICA



India's Export to South Africa: The major Export is Transportation. The chemical export increases every year and according to the latest data it is almost equal to the Transportation export. Mechanical and electrical export increases gradually but not by a great margin and the contribution of minerals is minute.

Source- <https://wits.worldbank.org>

PRODUCT BASKET OF INDIA IMPORT FROM SOUTH AFRICA



India's import from South Africa: The major import until 2016 is metals with the exception in 2008 where it was chemicals. In the years 2017 and 2018, the major import is Minerals followed by metals, chemicals and machinery in that order.

Source- <https://wits.worldbank.org>

APPENDIX

India's Trade Relations Data (in USD billion)

Year	China	Russian Federation	South Africa	Brazil
1988	0.14081786	0	0.004827006	0.248760728
1989	0.064171344	0	0.005191956	0.242946246
1990	0.050821952	0	0.005411376	0.236112516
1991	0.0692302	0	0.010368289	0.211811804
1992	0.298653293	0.96194803	0.012954182	0.210940024
1993	0.578482208	0.906267152	0.074653628	0.18081072
1994	1.011486256	1.311547008	0.313322176	0.623227296
1995	1.141826752	1.864644544	0.582416576	0.346357168
1996	1.371297137	1.338699804	0.648787408	0.285013494
1997	1.828678592	1.595459328	0.89836336	0.342329552
1998	1.524692608	1.255208832	1.755513504	0.329214712
1999	1.836891488	1.579205801	2.320751862	0.468484241
2000	2.212467758	1.399041517	1.70270538	0.372415707
2001	2.750091743	1.318180571	1.730176276	0.501494538
2002	4.151453066	1.316853986	2.422810502	0.700461549
2003	6.182287545	1.481224151	2.413178419	0.70092898
2004	10.1497711	1.846241792	2.683472162	1.203496236
2005	17.35085345	2.74263765	4.087576343	1.852974319
2006	23.46823109	2.746567805	4.601463992	2.452518091
2007	34.06774992	3.608591587	5.311296889	2.777501132
2008	41.679951	5.542070297	8.032154574	4.409879456
2009	40.98342318	4.402043968	6.995015823	4.679202175
2010	58.68910706	4.984776537	10.56224475	6.890546374
2011	72.20081162	5.944877434	13.64881465	9.126460905
2012	68.86977193	6.74692143	13.00804121	11.55729127
2013	68.05226889	6.233083258	13.09422204	9.943676263
2014	71.66479683	6.425101617	11.71620319	12.68454449
2015	71.18100555	6.138983804	10.09020388	7.206944576
2016	69.3991763	6.595889047	8.335500892	5.9149134
2017	84.41797828	10.11953064	10.95811939	7.971900584
2018	106.7641577	10.83543131	12.25972371	9.193162754

NTOT					
Year	Brazil	China	India	Russia	South Africa
1980	73.88535	117.4419	71.64179		126.3158
1981	61.93182	120.2381	65.46763		110.5263
1982	59.64912	117.284	72.30769		97.32143
1983	57.66871	100	75.80645		98.27586
1984	62.17949	96.59091	94.11765		104.1237
1985	62.06897	92.55319	80.99174		106.0976
1986	73.3871	85.10638	83.76068		108.6022
1987	65.24823	94.50549	100		111.8182
1988	84.29752	90.72165	97.56098		111.1111
1989	74.26471	102.1739	94.61538		105.6604
1990	66.44295	102.1053	85.8156		104.3478
1991	78.90625	101.0309	93.6		105.3097
1992	81.96721	103.0928	98.31933		102.5862
1993	87.27273	101.0417	113.1313		103.6364
1994	100.9524	102.0408	118.75		107.2727
1995	110.3774	101.9417	108		106.0345
1996	108.3333	105.9406	99.03846		107.4766
1997	114.4231	110.2041	113.5922		106.6038
1998	114.2857	110.6383	117.5824		104.0404
1999	103.1579	104.1237	105.2083		102.0408
2000	100	100	100	100	100
2001	99.82373	97.44044	97.82158	96.02374	101.8066
2002	98.47395	92.11167	88.6309	93.34056	107.0778
2003	97.10822	92.93084	96.2011	100.8436	107.6823
2004	97.95062	90.76772	91.67655	114.6561	109.3249
2005	98.75548	88.44255	87.81562	138.2006	110.9892
2006	103.9667	89.47295	85.70052	157.3768	117.8722
2007	106.147	88.54621	81.6051	164.604	121.5349
2008	110.0856	83.81236	81.6051	197.9657	124.4909
2009	107.2763	91.09617	95.01241	131.9102	132.3735
2010	124.4457	82.05059	93.47166	159.6671	141.2368
2011	134.1583	79.04874	89.99257	194.4983	146.2948
2012	126.3308	79.75524	90.08283	203.0938	145.2397
2013	123.7563	80.64772	92.44597	189.6203	137.5087
2014	119.5612	82.9488	93.82253	182.0895	135.8331
2015	106.4117	92.53345	104.2283	138.4997	139.8582
2016	109.6414	92.32844	108.1865	127.3562	144.9752
2017	115.9902	87.29474	103.7423	144.0904	151.2658
2018	113.5032	84.62473	97.91992	168.862	146.4964

Brazil Trade Balance (in USD Billion)

	China	India	Russian Federation	South Africa	Total
2001	0.573733	-0.25738	0.638322	0.138082	1.092753
2002	0.966985	0.080553	0.824771	0.296524	2.168833
2003	2.385564	0.067952	0.94507	0.531784	3.93037
2004	1.731269	0.096483	0.850014	0.769069	3.446835
2005	1.480478	-0.06498	2.195304	1.029588	4.640386
2006	0.413026	-0.53507	2.500874	1.02788	3.406714
2007	-1.87245	-1.21142	2.031208	1.235557	0.182892
2008	-3.52181	-2.46196	1.320929	0.980696	-3.68215
2009	5.092754	1.223943	1.456434	0.826487	8.599618
2010	5.190487	-0.75012	2.241694	0.556541	7.238607
2011	11.52396	-2.88034	1.272003	0.768729	10.68436
2012	6.976267	0.534102	0.350095	0.916802	8.777266
2013	8.722336	-3.22749	0.298079	1.116748	6.909669
2014	3.271122	-1.85153	0.812729	0.493802	2.726123
2015	4.888119	-0.67213	0.24354	0.709181	5.168709
2016	11.7696	0.67883	0.278804	1.060771	13.788
2017	20.16697	1.711653	0.091649	1.020983	22.99125
2018	29.47562	0.247058	-1.71847	0.700172	28.70438
2019	27.60125	-1.49426	-2.07267	0.371167	24.40549

Russia Trade Balance (in USD Billion)

Years	China	India	Brazil	South Africa	Total
2001	3.949512	0.574894	-0.73199	-0.06987	3.722552
2002	4.435819	1.093631	-1.07411	-0.05219	4.403144
2003	4.948928	2.150655	-1.22208	-0.10575	5.771755
2004	5.35884	1.850794	-1.00091	-0.12259	6.086144
2005	5.783162	1.52961	-1.7401	-0.12153	5.451146
2006	2.845306	1.95802	-2.26073	-0.13924	2.403357
2007	-9.23997	1.724571	-2.97807	-0.25491	-10.7484
2008	-13.6214	3.516961	-2.62997	-0.40219	-13.1366
2009	-6.19088	4.412545	-2.427	-0.12465	-4.32998
2010	-19.1779	3.262964	-2.3443	-0.42758	-18.6868
2011	-13.346	1.90515	-2.27545	-0.34914	-14.0655
2012	-16.0009	4.525375	-1.0539	-0.40667	-12.9361
2013	-17.5477	3.89148	-1.50819	-0.49547	-15.6598
2014	-13.4384	1.22499	-1.67942	-0.40428	-14.2971
2015	-6.76956	3.28183	-0.96224	-0.29994	-4.74991
2016	-10.0657	2.915565	-0.73789	-0.32449	-8.21254
2017	-9.12026	3.553113	-1.16582	-0.4243	-7.15726
2018	3.82251	4.52768	0.114392	-0.49733	7.967249
2019	2.664579	3.386307	0.30669	-0.54625	5.811324

India Trade Balance (in USD Billion)

Years	Russian	China	Brazil	South Africa	TOTAL
2001	0.361009	-0.90501	-0.0405	-1.0768	-1.66129
2002	0.15986	-1.08825	0.021892	-1.48217	-2.38867
2003	-0.08857	-1.04796	0.075489	-1.47831	-2.53935
2004	-0.58385	-1.95274	-0.12141	-0.90019	-3.55819
2005	-1.33127	-2.98327	0.086649	-1.27938	-5.50726
2006	-1.05515	-7.8099	0.543724	-0.41257	-8.73389
2007	-1.76039	-15.0838	1.022079	-1.05211	-16.8742
2008	-3.36058	-21.4921	2.09022	-3.07026	-25.8327
2009	-2.47333	-20.2433	-1.11534	-3.07571	-26.9077
2010	-2.19833	-23.8091	0.44857	-3.26213	-28.821
2011	-2.15708	-38.7652	1.656159	-5.00965	-44.2758
2012	-2.45739	-39.4111	0.768132	-3.06144	-44.1618
2013	-1.39516	-35.2186	2.279995	-1.60929	-35.9431
2014	-1.99016	-44.7963	1.596499	-0.27141	-45.4614
2015	-2.9152	-52.0278	-1.00865	-2.46147	-58.4132
2016	-2.96812	-51.567	-1.31452	-1.84917	-57.6988
2017	-5.84874	-59.4788	-2.22674	-2.80714	-70.3614
2018	-4.51604	-57.3343	-1.056	-2.59637	-65.5027

China Trade Balance (in USD Billion)

Years	India	Russian Federation	Brazil	South Africa	Total
2001	0.19674	-5.248323	-0.996308	-0.124627	-6.172518
2002	0.397293	-4.885948	-1.536638	0.041869	-5.983424
2003	-0.908152	-3.698141	-3.699036	0.189371	-8.115958
2004	-1.742022	-3.029295	-4.998757	-0.008299	-9.778373
2005	-0.831939	-2.67866	-5.165315	0.382913	-8.293001
2006	4.303848	-1.72184	-5.529389	1.682351	-1.26503
2007	9.434224	8.841316	-6.943599	0.826806	12.158747
2008	11.326495	9.243088	-11.055986	-0.617351	8.896246
2009	15.952271	-3.769181	-14.162465	-1.327665	-3.30704
2010	20.067645	3.69808	-13.638795	-4.09656	6.03037
2011	27.164137	-1.459582	-20.550073	-18.73289	-13.578408
2012	28.880261	-0.081728	-18.867494	-29.330425	-19.399386
2013	31.462141	9.923344	-18.403652	-31.557649	-8.575816
2014	37.858731	12.083439	-16.763091	-28.868984	4.310095
2015	44.866019	1.593294	-16.910648	-14.346971	15.201694
2016	47.171936	5.374919	-23.53939	-9.619751	19.387714
2017	51.591767	1.797862	-29.398554	-9.939606	14.051469
2018	58.0306	-10.881863	-43.410184	-10.902968	-7.164415
2019	56.95422	-10.772611	-43.726586	-9.370325	-6.915302

South Africa Trade Balance (in USD Billion)

Years	China	India	Brazil	Russian Federation	Total
2001	-0.603119	0.121415	-0.422783	-0.01032	-0.91481
2002	-0.909101	0.070964	-0.290095	-0.051778	-1.18001
2003	-1.321421	-0.03587	-0.535416	0.038771	-1.85394
2004	-2.519182	-0.138982	-0.752219	0.057878	-3.35251
2005	-3.576887	0.067787	-0.992079	-0.028463	-4.52964
2006	-4.770698	-0.829682	-0.979554	-0.172385	-6.75232
2007	-4.393137	-0.428054	-1.13871	-0.413691	-6.37359
2008	-5.599486	0.017587	-1.001851	-0.063456	-6.64721
2009	-2.655183	0.256102	-0.886522	-0.246475	-3.53208
2010	-3.405247	0.186362	-0.661072	0.172512	-3.70745
2011	-1.712002	-0.644743	-0.855671	0.130655	-3.08176
2012	-4.295051	-0.856918	-0.877262	0.225174	-5.80406
2013	-3.940158	-2.369738	-0.948132	0.025585	-7.23244
2014	-6.668174	-0.787094	-0.733804	-0.089856	-8.27893
2015	-8.3159	-0.959095	-0.789699	-0.19334	-10.258
2016	-6.838927	0.052671	-1.025783	0.021189	-7.79085
2017	-6.649852	0.245128	-1.152315	-0.036313	-7.59335
2018	-8.5159	0.618215	-1.030859	-0.113322	-9.04187
2019	-6.629651	-0.202681	-0.759938	-0.152715	-7.74499

ITOT of India with BRICS

		Export data(US \$ Billions)				For India		ITOT = NTOT*(Export(in \$)/(export value index/export volume index))			
Year	NTOT India	Brazil	Russia	China	South Africa	Export Value index	Export Volume Index	Brazil	Russia	China	South Africa
1990	85.82	0.01		0.02	0.002	42.40	35.04	1.04		1.86	0.22
1991	93.60	0.02		0.05	0.006	41.83	35.75	1.39		5.29	0.65
1992	98.32	0.02	0.68	0.16	0.011	46.31	39.58	1.56	56.49	18.16	1.28
1993	113.13	0.06	0.65	0.28	0.037	50.90	45.45	5.95	54.85	35.36	4.73
1994	118.75	0.08	0.81	0.25	0.161	59.04	51.79	8.62	60.76	34.41	21.76
1995	108.00	0.09	1.04	0.33	0.338	72.28	66.92	8.59	90.29	38.69	39.40
1996	99.04	0.13	0.81	0.61	0.321	78.12	75.84	12.74	77.43	62.71	32.72
1997	113.59	0.14	0.95	0.72	0.400	82.61	70.60	13.92	92.17	95.44	53.14
1998	117.58	0.13	0.71	0.43	0.404	78.90	73.74	14.64	78.71	53.72	50.85
1999	105.21	0.14	0.95	0.54	0.293	84.16	83.33	14.14	101.97	57.59	31.14
2000	100.00	0.19	0.86	0.73	0.308	100.00	100.00	19.23	84.74	73.49	30.78
2001	97.82	0.23	0.84	0.92	0.327	102.32	108.50	23.91	101.14	85.10	30.14
2002	88.63	0.36	0.74	1.53	0.470	116.21	126.53	34.85	94.52	124.68	38.29
2003	96.20	0.39	0.70	2.57	0.467	139.13	133.93	35.95	70.52	256.55	46.71
2004	91.68	0.54	0.63	4.10	0.892	180.86	155.49	42.64	54.26	437.05	95.08
2005	87.82	0.97	0.71	7.18	1.404	235.06	189.04	68.49	55.52	784.43	153.32
2006	85.70	1.50	0.85	7.83	2.094	287.42	211.29	94.38	55.10	912.73	244.17
2007	81.61	1.90	0.92	9.49	2.130	354.32	242.07	105.92	60.74	1133.78	254.37
2008	81.61	3.25	1.09	10.09	2.481	459.73	283.21	163.39	61.60	1337.11	328.64
2009	95.01	1.78	0.96	10.37	1.960	389.13	266.35	115.89	57.97	1439.43	272.01
2010	93.47	3.67	1.39	17.44	3.650	534.11	334.79	215.00	74.84	2600.64	544.29
2011	89.99	5.39	1.89	16.72	4.320	714.75	384.90	261.27	83.23	2793.78	721.86
2012	90.08	6.16	2.14	14.73	4.973	700.41	377.93	299.56	94.44	2459.02	830.28
2013	92.45	6.11	2.42	16.42	5.742	742.93	409.89	311.73	126.80	2750.76	962.19
2014	93.82	7.14	2.22	13.43	5.722	761.44	430.59	378.85	117.21	2228.92	949.42
2015	104.23	3.10	1.61	9.58	3.814	632.27	422.47	215.84	96.93	1493.83	594.99
2016	108.19	2.30	1.81	8.92	3.243	624.22	434.52	173.23	113.74	1385.71	504.04
2017	103.74	2.87	2.14	12.50	4.072	706.10	462.25	194.74	129.45	1980.12	645.35
2018	97.92	3.58	2.33	16.37	4.017	766.36	478.84	218.85	136.74	2564.81	629.52

ITOT of Brazil with BRICS

		Export data(US \$ Billions)				For Brazil		ITOT = NTOT*(Export(in \$)/(export value index/export volume index))			
Year	NTOT Brazil	Russia	India	China	South Africa	Export Value Index	Export Volume Index	Russia	India	China	South Africa
1990	66.44		0.17	0.38	0.17	57.03	57.60		11.26	25.62	11.27
1991	78.91		0.17	0.23	0.18	57.40	56.83		12.94	17.69	13.96
1992	81.97	0.13	0.15	0.46	0.18	64.98	64.98	10.33	12.19	37.71	14.53
1993	87.27	0.23	0.12	0.78	0.19	69.99	72.91	20.78	11.35	70.85	17.69
1994	100.95	0.17	0.62	0.82	0.23	79.05	74.58	16.51	59.16	78.32	21.59
1995	110.38	0.57	0.32	1.20	0.26	84.37	72.16	53.74	30.21	113.63	24.72
1996	108.33	0.47	0.18	1.11	0.30	86.62	74.08	43.15	17.13	103.19	27.51
1997	114.42	0.76	0.17	1.09	0.33	96.15	80.84	73.18	16.00	104.70	31.92
1998	114.29	0.65	0.14	0.90	0.22	92.78	82.89	66.09	14.79	92.39	22.81
1999	103.16	0.75	0.31	0.68	0.24	87.11	88.94	78.60	33.06	71.21	25.10
2000	100.00	0.42	0.22	1.09	0.30	100.00	100.00	42.30	21.75	108.53	30.22
2001	99.82	1.10	0.29	1.90	0.42	105.75	109.53	114.01	29.51	196.67	43.85
2002	98.47	1.25	0.65	2.52	0.48	109.65	118.98	133.83	69.85	269.37	51.09
2003	97.11	1.50	0.55	4.53	0.73	132.81	137.68	151.02	55.74	456.36	73.89
2004	97.95	1.66	0.65	5.44	1.04	175.40	163.96	151.82	59.75	498.27	94.97
2005	98.76	2.92	1.14	6.83	1.37	215.04	179.33	240.27	93.71	562.90	112.92
2006	103.97	3.44	0.94	8.40	1.46	250.02	185.31	265.35	72.35	647.49	112.72
2007	106.15	3.74	0.96	10.75	1.76	291.46	195.48	266.36	68.19	765.25	125.15
2008	110.09	4.65	1.10	16.52	1.75	359.12	190.66	271.94	64.43	965.67	102.56
2009	107.28	2.87	3.42	21.00	1.26	277.57	170.17	188.66	224.60	1381.38	82.85
2010	124.45	4.15	3.49	30.79	1.31	366.33	186.33	262.82	221.06	1948.71	82.92
2011	134.16	4.22	3.20	44.31	1.68	464.52	191.79	233.54	177.29	2454.63	93.09
2012	126.33	3.14	5.58	41.23	1.77	440.10	191.15	172.34	306.01	2262.17	96.87
2013	123.76	2.97	3.13	46.03	1.84	439.11	196.99	165.12	173.78	2555.31	101.95
2014	119.56	3.83	4.79	40.62	1.23	408.39	193.44	216.85	271.20	2300.19	69.41
2015	106.41	2.46	3.62	35.61	1.35	346.77	209.42	158.38	232.47	2288.31	87.00
2016	109.64	2.30	3.16	35.13	1.40	336.07	216.32	162.31	223.12	2479.52	98.60
2017	115.99	2.74	4.66	47.49	1.51	395.04	230.99	185.60	315.87	3220.79	102.39
2018	113.50	1.66	3.91	64.21	1.36	435.22	242.00	104.47	246.76	4052.15	86.03

ITOT of Russian Federation with BRICS

	NTOT	Export data(US \$ Billions)				For Russia		ITOT = NTOT*(Export(in \$)/(export value index/export volume index))			
Year	Russia	Brazil	India	China	South Africa	Export Value Index	Export Volume Index	Brazil	India	China	South Africa
2000	100.00	0.26	1.08	5.25	0.03	100.00	100.00	25.86	108.17	524.76	3.36
2001	96.02	0.19	1.12	5.60	0.01	97.00	101.89	19.28	113.01	564.44	0.59
2002	93.34	0.23	1.61	6.84	0.04	102.16	111.55	23.44	164.15	696.82	4.10
2003	100.84	0.26	2.74	8.26	0.01	129.42	125.72	25.16	267.97	808.95	0.68
2004	114.66	0.37	2.50	10.11	0.01	174.43	139.01	33.68	228.62	923.32	0.83
2005	138.20	0.61	2.31	13.05	0.03	232.12	146.58	52.85	201.94	1138.69	2.20
2006	157.38	0.73	2.93	15.76	0.02	289.01	153.36	60.62	244.32	1315.91	1.68
2007	164.60	1.13	3.03	15.17	0.01	337.42	160.44	88.42	237.44	1187.07	1.12
2008	197.97	2.04	5.23	21.15	0.04	449.01	158.50	142.61	365.56	1477.83	2.81
2009	131.91	1.08	5.94	16.67	0.20	288.85	155.20	76.76	420.78	1181.42	13.84
2010	159.67	1.72	5.41	19.78	0.05	381.43	166.48	120.07	376.77	1378.69	3.19
2011	194.50	2.10	4.67	34.69	0.11	497.00	163.22	134.30	298.03	2216.06	7.32
2012	203.09	2.30	7.57	35.77	0.28	503.89	162.88	151.31	496.75	2348.09	18.30
2013	189.62	1.98	6.98	35.63	0.29	496.83	167.82	127.11	447.23	2281.76	18.33
2014	182.09	2.29	4.40	37.41	0.29	473.00	169.42	149.33	286.70	2440.28	18.63
2015	138.50	1.92	4.55	28.33	0.27	325.06	180.52	147.90	349.95	2179.34	21.10
2016	127.36	2.34	5.82	29.95	0.20	268.21	182.15	202.20	503.64	2590.66	17.51
2017	144.09	2.66	7.13	41.67	0.21	336.18	189.23	215.59	577.92	3379.76	16.68
2018	168.86	2.58	7.75	56.02	0.29	421.90	197.47	204.23	612.64	4427.53	22.58

ITOT of China with BRICS

	NTOT	Export data(US \$ Billions)				For China		ITOT = NTOT*(Export(in \$)/(export value index/export volume index))			
Year	NTOT China	Brazil	India	Russia	South Africa	Export Value Index	Export Volume Index	Brazil	India	Russia	South Africa
1992	81.97	0.06	0.16	2.34	0.01	34.08	34.08	5.31	12.99	191.50	0.63
1993	87.27	0.19	0.26	2.69	0.25	36.81	37.95	17.29	23.32	242.18	22.50
1994	100.95	0.36	0.57	1.58	0.37	48.56	48.56	36.58	57.85	159.58	36.97
1995	110.38	0.76	0.77	1.66	0.64	59.70	56.86	79.79	80.45	174.99	67.01
1996	108.33	0.76	0.69	1.69	0.69	60.61	56.65	77.24	69.46	171.38	69.68
1997	114.42	1.04	0.93	2.04	0.80	73.35	67.92	110.65	98.93	215.92	84.76
1998	114.29	1.09	1.02	1.84	0.90	73.72	70.88	119.27	111.72	202.19	98.76
1999	103.16	0.88	1.16	1.50	0.88	78.22	77.45	89.47	118.68	152.93	90.13
2000	100.00	1.22	1.56	2.23	1.01	100.00	100.00	122.35	156.07	223.34	101.36
2001	99.82	1.35	1.90	2.71	1.05	106.78	109.69	138.54	194.41	277.95	107.53
2002	98.47	1.47	2.67	3.52	1.31	130.65	138.66	153.25	279.15	367.94	136.97
2003	97.11	2.14	3.34	6.03	2.03	175.85	182.79	216.33	337.45	608.64	204.84
2004	97.95	3.67	5.94	9.10	2.95	238.09	226.83	342.87	553.95	849.04	275.47
2005	98.76	4.83	8.93	13.21	3.83	305.76	283.64	442.24	818.50	1210.33	350.51
2006	103.97	7.38	14.58	15.83	5.77	388.83	346.17	683.11	1349.65	1465.46	533.86
2007	106.15	11.40	24.05	28.53	7.44	489.74	414.86	1024.90	2162.60	2565.29	669.41
2008	110.09	18.81	31.59	33.08	8.62	574.11	450.30	1623.92	2727.23	2855.92	744.09
2009	107.28	14.12	29.67	17.51	7.37	482.18	403.19	1266.47	2661.17	1571.03	660.71
2010	124.45	24.46	40.91	29.61	10.80	633.12	516.49	2483.28	4153.65	3006.26	1096.42
2011	134.16	31.84	50.54	38.90	13.36	761.78	561.89	3150.42	5000.86	3849.67	1322.27
2012	126.33	33.41	47.68	44.06	15.32	822.11	596.84	3064.52	4372.72	4040.63	1405.37
2013	123.76	35.90	48.43	49.59	16.83	886.43	647.42	3244.51	4377.70	4482.44	1521.30
2014	119.56	34.89	54.22	53.68	15.70	939.91	684.47	3037.80	4720.59	4673.53	1366.89
2015	106.41	27.41	58.23	34.76	15.86	912.30	680.59	2176.13	4622.45	2759.18	1258.88
2016	109.64	21.98	58.40	37.34	12.85	841.74	690.25	1975.85	5250.48	3357.16	1155.29
2017	115.99	28.95	68.04	42.83	14.81	908.23	738.92	2732.00	6420.99	4041.83	1397.47
2018	113.50	33.73	76.88	48.01	16.34	997.86	769.44	2952.22	6728.68	4201.47	1429.86

ITOT of South Africa with BRICS

	NTOT	Export data(US \$ Billions)				For South Africa		ITOT = NTOT*(Export(in \$)/(export value index/export volume index))			
Year	South Africa	Brazil	Russia	India	China	Export Value Index	Export Volume Index	Brazil	Russia	India	China
1992	102.59	0.06	0.22	0.01	0.17	78.18	65.70	5.29	18.69	0.60	15.00
1993	103.64	0.12	0.16	0.03	0.18	80.79	70.86	10.97	14.76	2.58	16.70
1994	107.27	0.23	0.05	0.14	0.16	84.41	71.53	20.58	4.24	12.44	14.82
1995	106.03	0.29	0.06	0.19	0.29	92.90	75.53	24.95	5.60	16.35	24.95
1996	107.48	0.28	0.05	0.25	0.19	97.46	84.75	25.88	4.88	22.98	17.55
1997	106.60	0.25	0.05	0.19	0.18	103.48	91.58	23.85	4.34	18.32	16.83
1998	104.04	0.17	0.06	0.19	0.16	87.92	85.36	16.95	6.28	19.32	16.22
1999	102.04	0.16	0.06	0.39	0.27	89.07	89.07	16.05	6.34	39.33	27.66
2000	100.00	0.20	0.03	0.37	0.34	100.00	100.00	20.18	3.05	37.17	33.52
2001	101.81	0.27	0.03	0.37	0.46	97.58	101.86	28.87	3.14	39.20	49.02
2002	107.08	0.18	0.04	0.35	0.45	99.13	99.88	19.12	4.52	37.93	48.58
2003	107.68	0.18	0.08	0.38	0.89	121.67	98.31	15.41	6.55	33.09	77.36
2004	109.32	0.24	0.10	0.57	1.06	153.91	103.80	18.04	7.23	41.82	77.84
2005	110.99	0.32	0.07	1.17	1.37	172.18	108.84	22.29	4.92	82.11	96.02
2006	117.87	0.40	0.11	0.78	2.11	194.03	111.90	27.31	7.23	53.27	143.36
2007	121.53	0.52	0.15	1.35	4.17	232.75	122.59	33.28	9.66	86.38	266.91
2008	124.49	0.66	0.24	2.28	4.31	269.43	129.60	39.48	14.55	136.50	258.07
2009	132.37	0.36	0.18	2.07	5.67	205.71	101.59	23.25	11.66	135.17	370.67
2010	141.24	0.71	0.28	3.03	8.10	304.66	122.62	40.37	15.81	172.39	460.21
2011	146.29	0.81	0.30	3.37	12.50	362.92	129.49	42.44	15.84	176.11	652.27
2012	145.24	0.79	0.43	3.74	10.32	332.21	126.64	43.64	23.66	206.91	571.41
2013	137.51	0.66	0.40	3.00	12.05	320.69	132.74	37.42	22.94	170.87	685.67
2014	135.83	0.63	0.37	3.76	8.77	310.32	137.11	37.94	21.97	225.39	526.38
2015	139.86	0.62	0.29	3.19	7.42	270.16	142.86	45.54	21.55	235.89	548.79
2016	144.98	0.38	0.28	3.15	6.81	254.19	141.71	30.60	22.84	254.66	550.55
2017	151.27	0.41	0.35	4.11	8.67	296.66	144.25	29.84	26.08	301.98	637.89
2018	146.50	0.46	0.40	4.43	8.55	313.41	147.42	31.86	27.79	304.96	589.22

GTOT of India with BRICS

	Values for India						GTOT=((M/Mp)/(X/Xp))*100			
	Import Value Index	Export value index	Import volume index	Export volume index	Mp	Xp	Brazil	China	Russian Federation	South Africa
1990	45.76528	42.4006532	32.45765	35.04186	141	121	1301.649	157.2875		128.7732111
1991	39.68682	41.8289118	31.74946	35.75121	125	117	1051.255	40.64384		70.04572623
1992	45.76334	46.3138844	38.45659	39.58452	119	117	1018.29	87.70505	41.28147293	16.52646167
1993	44.22965	50.9012655	44.67642	45.44756	99	112	234.405	121.3907	44.78034397	112.9097825
1994	52.09858	59.0425042	54.26936	51.79167	96	114	775.1761	353.7318	74.21099122	112.6778343
1995	67.36209	72.2758517	67.36209	66.92208	100	108	327.5357	263.7829	85.29680637	78.20521095
1996	73.64143	78.116203	70.80907	75.84097	104	103	114.0227	121.8733	64.41819377	101.2657761
1997	80.41453	82.6066028	78.07236	70.60393	103	117	157.5974	175.6669	76.5379771	141.6109797
1998	83.41902	78.8993683	91.66926	73.73773	91	107	172.9541	302.264	90.53373673	393.1076798
1999	91.1812	84.1606633	94.98042	83.32739	96	101	257.8007	251.3475	69.01948142	727.8449885
2000	100	100	100	100	100	100	93.67579	201.062	63.50415696	453.1923984
2001	97.80505	102.316461	101.4575	108.501	96.4	94.3	115.0086	193.7838	55.760214	420.2510676
2002	109.693	116.212396	105.8506	126.5266	103.63	91.8481999	83.25869	151.6055	69.44161367	367.9447994
2003	140.8261	139.131368	130.4157	133.9343	107.9825	103.880314	77.49424	135.4722	108.4367653	400.4470738
2004	193.6525	180.863299	152.6273	155.4895	126.8794	116.318645	112.2486	135.356	176.4762197	184.2320455
2005	277.2942	235.058153	195.8328	189.0376	141.5974	124.344632	79.96961	124.2835	253.4787895	167.8306215
2006	346.2732	287.422633	218.1514	211.2889	158.7307	136.033027	54.59661	171.1901	192.6242502	102.5822284
2007	445.1805	354.320624	248.1972	242.0693	179.3657	146.371537	37.70191	211.2845	237.0600227	121.9215001
2008	623.0851	459.725149	313.2395	283.211	198.9165	162.326035	29.12202	255.3596	333.0304094	182.59423
2009	499.1998	389.125587	324.6564	266.3539	153.7625	146.093431	154.4822	280.4856	338.6950862	244.136068
2010	679.7614	534.108397	398.2751	334.7928	170.6764	159.534027	82.04561	221.0794	240.9581016	177.0091072
2011	901.4671	714.74845	436.868	384.8991	206.3477	185.697608	62.34771	298.6675	192.4903804	194.3616342
2012	950.4393	700.408454	461.9868	377.9328	205.7287	185.326212	78.85474	331.1169	193.2962684	145.5356139
2013	903.282	742.928128	460.7185	409.8936	196.0594	181.249036	57.95938	290.7681	145.7649421	118.3533444
2014	898.4541	761.441742	476.6815	430.588	188.481	176.837658	72.84541	406.6723	178.0271484	98.27250794
2015	764.9635	632.269428	532.7482	422.4718	143.5882	149.659541	138.1504	670.4821	292.7309046	171.4886041
2016	701.9182	624.22498	528.6066	434.5243	132.7865	143.657083	170.0133	733.8944	285.2157933	169.8717585
2017	873.2524	706.102795	593.0663	462.2487	147.2436	152.753877	184.6767	597.1421	387.0649809	175.4105866
2018	998.5153	766.36084	610.9119	478.8353	163.4467	160.046866	153.7446	540.8712	356.9355285	200.9327852

GTOT of Brazil with BRICS

	Values for Brazil						GTOT=((M/Mp)/(X/Xp))*100			
	Import Value Index	Export value index	Import volume index	Export volume index	Mp	Xp	China	India	Russian Federation	South Africa
1990	38.41754718	57.02724487	25.78358871	57.60327765	149	99	35.40663	7.116157		36.13091
1991	39.14242587	57.40229752	30.58002021	56.83395794	128	101	26.1718	11.37315		32.11322
1992	39.34488022	64.97705389	32.24990182	64.97705389	122	100	10.20611	7.943134	131.3262	35.84791
1993	47.31325846	69.99070537	43.01205314	72.90698477	110	96	17.57709	45.92446	71.00821	55.00123
1994	61.39586052	79.04987873	58.47224811	74.5753573	105	106	24.1565	11.90687	105.0851	109.2776
1995	92.31658573	84.37450675	86.53957395	72.15855752	106.6756	116.9293	38.05497	47.2192	35.49957	123.9598
1996	97.16557077	86.6249145	89.93359859	74.08314568	108.0415	116.9293	121.6555	117.5251	95.6856	161.3018
1997	109.547569	96.1454238	106.5973473	80.84331515	102.7676	118.9281	140.0374	173.9568	56.53216	136.9283
1998	103.424779	92.78106058	105.5583489	82.89031072	97.9788	111.9323	143.1545	173.3314	56.32528	153.9069
1999	88.27383226	87.10768901	92.92702424	88.93653603	94.9926	97.9436	143.7934	60.0546	46.50033	80.57689
2000	100	100	100	100	100	100	112.6045	124.7894	134.9267	75.36145
2001	99.55425352	105.7470305	102.9337641	109.5298278	96.7168	96.5463	69.71412	189.8458	42.03449	67.31887
2002	84.78817663	109.6514989	90.59565626	118.9776198	93.5897	92.1614	60.70178	86.34	33.62944	37.41074
2003	86.76385327	132.809617	87.34202911	137.6759098	99.338	96.4654	46.00755	85.19065	35.93473	26.75199
2004	113.2840636	175.3986382	103.7270362	163.961613	109.2136	106.9754	66.78804	83.4681	47.73531	25.31932
2005	132.3730629	215.0423902	109.0162473	179.3306284	121.4251	119.9139	77.36479	104.3951	24.44421	24.59983
2006	163.425427	250.017689	125.9354621	185.3126376	129.7692	134.9167	98.85609	163.2164	28.45834	30.90828
2007	215.9587983	291.4590095	153.7487479	195.4837169	140.4622	149.0963	124.6379	240.3934	48.51812	31.53875
2008	310.9949662	359.1181972	181.7614124	190.6581226	171.1007	188.3571	133.5504	355.9498	78.83351	48.56428
2009	227.9496003	277.5721758	149.9170503	170.17045	152.0505	163.1142	81.26535	68.82871	52.80969	36.89257
2010	326.6141684	366.3262511	206.7427115	186.330266	157.981	196.6005	103.4642	151.1751	57.25724	71.57511
2011	404.076858	464.5228769	223.8221984	191.7912256	180.5348	242.2024	99.27059	254.8886	93.68406	72.79428
2012	397.9973808	440.0993126	218.382457	191.1520141	182.2479	230.2352	104.9539	114.2321	112.2492	60.72597
2013	427.2567101	439.1117638	237.2071318	196.9911761	180.1197	222.9094	100.3034	251.3643	111.353	48.49595
2014	407.8155865	408.3911326	230.9562995	193.4425719	176.5769	211.1175	109.932	165.7887	94.18441	71.39256
2015	305.3915317	346.7673059	196.2593419	209.4218866	155.6061	165.5831	91.80376	126.1833	95.8959	50.66729
2016	244.5484374	336.0651261	172.58792	216.3188566	141.695	155.3564	72.91202	86.09896	96.35016	26.3916
2017	268.6464238	395.0354181	182.2027171	230.9874834	147.4437	171.0203	66.73257	73.3617	112.1056	37.54347
2018	321.5444127	435.2213298	202.9333552	241.9994579	158.4483	179.8439	61.39601	106.3312	231.3395	55.20135

GTOT of China with BRICS

	Values for China						GTOT=((M/Mp)/(X/Xp))*100			
	Import Value Index	Export value index	Import volume index	Export volume index	Mp	Xp	Brazil	India	Russian Federation	South Africa
1992	35.8006	34.08466	36.90783	34.08466	97	100	826.7932	117.7555	155.594	106.8118
1993	46.18471	36.81497	48.10907	37.95357	96	97	453.8039	162.3937	186.9716	167.5948
1994	51.36254	48.5572	52.41076	48.5572	98	100	298.127	57.29641	225.6187	149.8354
1995	58.69552	59.70233	56.97037	56.85936	03.0281	105	165.3496	52.93871	232.5626	110.2458
1996	61.74586	60.61243	61.06712	56.64713	101.1115	107	205.8502	110.9357	322.0776	103.3398
1997	63.18837	73.35064	64.53993	67.91726	97.9059	108	157.2664	105.9989	221.1402	109.5488
1998	62.35113	73.71982	66.27822	70.88444	94.0748	104	115.4128	98.48435	218.7679	85.96971
1999	73.6757	78.22177	75.88994	77.4473	97.0823	101	115.0242	73.93484	293.4037	101.9005
2000	100	100	100	100	100	100	132.5199	86.72042	258.3515	102.3326
2001	108.2342	106.7796	108.3426	109.6942	99.9	97.343	169.3028	87.3286	286.1156	109.0216
2002	131.1727	130.6549	128.2265	138.6582	102.2976	94.228	188.6365	78.41153	219.9406	89.16912
2003	183.4293	175.8518	177.1833	182.7852	103.5252	96.2068	253.3198	118.1745	149.9251	84.25898
2004	249.4085	238.0894	215.6811	226.8347	115.6376	104.9616	214.2606	117.4051	120.9896	91.02292
2005	293.2812	305.756	240.627	283.6442	121.882	107.7956	183.0798	96.67812	106.3748	79.59098
2006	351.7229	388.8308	280.1713	346.172	125.5385	112.323	156.5087	63.06391	99.20346	63.37508
2007	424.8951	489.7437	318.6987	414.856	133.3219	118.0515	142.4858	53.8137	61.10604	78.71256
2008	503.3094	574.1075	330.8628	450.2959	152.1203	127.4956	133.0816	53.75731	60.39089	89.81653
2009	447.0292	482.182	340.5164	403.193	131.2798	119.5909	182.4759	42.11204	110.7012	107.5165
2010	620.488	633.12	415.3299	516.4926	149.3964	122.5806	127.8004	41.80608	71.80377	113.1737
2011	774.7991	761.781	451.7592	561.8923	171.5071	135.5742	130.0735	36.55877	82.01453	189.8688
2012	808.0938	822.1065	467.897	596.8392	172.7076	137.7434	124.7902	31.4441	79.90319	232.4151
2013	866.5698	886.4279	510.4327	647.4203	169.7716	136.9169	121.9959	28.25821	64.50986	231.8619
2014	870.6774	939.9136	525.9376	684.4706	165.5477	137.3198	122.8018	25.02763	64.27585	235.4824
2015	746.3933	912.2956	515.2485	680.5905	144.8608	134.0447	148.8292	21.24472	88.54474	175.9382
2016	705.6696	841.7359	534.2754	690.2462	132.0798	121.9472	192.6509	18.5994	79.76864	159.7228
2017	819.3762	908.2334	581.9338	738.9238	140.8023	122.913	177.4724	20.97028	84.3592	143.7659
2018	949.1201	997.8592	619.3311	769.4381	153.2492	129.6867	193.531	20.74878	103.8066	141.0975

GTOT of Russia with BRICS

	Values for Russian Federation						GTOT=((M/Mp)/(X/Xp))*100			
	Import Value Index	Export value index	Import volume index	Export volume index	Mp	Xp	Brazil	China	India	South Africa
1996	151.781	85.38745								
1997	160.4543	82.73114								
1998	129.3188	70.87677								
1999	88.13027	71.93073								
2000	100	100	100	100	100	100	149.9013	18.08346	51.44807	210.353
2001	119.8431	97.00189	120.88	101.8927	99.1421	95.2	463.7115	28.25282	46.75349	1244.116
2002	135.8968	102.1593	138.5056	111.5491	98.1164	91.5824	529.2833	32.78111	29.95847	214.4979
2003	169.5644	129.4155	166.1134	125.7211	102.0775	102.9386	580.6568	40.4062	21.5565	1640.356
2004	217.0701	174.428	198.3423	139.0062	109.4422	125.4822	425.9933	53.85261	29.84349	1664.3
2005	279.5997	232.1156	244.0087	146.576	114.586	158.3585	535.2772	76.94585	46.84682	803.5755
2006	366.1919	289.0054	305.8166	153.3619	119.7423	188.4466	647.5403	128.9587	52.04591	1248.433
2007	498.1633	337.4206	389.9057	160.4424	127.7651	210.3064	598.5028	264.8857	71.02847	3092.945
2008	650.5751	449.0075	454.6396	158.5015	143.0969	283.2828	453.0959	325.479	64.86763	2174.578
2009	427.54	288.8502	303.0189	155.1984	141.0935	186.1168	427.5207	180.9018	33.87084	216.1056
2010	554.2196	381.4325	386.237	166.4846	143.4921	229.1097	376.9163	314.4501	63.30026	1651.183
2011	721.8381	496.9971	461.0914	163.2245	156.5499	304.4869	404.9926	269.321	115.0787	786.9736
2012	747.7286	503.895	490.8835	162.8838	152.323	309.3586	295.9583	293.9511	81.63049	499.3933
2013	760.7084	496.8305	487.2241	167.8163	156.1311	296.0562	333.7166	283.0197	83.94371	517.8545
2014	686.2757	473.0009	447.6078	169.4244	153.3208	279.181	315.6565	247.4916	131.3449	439.7519
2015	430.2505	325.0588	330.9212	180.5163	130.016	180.0718	210.9122	172.0521	68.88707	295.4343
2016	426.849	268.2109	369.1807	182.1466	115.6206	147.2501	139.0774	196.9961	55.37654	336.3589
2017	531.3718	336.1839	430.97	189.2302	123.2967	177.6587	175.6465	196.9219	62.56829	454.9789
2018	554.3756	421.895	438.1508	197.4658	126.5262	213.6547	161.4627	157.4008	70.25498	463.2265

GTOT of South Africa with BRICS

	Values for South Africa						GTOT=((M/Mp)/(X/Xp))*100			
	Import Value Index	Export value index	Import volume index	Export volume index	Mp	Xp	Brazil	China	India	Russian Federation
1992	66.46809	78.17868	57.30008	65.69637	116	119	271.7834	134.6952	562.2704	12.41547
1993	67.32109	80.78552	61.20099	70.86449	110	114	145.6524	173.23	183.9192	22.24261
1994	78.67508	84.40896	71.5228	71.53301	110	118	97.49961	237.2321	89.51704	92.73338
1995	102.8658	92.89597	88.67536	75.52646	116.0027	122.9979	88.11057	186.4629	109.2485	57.54862
1996	101.64	97.45856	94.98876	84.74886	107.0021	114.9969	102.5961	330.3536	113.3659	53.89947
1997	111.1231	103.482	104.832	91.57878	106.0011	112.9978	135.8448	409.7265	182.9055	80.41048
1998	98.47449	87.92316	99.4675	85.3631	99.0017	102.999	125.7843	475.4614	151.8304	45.31234
1999	89.90066	89.07381	91.73272	89.07333	98.0028	100.0005	145.9921	308.8084	64.82545	64.44189
2000	100	100	100	100	100	100	145.8934	297.1134	68.16905	250.7418
2001	95.12713	97.58196	101.0915	101.8601	94.1	95.8	260.236	234.9083	68.3003	137.3453
2002	98.55868	99.13284	106.3332	99.88316	92.6885	99.2488	282.3113	323.256	85.46288	239.2785
2003	133.8542	121.6743	116.462	98.31212	114.9337	123.7633	433.266	267.716	117.8393	52.18275
2004	180.0498	153.9062	132.7588	103.8025	135.6218	148.2684	445.5193	370.1919	136.1133	44.78453
2005	209.8141	172.1832	147.1982	108.8373	142.5385	158.2024	457.5453	401.0373	104.5605	156.0127
2006	265.0769	194.0269	180.2022	111.9022	147.0998	173.3898	405.2493	384.5379	242.6838	308.9689
2007	297.8602	232.7456	190.6672	122.5868	156.2199	189.8618	387.7464	249.5853	160.0856	454.8337
2008	342.2798	269.4265	204.9591	129.5951	166.9991	207.8987	313.6652	286.2358	123.5304	157.0033
2009	249.3804	205.7059	163.0244	101.5865	152.9712	202.4933	462.3491	194.3609	115.9778	315.2526
2010	326.1002	304.6636	185.3717	122.6211	175.9169	248.4593	272.6938	200.6434	132.5575	53.6172
2011	419.0268	362.9212	218.729	129.4935	191.5735	280.2621	300.2446	166.3381	174.2529	83.29497
2012	428.2005	332.2082	237.0785	126.6398	180.6155	262.3253	306.8779	205.6835	178.5425	68.71352
2013	425.4252	320.6933	242.1328	132.7364	175.6991	241.6016	335.8256	182.4822	246.0514	128.7807
2014	410.6746	310.3203	246.4642	137.1073	166.6265	226.3338	293.4942	239.1018	164.301	169.1816
2015	352.4209	270.1599	260.6425	142.862	135.2124	189.1055	317.0241	295.3706	185.0899	232.0631
2016	308.4498	254.1922	249.2897	141.706	123.7315	179.38	536.7213	288.0894	142.816	131.8063
2017	341.2221	296.6575	250.9863	144.2538	135.9525	205.6497	580.4401	265.6789	144.3183	167.7258
2018	382.5725	313.4111	263.6242	147.4209	145.1204	212.5961	468.9198	292.7474	127.2064	185.758

Refer to attached excel for calculations of D-TOT and Product Basket