

Trade impact of SADC-India FTA on textiles and clothing sectors

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Abstract

Pluri-lateral trade agreements have been the topic of the hour in trade circles, since late 2000's, though they have been slowed down in recent trade policy developments in UK and USA. However, countries like India and African nations that have been left out of such mega deals have been considering striking deals among themselves. In this paper, we examine the potential impact of India-SADC (South African Development Community) FTA on these countries, especially focusing on their crucial Textiles and Clothing (T&C) sectors. Apart from the widely used GTAP framework, we also employ the Revealed Comparative Advantage (RCA) analysis in conjunction with it, to draw implications on FTA impact on RCA, which is mostly positive as per our analysis. Otherwise, India stands to gain, while the SADC countries have mixed effects across sectors, with an overall positive effects.

Keywords: trade policy, free trade agreement, computable general equilibrium, textile and clothing.

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Introduction

Be it the beginning of industrial revolution in Britain or that in North America; Textile and Clothing (T&C) manufacturing had specifically played a crucial role in the industrialisation of the currently industrialised and developed countries. East Asian economies are another classic example of portrayal of the vital functioning of T&C sector in furthering their export-oriented growth [16]. In the current scenario, world's other Asian economies have come up as well as are coming up as principal suppliers of textile and clothing in the global market.

Nevertheless, the significance of textile and clothing industry varies from country to country. For instance this industry is the prime earner of foreign exchange for some nations. Countries such as Bangladesh and Cambodia, export approximately 80-90% of T&C products as a share of their total exports [7]. Hence, generally for the growth of developing countries and specifically for that of the poorer Asian economies, this traditional sector plays an unrelentingly vital role [12].

Further, the capacity to generate direct as well as indirect employment renders this industry extremely significant position round the globe. Rather, safeguarding employment and adjusting to the changing regime was sighted as one of the main cause by the developed nations like the USA, the EU, Norway and Canada to restrict imports of textiles and clothing. These restrictions were imposed when the comparative advantage of manufacturing and exporting of T&C products shifted Japan, Korea and later to economies of China, India, and Pakistan etc.

In fact, in near past also the U.S. textile industry is one of the key employers in its manufacturing sector. It provides employment to nearly 232,000 workers, which embodies 2% of USA's manufacturing labor force [14]. Moreover, literature also reveals that share of workforce in T&C sector in low income and least developed nations includes 35% to 90% of the total labor force [7]. This sector also appears to be one of the chief contributors to GDP for some nations. For example, this industry adds roughly 15% to Pakistan's GDP [7]. India, which is one of the fastest growing economies of the world today, depend on this sector for about 14% of its industrial production and more or less 17% of its export earnings.

T&C trade and quota restriction (1960-1994)

When the comparative advantage of T&C manufacturing shifted to the Asian economies, the western countries did not readily give in to this change. When Japan attained relative advantage in textiles manufacturing in 1950s, the developed world pressurised Japan to limit its textiles exports on voluntary basis. Nevertheless, exports of textile products grew at a rapid pace from countries like Pakistan, India, and Egypt etc. in 1960s. This led the developed countries like USA and EU to curb those imports via official trade agreements.

The so called 'temporary' Short Term Arrangement (STA) on Cotton Textile Trade was initiated in 1961. Strategically those developing countries were included in the arrangement which were key textile producing countries. The arrangement prescribed for premeditated confinement of imports from the exporting nations in case they threatened to cause "market disruptions" in the importing country [15].

This one year arrangement was further replaced by the Long Term Arrangement (LTA) in 1962 for a time span of five years, which was further renewed for 12 years. This was bargained by the developed nations and brought into effect for the sake of gaining more time for adjustment to changing scenario; but was actually done to protect the interests of textile producers. LTA lay down rules for imposition of quotas on product-by-product and country-by-country basis [8].

However, LTA jeopardised the interest of the T&C manufacturers in the quota restricted countries. This induced them to innovated and develop new product technologies of unrestricted commodities. As a result development of synthetic fibres took over manufacturing of cotton textiles and garments. This diminished the capacity of LTA to curtail the synthetic product based imports.

As a result, on January 1, 1974, the Multi-fibre Arrangement (MFA) was brought into force for a period of four years so as to enhance the span of LTA [15]. The MFA enlarged the flexibility of quota. In effect, this led to further displacement from GATT principle of non adherence to quantitative restrictions and discrimination. MFA was amended on several occasions to benefit the developed world and it lasted till 1993. Even though MFA benefitted the domestic T&C entrepreneurs of importing nations; it led to huge losses of export revenue to the otherwise comparatively advantageous developing world [4]. Moreover, MFA costed 27 million jobs to the developing nations and also enhanced the cost of American consumers by \$4.4 billion a year [15].

Quota regime and African T&C exports

In order to analyse the impact of MFA on developing nations, Goto (1989) reviewed several studies. His study indicated that the export revenue lost by developing countries due to MFA was substantial. More strikingly, MFA refrained developing countries to reap trade benefits based on comparative advantage. Consequently, this fostered foreign investment in textile and clothing in non-restricted poorer developing nations. For instance, Bangladesh's garment exports gained significant competitive advantage due to duty free access to EU market under the Generalized System of Preferences (GSP) (Rahman, 2014). This led to the development and enhancement of garment industries in Bangladesh even during the phase of MFA restrictions.

Furthermore, Judith (1990) assessed the effects of U.S. MFA on Small Exporters. The study revealed that quota imposing nations had diverted demand to smaller exporters of less developed countries. This further indicated that the prominence of cost competitiveness in this trade declined as the restrictions augmented. Thus, the ability of a nation to gain share of U.S. import market was not tied to comparative or cost competitiveness but to the size of its MFA restraint. For instance, in 1990s manufacturers of Taiwan, Korea, Hong Kong, and Mauritius etc. spread their garment production activities to quota-free regions of the Caribbean and Sub-Saharan Africa (SSA) [6].

Further, the SSA countries benefitted significantly by the African Growth and Opportunity Act (AGOA) enacted in 2000 i.e. during the MFA regime. In fact, the protectionist MFA regime undertaken by USA played most important role in boosting the sector of textile and apparel of SSA (especially for Lesotho, Kenya and Swaziland) under AGOA [5]. The African production and exports received huge boost since AGOA enhanced their preferential access to the US market. The exports of African T&C products to US rose from 748 million USD in 2004 to 1757 USD in 2004 [1]. The following Table shows the leading six AGOA exporters of T&C products to the US. It clearly displays that more than 90% of their apparel exports (apart from South Africa and Mauritius) which went to US market were on account of AGOA.

Table 1. Apparel exports of AGOA to USA, 2001-2004

Country	2001		2002		2003		2004	
	\$m	%	\$m	%	\$m	%	\$m	%
Lesotho	129.2	60.1	317.7	98.9	372.6	94.9	447.6	98.2
Madagascar	92.1	51.8	75.4	84.4	186.3	94.9	314.5	97.3
Kenya	51.7	80.0	121.3	96.6	176.2	93.9	271.5	97.9
Mauritius	38.9	16.3	106.5	41.8	135.0	50.2	147.8	65.3
Swaziland	8.2	17.1	73.7	82.7	126.9	90.2	175.6	98.3
South Africa	30.4	17.4	85	46.9	126.6	54.5	114.7	81.2

Source: [5].

Moreover, many companies of Asia and China relocated and invested in SSA in lieu of taking advantage of the provisions of the AGOA. In effect, this Act paved the way for creation of enormous job opportunities especially for women and also for those who had no employment prospect previously. In fact, coming up of T&C industry led to the creation of more than 300,000 work opportunities which were direct in nature other than indirect jobs [1].

Phasing out of quotas and African T&C exports (1995-2004)

The Agreement on Textiles and Clothing (ATC) which dictated the terms for integrations of T&C trade into GATT was the result of the negotiations among the member nations during the Uruguay Round. ATC established rules for liberalization of T&C trade, its integration into GATT principles and elimination of quotas during the transition period of ten years.

The integration process was laid down in ATC Article 2 which can be read as follows.

Table 2. Process of textile trade integration under the ATC

Stage	Percentage of products to be brought under GATT (including removal of any quotas)
Stage 1: 1 Jan. 1995 (to 31 Dec. 1997)	16% (minimum, taking 1990 imports as base)
Stage 2: 1 Jan. 1998 (to 31 Dec. 2001)	17%
Stage 3: 1 Jan. 2002 (to 31 Dec. 2004)	18%
Stage 4: 1 Jan. 2005 ➤ full integration into GATT (and final elimination of quotas) ➤ ATC terminates	49% (maximum)

Source: WTO website (http://www.wto.org/english/thewto_e/whatis_e/tif_e/agrm5_e.htm).

Many studies have forecasted the impact of quota elimination in T&C trade. One such study predicted increase in global T&C market share of China and India on one hand and loss of the same of previously unrestricted countries including producers of North America and the EU on the other [9]. According to another study, both China and Pakistan were expected to benefit the most from MFA phase-out, as well as South Asian countries like India and Belarus [2].

Thus, the African T&C sector which boomed during the MFA phase on account of non-quota restrictions, trade preference agreements and FDI, was bound to face enormous competition from the Asian counterparts like China, India, and Pakistan etc. Rather, six foreign companies moved out from Lesotho in the year 2005 which led to huge job losses [1]. The textile exports of Swaziland, Madagascar and Lesotho dropped in 2005 and 2006 by an average of 12% and 6% in comparison to their previous year's exports [3].

Another major T&C exporter of SSA was South Africa [6]. Its apparel exports fell by forty five percent in 2005 in comparison to the previous year. However South Africa had a traditional well developed T&C sector and so it was suggested that after the removal of quotas it can shift to production of high-tech textiles along with emphasis on domestic market [6]. But other regions of SSA did not have similar strong textile base and so their losses were predicted to be grave after the ATC.

Case of South Africa

The textile sector of South Africa started facing enormous difficulties as the completion of quota phase-out neared. Not being able to sustain competition from Asian giants, South Africa's textile sector underwent huge

unemployment leading to fall in employment from 70,500 in 2003 to a little less than 50,500 in the year 2006 [13]. This was the result of cost cutting as well as closure of several textile mills during this period.

Consequently, with abolition of quotas, South Africa experienced rapid rise in imports of textile products. Earlier Taiwan, Europe and South Korea were the prime exporters of textile products to this country. However, after the completion of ATC, South African T&C imports were majorly sourced from China. For instance, China accounted for 89% of apparel imports and 60% of made-up textile imports of South Africa in 2007 [13].

The following table also depicts that nearly 47% of total textile and clothing imports of South Africa came from China in 2015. In fact, China was the leading exporter for other years under consideration. Moreover, countries like Germany and Taipei which were among leading suppliers in 2001 underwent decline in their T&C exports to South Africa after 2005. India gained South African textile and apparel market but its share in South Africa's total T&C imports is incomparable with that of China. It is also noteworthy that countries like Swaziland, Lesotho and Madagascar had zero or negligible presence in South Africa's T&C imports before and after quota removal till 2009. In 2010, these countries gained T&C market in South Africa and their share has increased in 2015 rendering them among top ten suppliers to South Africa.

Table 3. South Africa's total T&C imports from top ten suppliers in 2015, (%)

Exporters	Imported value in 2001	Imported value in 2005	Imported value in 2010	Imported value in 2015
China	18.16	45.74	48.32	47.37
India	4.97	6.52	5.40	5.86
Swaziland	0.00	0.00	2.50	5.66
Mauritius	0.34	0.71	2.84	4.45
Lesotho	0.00	0.00	1.92	4.31
Madagascar	0.07	0.04	0.67	3.28
Pakistan	3.19	3.94	3.61	3.18
Bangladesh	0.28	0.30	1.44	2.56
Germany	5.20	4.04	2.83	2.20
Taipei, Chinese	9.80	4.31	2.49	1.69

Source: International Trade Centre (trademap.org).

When investigated further, it was found that HS62 (Articles of apparel and clothing accessories, not knitted or crocheted) and HS61 (Articles of apparel and clothing accessories, knitted or crocheted) were the top two imported commodities of South Africa's total T&C basket in 2015. China and India were the top two nations catering to these imports after the quota elimination. But from 2010, share of imports from other South African countries like Swaziland, Lesotho etc were seen to rise. This has acted to the disadvantage of India. Similar trend is also observed in case of T&C exports of South Africa to Lesotho, Swaziland, Namibia, and Botswana etc. Before discussing this trend, the following table analysed the percentage share of T&C products in total T&C export basket of South Africa. Even though HS 51 is the leading exported product; but apparel (knit and non-knit) exports i.e. HS 61 and HS 62 taken together accounted for approximately 37% of total T&C exports in 2015.

Table 4. Percentage exports of leading T&C products of South Africa in 2015

Code	Product label	Exported value in 2001	Exported value in 2005	Exported value in 2010	Exported value in 2015
'51	Wool, fine or coarse animal hair; horsehair yarn and woven fabric	22.90	28.02	24.84	27.54
'61	Articles of apparel and clothing accessories, knitted or crocheted	19.56	12.08	18.13	19.81
'62	Articles of apparel and clothing accessories, not knitted or crocheted	16.34	10.96	17.37	18.06
'63	Other made-up textile articles; sets; worn clothing and worn textile articles; rags	4.49	7.07	13.91	13.01
'56	Wadding, felt and nonwovens; special yarns; twine, cordage, ropes and cables and articles thereof	2.11	3.50	4.63	4.28
'55	Man-made staple fibres	6.53	3.41	2.28	2.85
'59	Impregnated, coated, covered or laminated textile fabrics; textile articles of a kind suitable	2.41	3.75	3.42	2.79

Table 4 (cont.). Percentage exports of leading T&C products of South Africa in 2015

Code	Product label	Exported value in 2001	Exported value in 2005	Exported value in 2010	Exported value in 2015
'54	Man-made filaments; strip and the like of man-made textile materials	12.20	14.91	3.65	2.68
'57	Carpets and other textile floor coverings	3.38	4.35	3.97	2.54
'60	Knitted or crocheted fabrics	1.12	1.37	2.22	2.41
'52	Cotton	6.47	6.97	3.55	2.34
'58	Special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery	2.39	2.92	1.78	1.10
'50	Silk	0.06	0.03	0.10	0.35
'53	Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn	0.05	0.67	0.16	0.25

Source: International Trade Centre (trademap.org).

When examined further it was found that South Africa's total export value of HS61 fell by 32.8% in 2005 in comparison to 2001. This value rose by 138.8% in 2010 and by 0.63% in 2015 relative to years 2005 and 2010 respectively. The following table depicts the exported value of HS 61 of South Africa in descending order of the year 2015. It is noteworthy that USA and UK were the prime export destinations of South Africa when quotas were in place. However in 2005 the exports to US fell drastically and that to UK rose marginally. In effect the overall exports of HS 61 declined after quota elimination. However, these exports to both the nations fell miserably in the successive years. Strikingly, Namibia, Botswana, Lesotho and Swaziland which had zero presence till 2009, became the leading importers of South African's knitted or crocheted products of apparel and clothing accessories. This seems a plausible reason which spurred the export growth of South Africa's HS 61 in 2010 and after.

Table 5. Percentage exports of South Africa: HS61 articles of apparel and clothing accessories, knitted or crocheted (based on 2015)

Importers	Exported value in 2001	Exported value in 2005	Exported value in 2010	Exported value in 2015
Namibia	0	0	40.58	35.48
Botswana	0	0	22.81	24.95
Lesotho	0	0	8.63	8.57
Swaziland	0	0	10.03	7.10
Zambia	1.50	1.49	1.55	4.71
United States of America	70.88	54.29	3.18	3.68
Mozambique	1.38	2.82	2.10	3.53
Zimbabwe	0.16	0.40	1.65	1.77
Kenya	0.15	1.04	1.21	1.24
Ghana	0.09	0.30	0.19	0.85
Congo	0.07	0.53	0.61	0.81
Australia	0.29	0.93	0.67	0.80
Nigeria	0.03	0.38	0.17	0.79
Angola	0.95	2.05	0.99	0.72
Mauritius	0.07	0.20	0.49	0.60
United Kingdom	11.87	16.08	1.13	0.57
Tanzania	0.19	0.47	0.32	0.50
Czech Republic	0.00	0.00	0.03	0.37
United Arab Emirates	1.48	2.35	0.37	0.35
Canada	0.62	1.04	0.06	0.31

Source: International Trade Centre (trademap.org).

Likewise is the case of South Africa's exports of HS 62 where USA and UK were the major destinations before quota removal. The export share to these countries fell significantly after 2005. Strikingly, here as well, Namibia, Botswana, Lesotho and Swaziland which had no presence till 2009; turned out to be the leading destination of HS 62 exports.

Table 6. Percentage exports of South Africa: HS62 articles of apparel and clothing accessories, not knitted or crocheted (based on 2015)

Importers	Exported value in 2001	Exported value in 2005	Exported value in 2010	Exported value in 2015
Namibia	0	0	30.91	31.84
Botswana	0	0	25.32	17.45
Lesotho	0	0	7.67	13.70
Swaziland	0	0	10.12	6.48
Zambia	3.23	3.49	2.05	4.29
Mozambique	1.45	2.60	2.42	2.77
United Kingdom	25.14	35.19	4.26	2.63
United Arab Emirates	5.59	11.08	3.22	2.29
Kenya	1.35	1.91	1.86	1.59
United States of America	50.93	23.96	0.27	1.51
Germany	0.34	0.19	0.10	1.47
China	0.15	0.50	0.55	1.26
Saudi Arabia	0.01	1.16	0.00	1.22
Australia	0.62	1.26	0.49	1.08
Zimbabwe	0.74	0.74	1.14	1.08
Congo, Democratic Republic of the	0.08	0.52	0.65	1.07
Angola	0.72	2.81	1.40	0.92
Ghana	0.18	1.22	0.42	0.91
Mauritius	0.13	0.54	0.73	0.88
Nigeria	0.00	0.28	0.41	0.72

Source: International Trade Centre (trademap.org).

The basis for this rise in apparel trade between South Africa and other African countries is the formation of the South African Development Community (SADC) Free Trade Area (FTA). SADC was formulated in 1992 which aimed at enhancing social and economic development along with other goals. This included 15 states of South Africa (Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mauritius Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia Zimbabwe and Madagascar). Amongst its other protocols, SADC Protocol on Trade led to the setting up of SADC FTA in 2008. SADC FTA was established by 12 SADC members since Angola, Congo and Seychelles opted out of it.

It is thus clear that trade agreements like AGOA and SADC FTA has led to creation of textile and clothing markets for South Africa. Nevertheless the volume of market lost by South Africa after the removal of quotas is incomparable to that created by SADC FTA. Moreover, with China joining the WTO in 2001 led to an unstoppable and non-competing influx of T&C products especially after 2005. Similarly, share of imports from India has also grown, even though incomparable to that of China.

Further, South Africa has attempted to strike various trade agreements in order to diversify its trade and investment for accelerating its economic growth. The major agreements include South African Customs Union (SACU), FTA with EU and EFTA, MERCOSUR PTA, and PTA with Zimbabwe etc. Notably, being part of SACU, SACU-India PTA is currently under negotiation. Both the countries are under negotiations to reduce tariffs on specific commodities. In lieu of this scenario, the following section analyses the T&C trade from India's perspective and the study attempts to investigate the feasibility of T&C trade agreement between India and South Africa.

Case of India

In literature India has time and again been suggested as one of the prime beneficiary from ATC. With regards to this, when examined, it was found out that HS 61 and 62, together accounted for more than 40% share in total value of T&C export basket in 2015.

Further investigation revealed that exports of HS 61 rose from 2005 to 2009 in terms of US\$. After 2009, its export value has had shares of high and low till 2012. By mid of 2012 the export value rose rapidly although the rate of increase slowed down in later years of 2013. Further, USA throughout remained the chief export destination of India's HS 61 exports. Similarly USA was found to be top importer of India's export of HS 62 as well.

Thus, it became imperative to examine the USA's imports of HS 61 and HS 62 at global level. Further research showed that out of the top ten suppliers of HS 61 and HS 62 to USA in 2015, seven were Asian countries. China was the largest exporter of both to USA in 2005 as well as in 2015 and its share has risen as well. Notably, Vietnam and Bangladesh exports of the same to USA had risen tremendously. Cambodia also appeared to be stepping up the ladder gradually.

Strikingly, member countries of NAFTA, CAFTA-DR and CBI can export garment to US at duty free rates. One-third of textile produced in U.S. is exported, with major part of exports going to Western Hemisphere nations who are members of the North American Free Trade Agreement (NAFTA), the Dominican Republic-Central America Free Trade Agreement (CAFTA-DR), and the Caribbean Basin Initiative (CBI) [10]. These agreements render member nations duty free export to U.S. if the products are made of textiles produced in U.S. In fact, Mexico is the largest textile market of USA [10].

Nevertheless, retailers of USA purchase majority of their garments from Asia, even though Western Hemisphere has relative advantage of geographical proximity, low transport cost and speedy delivery. Notably Vietnam is the second largest exporter of garments to USA despite the high tariff rate and its garment exports were more than twice than that of Mexico's in 2013 [10].

With further examination of US imports of HS 61 at 6 digit level, it was quite clear that pullovers, cardigans and similar articles of cotton and man-made fibres constituted USA's top two imported knitted-RMG items. It was also apparent that despite high tariff rates, Asian economies were the leading exporters. Where China, the leading exporter, has found its niche after the elimination of quotas; India, the assumed major beneficiary from ATC emerged to be struggling to compete against it relatively small Asian counterparts such as Vietnam, Cambodia and Indonesia.

Likewise, with regards to HS 62 at 6 digit level, it was evident that men's trousers and shorts; and women trousers and shorts were the top two USA's imported product types in this category. Bangladesh, Mexico, China, Vietnam, Indonesia and Nicaragua were the major suppliers. Further, Asian countries facing high tariff barriers had outdone western hemisphere countries which faced zero import tariffs in the leading imported variety of this category.

Thus, USA is important export destinations for HS 61 and HS 62 for India. However, exports of these commodities to USA are rising at a rapid pace from relatively low income nations like Vietnam, Bangladesh and Cambodia; and that of India is falling behind.

Moreover, even though India's total T&C exports and individual exports of the above mentioned products has witnessed a rise since 2005; their revealed comparative advantage at global level was found to be declining. Additionally, Vietnam is currently the second largest exporter of apparel to USA. This in itself is an alarming signal for India since these countries are outdoing its exports. In fact firms have started shifting their base to Vietnam, and Vietnamese government is taking measures to facilitate and strengthen the base of this sector.

Consequently, India's T&C situation in international arena is extremely vulnerable. Any FTA, big or small, especially between the developed countries and upcoming nations with comparative advantage in T&C production, is likely to divert T&C exports away from India. Hence, there is no time to wait. India should rather initiate trade agreements to gain T&C markets in the international arena.

Research objective and methodology

In light of the aforesaid contentions, the following section seeks to find out the niche sectors for India and SADC, if these regions initiate a trade agreement. This will be done by evaluating a Free Trade Agreement between India and SADC.

For this, static standard GTAPv9 model is used for the purpose of general equilibrium analysis. GTAPv9 constitutes 140 regions and 57 sectors. These regions have been modelled into 10 regions and 7 sectors for this study. Using this model, the import tariff between India, South Africa and Rest of SADC is reduced to zero, hence assuming an FTA between these regions. The impact of this FTA is evaluated to analyse the macroeconomic variables like GDP, percentage change in exports, industrial production and employment. Additionally Balassa's Revealed Comparative Index is also worked out for further investigation.

Table 7. Regional aggregation

S.No.	Regions	
1	India	
2	South Africa	
3	Rest of SADC (except Seychelles)	Angola, Congo, Madagascar, Malawi, Mauritius, Mozambique, Tanzania, Zambia, Zimbabwe, Botswana, Namibia, Lesotho, Swaziland.
4	China	
5	Other Asia	Hong Kong, Japan, Korea, Mongolia, Taiwan, Rest of East Asia, Brunei Darussalam, Cambodia, Indonesia, Lao, Malaysia, Philippines, Singapore, Thailand, Vietnam, Rest of Southeast Asia, Bangladesh, Nepal, Pakistan, Sri Lanka, Rest of South Asia.
6	North America	Canada, USA, Mexico, Rest of North America.
7	South America	Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, Venezuela, Rest of South America.
8	EU_28	Austria, Belgium, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, UK, Bulgaria, Croatia, Romania.
9	Other Africa	Bahrain, Iran, Israel, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, Turkey, the UAE, Rest of Western Asia, Egypt, Morocco, Tunisia, Rest of North Africa, Benin, Burkina Faso, Cameroon, Cote d'Ivoire, Ghana, Guinea, Nigeria, Senegal, Togo, Rest of Western Africa, Central Africa, Ethiopia, Kenya, Rwanda, Uganda, Rest of Eastern Africa.
10	Rest of World (ROW)	Australia, New Zealand, Rest of Oceania, Costa Rica, Guatemala, Honduras, Nicaragua, Panama, El Salvador, Rest of Central America, The Dominican Republic, Jamaica, Puerto Rico, Trinidad and Tobago, Caribbean, Switzerland, Norway, Rest of EFTA, Albania, Belarus, Russia, Ukraine, Rest of Eastern Europe, Rest of Europe, Kazakhstan, Kyrgyzstan, Rest of Former Soviet Union, Armenia, Georgia, Antarctica, Bouvet Island, the British Indian Ocean Territory, the French Southern Territories.

Source: GTAPv9.

Table 8. Sectoral aggregation

S.No.	Sectors
1	Agriculture
2	Extraction
3	Textile
4	Apparel
5	Light Manufacturing
6	Heavy Manufacturing
7	Services

Source: GTAPv9.

India SADC FTA

Assuming FTA between India and SADC, India's apparel sector will experience a major boost with a rise in its exports by 5% approx. These exports from India will divert away from all other regions except South Africa and other SADC nations. Apparel exports to S. Africa will rise by over 900% and that to other SADC nations by 267.9 %. As market of SADC opens up, India's exports of textiles, light and heavy manufacturing will also undergo a rise of up-to 2% approximately. Exports of services and extractions will decline. Nevertheless, despite the reduction of exports of all sectors to all regions other than SADC, India's overall exports will expectedly rise by 0.8%. *Thus, it is quite evident that while negotiating the FTA with SADC, India should vouch for elimination of barriers to entry of India's textile and clothing imports to SADC. In fact, with further analysis it was found that after the assumed FTA India's Revealed Comparative Advantage in world textile and clothing exports will also rise.*

Table 9. Percentage change in India's export value after India-SADC FTA

Sector/Region	1 India	2 South Africa	3 Rest of SADC	4 China	5 Other Asia	6 North America	7 South America	8 EU_28	9 Other Africa	10 ROW	Total
Agriculture	-	197.79	49.71	-1.83	-1.69	-1.80	-2.03	-1.83	-1.64	-1.75	0.12
Extraction	-	3.36	32.03	-0.47	-0.53	0.00	-0.41	-0.60	-0.61	-0.56	-0.47
Textile	-	246.76	132.48	-1.96	-1.91	-1.90	-1.86	-1.91	-1.79	-2.00	1.94
Apparel	-	972.11	267.95	-1.99	-2.09	-1.94	-2.25	-1.91	-1.84	-2.03	5.14
Light manufacturing	-	137.90	129.80	-1.46	-1.44	-1.50	-1.47	-1.47	-1.43	-1.50	1.73
Heavy manufacturing	-	20.57	48.22	-0.82	-0.79	-0.80	-0.79	-0.79	-0.76	-0.82	1.11
Services	-	0.00	-1.15	-1.13	-1.14	-1.11	-1.14	-1.14	-1.13	-1.14	-1.13
Total	-	71.68	63.17	-0.92	-1.13	-1.21	-1.04	-1.19	-1.19	-1.16	0.80

Source: Authors' analysis based on GTAPv9.

Additionally, India's GDP will rise by 0.04%. FTA will give a push to apparel manufacturing which will augment by 2.6% nearly. Light manufacturing and textile production are also likely to rise by 0.2% and 0.6% respectively. Remaining sectors, other than services, will witness fall in production. In consonance with this, demand of labor will enhance in apparel, textiles and light manufacturing sectors. Moreover, this trade agreement will improve India's allocative efficiency and terms of trade which will lead to a net rise in India's welfare by \$2010 million.

With regards to South Africa, its exports from all sectors to India will experience a rise except for services. However, South Africa's exports to all other regions of the world will decline. Consequently, overall exports of nearly all the sectors will fall. The largest decline will occur in apparel and textiles sector of nearly 7% in each sector. Nevertheless, it is equally noteworthy that heavy manufacturing is the only sector whose net exports from South Africa rises and that too by 7.5%. This will take place solely on account of rise in these exports to India by 80% which will cushion the loss due to decline in these exports to all other regions. Importantly, rise in heavy manufacturing exports will lead to a net rise in total exports of South Africa by 2.5%, thus offsetting the loss of reduced exports of other sectors. *Hence, heavy manufacturing exports to India would be an import consideration for South Africa in such a trade agreement.* Moreover, South Africa's Revealed Comparative Advantage in exports of heavy manufacturing appears to increase from 1.05 to 1.1 at global level.

Table 10. Percentage change in South Africa's export value after India-SADC FTA

Sector/Region	1 India	2 South Africa	3 Rest of SADC	4 China	5 Other Asia	6 North America	7 South America	8 EU_28	9 Other Africa	10 ROW	Total
Agriculture	46.07	-	-3.16	-1.94	-2.11	-2.08	-1.72	-1.93	-1.89	-2.14	-1.48
Extraction	38.19	-	-2.93	-3.32	-3.58	-3.73	-3.68	-3.73	-3.59	-3.64	-0.12
Textile	98.36	-	-17.86	-3.63	-3.24	-3.26	-3.24	-3.13	-3.28	-3.52	-6.80
Apparel	106.08	-	-20.58	-3.57	-3.54	-3.52	-3.56	-3.52	-3.32	-3.79	-6.87
Light manufacturing	70.97	-	-5.62	-2.58	-2.76	-2.85	-2.94	-2.77	-2.65	-2.87	-2.85
Heavy manufacturing	80.39	-	-7.23	-3.56	-3.52	-3.53	-3.52	-3.52	-3.43	-3.63	7.53
Services	-1.43	-	-2.58	-2.26	-2.27	-2.21	-2.53	-2.26	-2.23	-2.23	-2.26
Total	70.73	-	-6.65	-3.24	-3.19	-3.06	-3.13	-3.08	-3.08	-3.27	2.56

Source: Authors' analysis based on GTAPv9.

Further, this FTA will cause a plunge in the industrial output of all sectors of South Africa except for heavy manufacturing. Rather industrial production of heavy manufacturing will be boosted by nearly 2%. This will thus lead to an increase in demand of labor in this sector which will be an avenue to absorb additional workers from other sectors. South Africa's welfare if estimated to increase by \$676 million.

Moving on to the case of rest of SADC, agricultural exports are likely to receive a huge boost of 6% on account of rise in these export sales to India by 101% approximately. Overall exports of heavy manufacturing also rise by 1.3% with larger rise in exports to India. Rest of SADC textile exports enhance to all other regions but intra SADC textile trade falls which cause a net marginal decline of 0.5% of these exports. Intra SADC apparel trade also declines and witnesses a rise to all other regions; but overall clothing exports rise by 0.5%. In all, the total exports of rest of SADC rises by 0.5% nearly. *Clearly, rest of SADC would also eye for free entry of their heavy manufacturing and agricultural products to India while negotiating an FTA.* However, GDP of the region falls by 0.03% and welfare appeared to reduce by \$140 million for this region.

Table 11. Percentage change in Rest of SADC's export value after India-SADC FTA

Sector/Region	1 India	2 South Africa	3 Rest of SADC	4 China	5 Other Asia	6 North America	7 South America	8 EU_28	9 Other Africa	10 ROW	Total
1 Agriculture	101.51	-5.34	-1.36	-0.31	-0.17	-0.44	0.00	-0.31	-0.25	-0.30	6.28
2 Extraction	0.44	2.03	0.56	0.02	-0.08	-0.09	-0.13	-0.07	-0.35	-0.13	0.09
3 Textile	35.99	-7.03	-13.38	1.96	2.13	2.47	2.26	2.13	2.15	1.92	-0.55
4 Apparel	42.54	-17.16	-16.06	2.06	2.09	2.20	2.15	2.17	2.14	2.03	0.47
5 Light Manufacturing	49.84	-1.27	-2.56	0.64	0.39	0.44	0.53	0.46	0.55	0.67	-0.16
6 Heavy Manufacturing	44.81	1.71	-3.30	0.67	0.70	0.74	0.76	0.73	0.72	0.73	1.29
7 Services	0.81	1.98	0.00	0.00	0.27	0.27	0.42	0.28	0.37	0.28	0.42
Total	7.21	0.65	-2.81	0.08	0.22	0.07	0.00	0.21	0.52	0.50	0.54

Source: Authors' analysis using GTAPv9.

Conclusion

In this era of new trade partnerships across the world, India and Southern African countries can forge mutually useful collaborations, by reducing tariff barriers against each other. While we find that India-SADC FTA has the potential to increase trade and GDP in these countries, broadly speaking, textiles and apparel sectors benefit from this FTA in both India and rest of SADC, while South Africa may face trade diversion effects that reduce the exports to countries other than India so much that the total exports can fall. A unique piece of analysis we performed in this study is on Revealed Comparative Advantage (RCA), in which we observe gains in all partner countries due to the FTA.

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