

**India-Australia FTA
(CCS Final Submission)
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0. Executive Summary

The talks of an Indo-Australian Free Trade Agreement (FTA) has been going on for a long time, and is currently in its phase of negotiation. The aim of this project is to examine the trend of trade flows between India and Australia and comment on the role of FTA in addressing the trade barriers. Two important sectors in commodities – Automobile and Pharmaceutical – have been analysed. Additionally, trade in healthcare services is analysed to gauge the impact of FTA.

Australia is one of the major importers in automobile sector in the world. Currently, non-tariff barriers in the form of certification and testing pose a significant trade barrier. An FTA with Australia should address the problems of standards by introducing Mutual Recognition Agreements (MRA). Major products of India's interest include small cars, parts & accessories (bumpers and suspension) and two-wheeler segment where even though India is highly competitive, but cannot penetrate much in Australia due to non-tariff barriers. Further, FDI inflows from Australia could help with India's Make in India program as well as improve productivity of the Indian auto sector. However, the existing FTAs of Australia with China and Thailand are India's major competitors; it will be difficult for India to compete directly with the low cost products from China and Thailand.

In the pharmaceutical sector, at present Australia is not a significant trading partner of India. However, India's exports to Australia have been growing at a healthy rate of 11.5%. There are no major trade barriers (both tariff and non-tariff) with Australia. However, similar to automobile, automatic recognition of products and manufacturing sites can be incorporated as part of the FTA. Under this scheme, all products and manufacturing sites approved by US and EU (where Australia has an FTA/MRA), should be automatically recognized by testing agencies of Australia. Further, clinical trials is another area where there exists synergies between the two countries; India is becoming one of the popular destinations for conducting clinical trials and Australia can, at the same time, reduce its expenditure in R&D.

Within the healthcare services, telehealth is one of the major opportunities for the two countries. The FTA should seek to address the regulatory barrier, and encourage tie-ups at business level between the two countries. Medical Tourism is another opportunity, with can increase activity from Australia through an FTA. Mutual recognition of accreditations can be part of the treaty, where the insurance providers in Australia can explore medical tourism tie-up with NABH accredited hospitals in India. This will be beneficial to both the parties; it will increase revenue for India and at the same time help in reducing cost for Australian Government. To increase mobility of healthcare professionals from India to Australia, in the FTA, India should seek for accreditation for some of its internationally acclaimed medical schools like AIIMS. The FTA should introduce mutual recognition of medical degrees, and seek for lowering hassle medical professionals in applying for medical license in both the countries.

The primary agenda in any FTA negotiation has always been to lower tariffs. However, in the case of Australia, tariffs do not pose a significant problem. The Government has already significantly lowered Australia's tariffs levels for imports; and any further reduction that the FTA can bring can only help India marginally. Hence, it is extremely important that we include chapters in FTA on how to reduce the non-tariff barriers that are mainly related to standards, certifications and testing.

1. Introduction

The bilateral trade volume between India and Australia has been on a downward trend till 2013 and has dipped to 11.6 billion dollars in 2013-14ⁱ. The reasons for decline included the slowdown in Indian economy and the presence of tariff and non-tariff barriers on both sides. With the FTA, India seeks to increase its exports in services sector, one way of accomplishing that is by demanding easing of rules for temporary mobility of skilled professionals and intra-company transfers. Australia, on the other hand, is eyeing the agricultural and industrial sector, seeking lower tariffs. Further, the FTA can increase overall bilateral investment flows. The current cumulative FDI inflows from Australia to India is \$ 735.25 Mn (2000 to 2015), which is just 0.28% of investment inflows in India, presenting a substantial growth opportunityⁱⁱ.



India and Australia first agreed to undertake a feasibility study in April 2008 for a possible bilateral Free Trade Agreement. Since then, nine rounds of exhaustive negotiations have taken place between negotiators, commerce & trade ministers from both sidesⁱⁱⁱ. Issues with respect to market access and complicated tariffs have continued to be a significant barrier impeding successful negotiations. In this study, we have analysed how the trade between India and Australia has evolved in the last few years, what the major bilateral flows are, and how complementarities between the two countries can lead to enhanced productivity and reduced costs for both the parties. The study focussed on a few sectors with in-depth analysis on the possible synergies between the two nations as well as the current regulatory barriers in those sectors.

2. Methodology

The project methodology included secondary research by reviewing all literature available on the India-Australia FTA including the joint study published by the two countries in 2010. During this phase, we tried to identify the changes that have taken place since the 2010 – Indo-Australia FTA feasibility report, which can affect the bilateral trade.

2.1 Analysis of Bilateral Trade

The trade between India and Australia was analysed using Revealed Comparative Analysis (RCA) framework developed by Bela Balassa^{iv}. This framework was used to identify sectors (goods) where we need to drill down further to understand the impact of an FTA. The RCA framework helps in understanding the relative strength of a country in terms of exports to a destination country with respect to the rest of the World in a specified goods/services category.

We have used the destination specific RCA where we have taken exports in a particular category of goods to a specified destination country

$$DS - RCA (i,j) = \frac{X(i,j)/X(w,j)}{X(i)/X(w)}$$

Where DS-RCA(i,j) is RCA for country i for product j w.r.t destination country

X(i,j) is exports of country i to destination country for product j

X(w,j) is exports of world for product j to destination country

X(i) is country's total exports to destination country

X(w) is total export of the world to the destination country

We have used the Harmonised Code (HS) level 2 to analyse the trade of goods category.

RCA (world) < 1 RCA (Aus)/ RCA (world) >1	RCA (world) > 1 RCA (Aus)/ RCA (world) >1
Categories where India doesn't have comparative advantage w.r.t world, but India enjoys an advantage in exports to Australia	Categories where India enjoys comparative advantage in exports to World and extends that advantage during exports to Australia
RCA (world) < 1 RCA (Aus)/ RCA (world) <1	RCA (world) >1 RCA (Aus)/ RCA (world) <1
Categories where India doesn't have any comparative advantage w.r.t. both World and Australia	Categories where India has comparative advantage w.r.t world but is not able to penetrate Australia in terms of exports.

		RCA (World) <1				RCA (World) > 1			
		HS Code	Commodity	Exports to Australia	CAGR (10 yr)	HS Code	Commodity	Exports to Australia	CAGR (10 yr)
RCA (Aus)/RCA (World) >1		27	Mineral fuels	\$ 1267 M	81%	10	Cereals	\$ 41 M	19%
		51	Wool	\$ 2 M	-1%	7	Vegetables	\$ 6 M	3%
		85	Electrical machinery	\$ 99 M	6%				
		28	Chemicals	\$ 15 M	3%				
		38	Miscellaneous chemical products	\$ 27 M	13%	30	Pharmaceutical products	\$ 211 M	22%
RCA (Aus)/RCA (World) <1		87	Vehicles and accessories	\$ 149 M	20%	71	Precious stones, jewellery	\$ 325 M	11%
		84	Nuclear reactors, boilers	\$ 138 M	9%	72	Iron and steel	\$ 24 M	2%
		76	Aluminium and articles thereof	\$ 12 M	15%	63	Textile	\$ 126 M	11%
		8	Fruits and nuts	\$ 2 M	-9%	62	Apparel and clothing accessories	\$ 108 M	12%
		26	Ores, slag and ash	\$ 0 M	-36%	73	Articles of iron or steel	\$ 82 M	5%

Products	Top exporters to Australia	India's rank in Australia w.r.t product	Top exporters' rank in the world w.r.t product	India's rank in the world w.r.t product	Aus - FTA in Force with top exporters
Pharmaceutical products	Germany, USA	11	1,3	10	No, Yes
Precious stones, jewellery	New Zealand, Papua New Guinea	4	37, NA	5	Yes, No
Iron and steel	China, Asia others	10	1	15	
Textile	China, India	2	1,2	2	Yes, No
Apparel and clothing accessories	China, Bangladesh	4	1, NA	3	Yes, No
Articles of iron or steel	China, Japan	15	1, 5	10	Yes, Yes
Mineral fuels	Korea, Singapore	6	NA, 8	12	Yes, Yes
Electrical machinery	China, USA	22	1, 3	28	Yes, Yes
Nuclear reactors	China, USA	26	1, 3	23	Yes, Yes
Vehicles	Japan, Thailand	19	2, 13	20	Yes, Yes

HS 2 Code	Commodity	India's total export to world	India's total exports to Australia	Australia's total imports	RCA (w.r.t World)	RCA Aus/RCA World
7	Edible vegetables and certain roots and tubers	893,862,575	6,416,629	235,255,265	1.16	1.31
8	Edible fruit and nuts; peel of citrus fruit or melons	1,118,689,476	2,141,341	813,989,163	0.85	0.17
10	Cereals	3,000,855,802	41,021,975	162,978,087	3.43	4.11
26	Ores, slag and ash	947,663,730	243,225	519,721,677	0.42	0.06
27	Mineral fuels, mineral oils and products of their distillation; bituminous substances; mineral waxes	19,805,119,150	1,267,392,298	21,748,482,422	0.92	3.54
28	Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes	875,299,853	15,150,794	1,263,107,536	0.65	1.03
30	Pharmaceutical products	11,180,054,214	210,823,548	7,257,071,112	1.79	0.91
38	Miscellaneous chemical products	1,792,998,350	26,554,924	1,739,190,329	0.89	0.96

51	Wool, fine or coarse animal hair; horsehair yarn and woven fabric	133,713,886	1,813,916	51,591,935	0.90	2.19
62	Articles of apparel and clothing accessories, not knitted or crocheted	7,762,009,575	107,952,860	3,055,704,330	3.26	0.60
63	Other made up textile articles; sets; worn clothing and worn textile articles; rags	4,485,034,482	126,308,690	1,305,338,335	7.12	0.76
71	Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal, and articles thereof; imitation jewellery; coin	26,865,168,179	324,986,507	5,296,405,933	4.41	0.78
72	Iron and steel	4,823,398,603	24,232,043	1,317,366,710	1.32	0.78
73	Articles of iron or steel	4,442,602,897	81,873,600	6,879,046,139	1.47	0.45
76	Aluminum and articles thereof	1,677,979,828	12,011,873	1,474,784,837	0.91	0.50
84	Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof	10,815,220,038	138,491,403	31,450,082,509	0.47	0.53
85	Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles	6,662,372,702	98,579,537	20,562,732,503	0.22	1.19
87	Vehicles other than railway or tramway rolling-stock, and parts and accessories thereof	9,703,149,742	148,825,815	24,936,325,405	0.61	0.54

Based on the DS-RCA matrix, we have identified two important sectors:

- **Automobile Sector** – India does not have any comparative advantage in its exports to either world or Australia. We need to understand whether an FTA will help India to penetrate Australia, attract FDI/technology inflows and eventually help in its exports to the world.
- **Pharmaceutical Sector** – India currently is one of the major exporters of pharmaceutical products to the world, but is not able to penetrate Australia. A detailed study is required to understand the reasons for under-penetration, and check if FTA can improve the trade.

To leverage synergies with Pharmaceutical sector, we have also included **Healthcare services** in the scope.

3. Automobile Sectoral Narrative



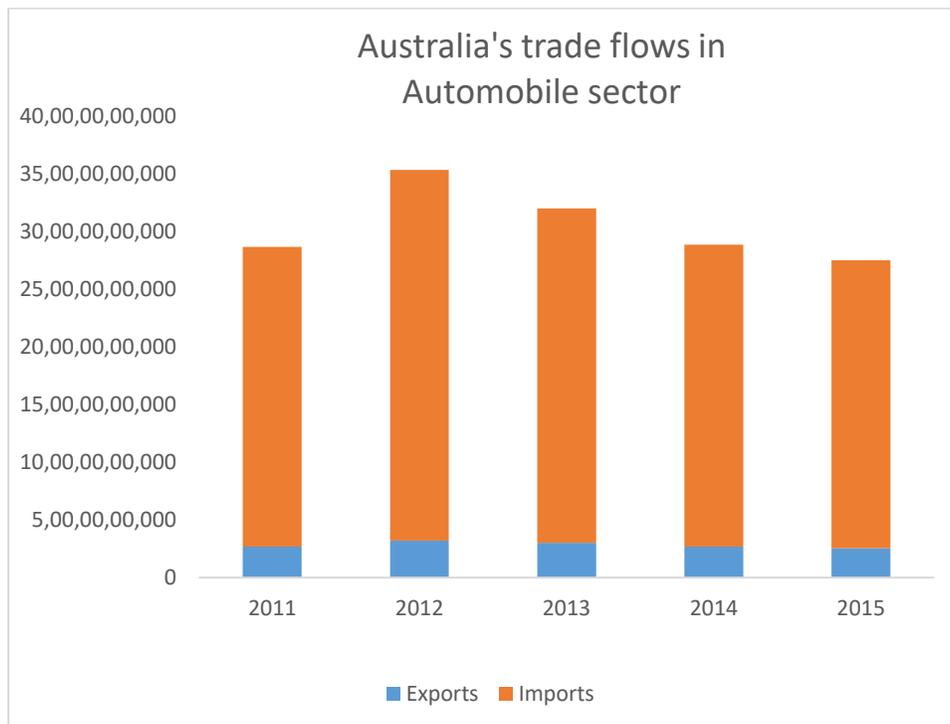
3.1 Introduction

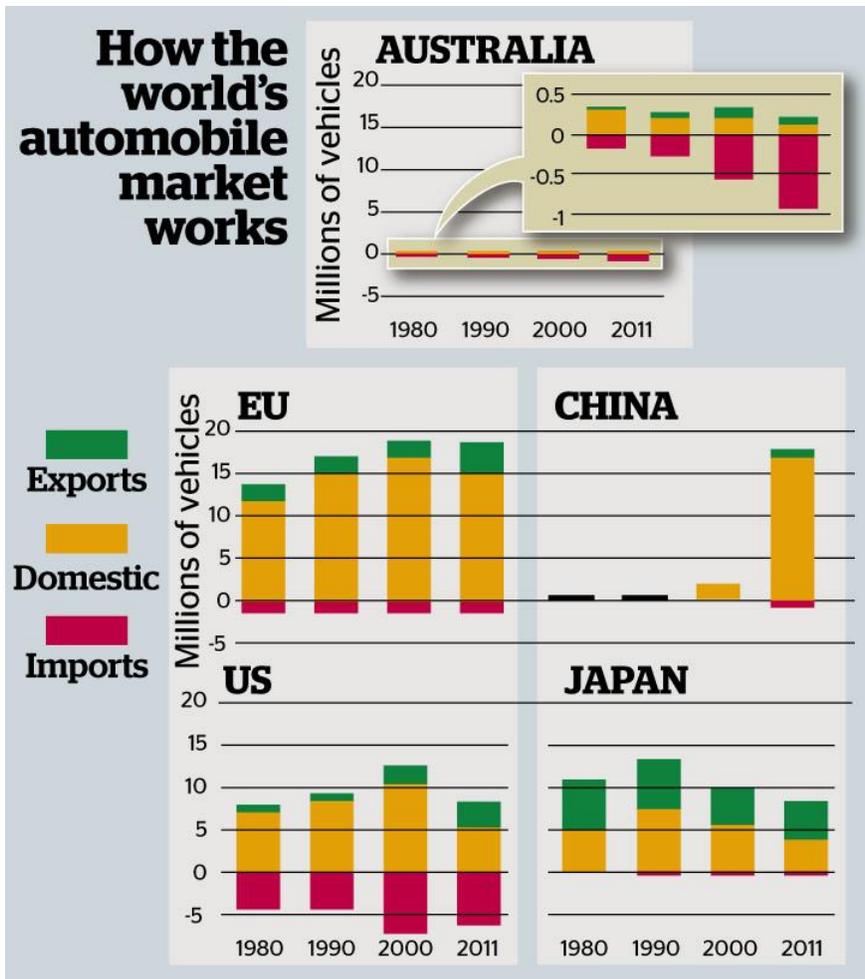
Automotive sector accounts for ~19% of all imports in Australia. In 2015, Australian import of automotive vehicles was \$24.9 Bn. With a 10-year CAGR of 20%, it is one of the fastest growing import segments in Australia. Hence, an FTA between India and Australia could provide an immense opportunity for India to make inroads into the Australian automotive market and benefit from the FTA.

3.2 Automotive industry in Australia

The automotive industry in Australia has been one of the most advanced industries with sophisticated manufacturing capabilities and technologies brought in by three multinational manufacturers – Ford, General Motors Holden (GMH) and Toyota. There are also hundreds of component manufacturers comprising small businesses as well as subsidiaries of large multinational companies such as Bosch.

However, the industry has an uncertain future with Ford ceasing manufacturing in Australia in 2016, and Holden and Toyota planning to cease manufacturing by 2017^v, which will further influence the entire local supply chain. Automotive sector in Australia has declined in the last few years. Local production volumes reduced by 50% from 2004 to 2012. Exports also went down from 142K units in 2005 to 89K units in 2012. The contraction of the industry can be attributed to Government's policy to make Australian automobile market the least protected in the world. By 1980s, the manufacturing industry in Australia boomed as the industry was well-protected by high tariffs and import licenses, which acted as significant barriers to imported vehicles. In 1984, Australia eliminated import licenses and gradually started to reduce import duties. This left the local carmakers and their suppliers unprotected against competition from imports. Domestic manufacturing proved expensive due to high labour cost, and exports becoming unviable due to appreciation of Australian dollar from 80 cents to \$1.05 United States. From 1990 to 2011, there was a drastic decline in domestic manufacturing as well as exports in the automotive sector in Australia, making Australia a major importer in the automotive sector.

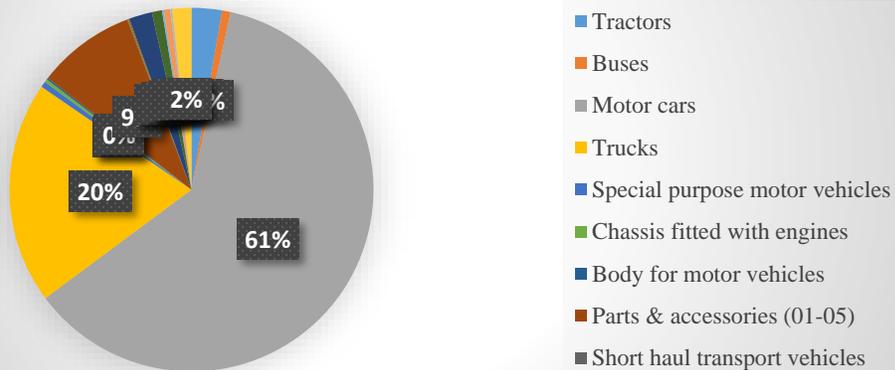




3.3 Automotive imports in Australia

Australia is the 12th largest importer of goods in the automotive sector in the world^{vi}. The country imported \$24Bn and exported \$2.5Bn in the year 2015 in the automotive sector^{vii}. Motor cars dominate the imports in this sector with 60% of import value, followed by trucks at 20%. The figure below shows the break-up of Australia's imports in the automotive sector. The imports in automobile sector in Australia is highly concentrated with ~76% imports coming from top five countries (Table below shows the concentration in Australia's imports across different categories in the auto sector). Further, 69% of the imports come from countries with whom Australia has signed an FTA. Thailand is one of the major beneficiaries of the FTA between Australia and Thailand, and is the second largest country in terms of exporting goods to Australia in this sector (worth \$4.7Bn). Based on market size of Australia's imports and India's world rank in the product, detailed analysis on the speculative impact of Indo-Aus FTA is conducted on selected products.

Australia's Imports in Automobile



Products	Concentration
Tractors	Top 5 constitute 76% US, Germany, France, Japan, Italy
Buses	Top 5 constitute 97% Japan, China, Brazil, Malaysia, UK
Motor cars	Top 5 constitute 80% Japan (2, 32%), Germany (1, 15%), USA(3, 12%), Rep. of Korea (6, 11%), Thailand(14, 10%)
Trucks	Top 5 constitute 91% Thailand(5, 59%), Japan(4, 19%), USA(2, 6%), Argentina(11, 4%), Germany(3, 3%)
Special purpose motor vehicles	Top 5 constitute 81% Germany, USA, Italy, Austria, New Zealand
Chassis fitted with engines	Top 4 constitute 95% Sweden, Spain, Brazil, Germany
Body for motor vehicles	Top 5 constitute 89% China, Thailand, USA, UK, Italy
Parts & accessories (01-05)	Top 5 constitute 68% USA(2, 20%), China(4, 15%), Japan(3, 13%), Thailand(12, 11%), Germany(1, 8%)
Short haul transport vehicles	Top 5 constitute 85% USA, France, Netherlands, Germany, Finland
Tanks and armored vehicles	Top 5 constitute 84% USA, UK, Germany, Israel, France
Two-wheelers	Top 5 constitute 74% Japan, USA, Austria, Thailand, Italy
Bicycles	Top 5 constitute 96% China, Other Asia, Germany, USA, Italy
Carriages for disabled	Top 5 constitute 87% USA, Other Asia, China, Germany, Canada
Parts & accessories (11-13)	Top 5 constitute 77% USA, Other Asia, China, Italy, Japan
Baby carriages and parts thereof.	China constitute 90% of market
Trailers	Top 5 constitute 84% China, USA, Germany, Hungary, UK

3.4 Automotive products (HS code 87)

A Revealed Comparative Advantage (RCA) analysis at HS 2 level indicates that India's RCA with respect to both the world as well as Australia is less than one, which suggests that India is not very competitive in this segment. However, a deep-dive into the automotive segment at HS 4 level indicates that India excels at the world stage in many segments of the automotive market. India's world rank is 3 in the Two Wheeler segment (8711), 4 in Chassis Fitted with Engines (8706), 10 in Armored Vehicles (8710) and 10 in Parts and Accessories (8714). Furthermore, at HS 6 level as well, India is extremely competitive in the world in the automotive sector.

In the following sections, we have explored areas for synergy where India has a huge competitive advantage in the world and Australia's import needs are large. A preferential treatment through an FTA might help favor Indian exports in the Australian market.

HS 4 Code	Product	Imports by Australia	% Penetration of India in Australia's Imports	Rank of India in World (exports)	Rank of India in Australia
8701	Tractors	672,589,931	2.02%	13	12
8702	Buses	191,733,283	0.01%	12	NA
8703	Motor cars	15,298,487,182	0.55%	18	15
8704	Trucks	4,929,296,925	0.08%	20	21
8705	Special purpose motor vehicles	127,702,143	0.00%	25	NA
8706	Chassis fitted with engines	69,542,752	0.01%	4	NA
8707	Body for motor vehicles	37,045,361	0.00%	27	NA
8708	Parts & accessories (01-05)	2,177,475,877	0.82%	20	17
8709	Short haul transport vehicles	17,495,157	0.19%	18	16
8710	Tanks and armoured vehicles	30,402,709	0.00%	10	NA
8711	Two-wheelers	512,925,855	2.55%	3	9
8712	Bicycles	224,679,352	0.00%	21	22
8713	Carriages for disabled	40,173,874	0.07%	16	25
8714	Parts & accessories (11-13)	140,801,446	0.20%	10	26
8715	Baby carriages and parts thereof.	45,806,980	0.02%	42	NA
8716	Trailers	420,166,579	0.68%	33	12

3.4.1 Motor Cars

Australia imports 61% of motor cars from around the world, 80% of which comes from Japan, Germany, USA, Korea and Thailand. India's rank is 18 in the world and 15 in Australia in products in terms of Motor Cars exports. An India-Australia FTA can help India make inroads in the Australian market in the following segments in the Motor Cars category.

HS 6	Reasons
870321 (Engines with capacity less than 1000cc)	The world rank for India and Thailand in this category is 7 and 11 respectively. However, Thailand exports are close to 5 times Indian exports in Australia. This indicates that a potential FTA between India & Australia could significantly boost Indian exports in Australian market.
870322 (Engines with capacity between 1000cc & 1500 cc)	India and Thailand rank at 11 and 10 respectively in the world exports for this segment. However, in the Australian market, Thailand exports close to 4 times the products exported by India. This again indicates that Thailand is benefiting significantly because of its FTA with Australia. India can advantage from an FTA along the lines of FTA with Thailand.
870331 (Engines for diesel cars with capacity between less than 1500 cc)	India and USA rank at 14 and 27 respectively in the world exports for this segment. US exports to Australia are 2.4 times Indian exports. Australia has an FTA with USA, which could be the reason for the disproportionate exports of USA in Australia.

3.4.2 Trucks

This segment constitutes 20% of Australian imports in the automotive sector at ~\$5 Bn. Top 5 exporters to Australia in this segment are Japan, Germany, Thailand, USA and Argentina, which constitute close to 90% Australian exports. India is again ranks 18 in the world and 15 in Australia with close to zero penetration in Australia in the trucks category. An analysis at HS-6 level showed that India ranks lower than the top 5 exporters in almost all the products segments in this category. This suggests that an India might not be able to leverage an FTA with Australia in the Trucks category.

3.4.3 Parts and Accessories

The segment constitutes 9% of the total imports value in the auto sector for Australia. Australia is a net importer in this segment. The country imports \$2.2Bn and exports \$0.5Bn worth of goods. The imports from top 5 countries - USA, China, Japan, Thailand and Germany – constitute 68% of total imports value of the goods. Even though Thailand is rank 12 in the world in terms of exports in this segment, its share in Australia's imports in the segment is 11%. There are 2 products where India can benefit if the FTA is signed with Australia.

HS 6	Reasons
870810 (-Bumpers and parts thereof)	Australia imports for this product is ~\$100 M. India's export rank in the world is 13 whereas Thailand's rank is 17, India's total exports to the world is 165% more than that of Thailand's exports. But still due to FTA, Thailand has ~24% share in Australia's total imports, as compared to India's meagre ~2% share.
870880 (Suspension systems and parts thereof (including shock-absorbers))	Australia imports for this product is ~\$128 M. India's export rank in the world is 20 whereas Thailand's rank is 18. FTA with Australia has helped Thailand increase its share in Australia (~24%) while India share is just ~2% of Australia's total imports.

3.4.4 Two Wheelers

Australia imports \$513Mn worth of two-wheelers, which accounts for 2% of its overall imports in the automotive sector. Indian is ranked 9 among all Two Wheelers exporters to Australia and Indian penetration in the Australian market is 2.55% despite the fact that India is ranked at number 3 on the world stage in this category. The imports from top 5 countries – Japan, US, Austria, Thailand and Italy comprise 74% of total imports for this category. A deep dive in this category indicated that Japan and Thailand have benefited significantly due to their FTAs with Australia. An Australia-India FTA could help India gain some market share from Japan and Thailand in the following product segment.

HS 6	Reasons
871120 (-internal combustion piston engine of a cylinder capacity between 50 cc and 250 cc)	Australian imports for this product are ~\$87 M. India is very competitive in this market and is ranked at 2 in the world. India exports \$631Mn to the world whereas Japan (world rank 4) exports \$347 M and Thailand (world rank 3) exports \$283Mn to the world. In contrast, India's exports to Australia are a meagre ~\$1M compared to Japan and Thailand's exports of \$29 M and \$8M respectively. This huge mismatch between India's exporting capability at the world stage and its actual exports in Australia compared with Japan, and Thailand suggests that these countries have gained share in the Australian market due to their FTA with Australia. A similar FTA between India and Australia could help India gain substantial market share in Australia.

3.4.5 Tractors

Australian imports for products in this category account for \$672 M of total imports in the auto sector. The top 5 exporters to Australia- US, Germany, France, Japan and Italy control 76% of total exports to Australia. India ranks 12 in Australia and 13 in the world in this category and its penetration in the Australian market is 2%. A deep dive at HS-6 level showed that India is not very competitive in any segment in this category and an FTA might not be very helpful in increasing India's exports.

3.5 Price Sensitivity Analysis

A sensitivity analysis was conducted to understand how a reduction in tariff rates from the current levels of 10% to 0% for Indian exports to Australia would affect the volume of exports. A closer analysis at HS 6 level showed that price was not the direct indicator of sales volume. For instance, unit price in Australia for the Two Wheelers segment -871120 (internal combustion piston engine of a cylinder capacity between 50 cc and 250 cc) was USD 1765 for Indian exports whereas for exports from Thailand it was USD 1992 and for Japan it was USD 3000 in 2015. Despite having the lowest unit price, Indian export volumes are much lower than Japan and Thailand. This indicates that non-tariff barriers could be the major drivers of exports of automotive to Australia.

Price analysis for 871120 (-internal combustion piston engine of a cylinder capacity between 50 cc and 250 cc) segment in Two Wheelers

Country	Units	Trade Value	Price/Unit
Australia	5	16665	3333
Austria	3025	14675046	4851
India	533	940724	1765

Italy	403	1151304	2857
Japan	9985	29968724	3001
Thailand	3891	7749614	1992
USA	238	1008007	4235

3.6 Non-Tariff Barrier to trade

3.6.1 Technical barriers to trade

To address the issue of technical barriers to trade in automotive industry, the United Nations Economic Commission for Europe (UNECE) formed a working party called the World Forum for Harmonization of Vehicle Regulations (WP. 29). In this regard, two agreements were proposed in 1958 and 1998 concerning the adoption of uniform technical standards in the automotive segment. India is a signatory of the 1998 agreement.

UNECE – “1958 Agreement”

The intent of the agreements was to minimize technical barriers to trade, and allow automotive products manufactured at any location and conforming to world standards to be traded to any location in the world. Further, a nation can have its own standards depending on country custom factors. An implication of having common standards can be pervasion of industries in developing and under-developed countries by developed world’s automotive industry.

The 1958 Agreement required all signatories to conform to common set of standards decided based on 2/3rd majority. The signatories cannot refuse to import vehicles conforming to the decided standards from anywhere in the world. There is no consideration given to technology gaps that existed amongst the signatories. Hence, India and many other countries like the US didn’t sign this agreement, whereas Japan, South Korea etc., where automotive industry was highly advanced, were prime signatories of the agreement. The European Union also formed a major part of the membership, although the decision on standards were driven mainly by Japan. The EU has seen significant advancement in automotive technology driven by joint collaboration with Japan.

WP. 29 “1998 Agreement”

The 1998 Agreement was initiated by the US in parallel with the 1958 Agreement aiming for a more democratic method of formulating regulations. Under the 1998 Agreement, regulations were passed through consensus with veto power given to every country. Although, the agreement will have a slow progress, it will provide developing and under-developed countries (w.r.t automotive industry) time to upgrade their technologies. India can maintain its own sets of technical standards in addition to the regulations under the 1998 agreement.

Technical Barriers to Trade Case Study 1: US and Korea

Korean regulators in 2013 conducted a safety test of the sunroofs of all automobile manufacturers in response to the consumer complaints. Korea’s testing methodology deviated significantly from the methodology prescribed in the Global Technical Regulations (GTR) developed by UNECE WP. 29 under the 1998 Agreement which raised concerns from both domestic and import vehicle manufacturers. These tests were conducted in a manner that biases the test in the favor of finding failure in the vehicles. This suggests use of testing standards by countries to create barriers to entry.

Technical Barriers to Trade Case Study 2: US and China

China requires a single safety mark called the China Compulsory Certification (CCC) for both domestic and imported products. The testing for all such products are required to be conducted in China. The U.S. exporters, as a result of this requirement, submit their products to Chinese labs for testing even if the testing has already been conducted elsewhere. This leads to increase in expenses and time to enter the market for the exporters. China has categorically taken a stand that it will recognize the certification (conformity assessment) bodies of a particular country signatory only if it negotiates an MRA with China.

India also requires import vehicles to be tested by ARAI. India is under no obligation to accept the certificates of compliance of other countries. However, there are certain provisions available with DGFT that may permit import and subsequent registration of such vehicle under specified conditions by DGFT.

India-Australia FTA

While examining the trade in automotive sector across India and Australia, two technical trade barriers exist:

- For Australian exporters, as India (not a member of 1958 Agreement) maintains its own unique technical standards in addition to those listed in 1998 Agreement
- For Indian exporters, who need to get their products tested for certification by Australian testing agencies

The 1958 Agreement had mutual recognition of testing certificates as part of its agenda, i.e., a certificate issued by a testing agency of any member should be acceptable to any other signatory nation. Thailand being a signatory of the 1958 Agreement gained a lot by the tariff reduction resulting from the FTA with Australia.

The above listed barriers will be solved once India signs the 1958 Agreement. However, this is unlikely in the near future as it can significantly influence the local industries in India, which are technically less sophisticated.

3.6.2 Other Non-Tariff Barriers

Apart from technical regulations, many other non-tariff barriers impact Indian exports to Australia as well as to the world. A report published by Ford mentions that India faces the following non-tariff barriers – Customs Procedures, Customs Valuation, Tax Structure, Intellectual Property Rights and Investment related regulations^{viii}.

3.6.3 Addressing Non-Tariff Barriers

While an FTA is not likely to reduce the problems of Australian exporters, the agenda of mutual recognition of testing certificates (vehicles conforming to world standards tested by the Bureau of Indian Standards should be acceptable to Australia) should be included in the negotiations to aid Indian exporters.

NATRIP (National Automotive Testing and R&D Infrastructure Project) is an initiative by the Government of India to set up automotive testing facilities across India. The project seeks to develop ‘state-of-art’ testing, validation and R&D infrastructure along with world-class export homologation facilities in India. Under NATRIP, an investment of over Rs. 2,200 crores has been made to set up 7 centers across India – Ahmednagar, Silchar, Raebareli, Pune, Manesar, Chennai and Indore^{ix}. The facility will ensure domestic vehicles being tested for global standards before exports in India, thereby reducing the time and cost of certification. Currently, NATRIP has a tie-up with UK-based Vehicle Certification Agency for certifying India’s exports to European countries. With the establishment of these centers across India, the exporters may expect to get certification for their products customized to the requirements of the destination country. However, an MRA with the destination country will still be required for recognition of testing results

certified by NATRIP centers. India currently has MRA with only 2 countries – Pakistan and Sri-Lanka. The testing for exports to destination countries in India currently happens either through tie-up agencies or in presence of foreign regulators, which increases time and cost.

3.7 Competition from Thailand imports

Thailand exported \$4.7B of automotive products to Australia in 2015, which is close to 19% of all auto exports to Australia. It ranks among the top 5 exporters to Australia in 5 out of 16 segments in the Vehicles Category (Level 2 HS Code 87). India on the other hand exported less than 1% of all auto exports to Australia in 2015 despite ranking well in the world in many segments in the Automotive Category. In the following sections, we have tried to understand the factors that led to the growth of automotive sector in Thailand. We have also looked at how Thailand was able to become one of the top exporters to Australia in the auto sector.

3.7.1 Growth of Automobile Sector in Thailand

Thailand followed import substitution strategy in the early years (1960-1985) of growth of Automobile sector and moved to global expansion through exports in the later years^x. Before 1985, Thailand incentivized foreign and domestic carmakers to set up assembly plants through very strong tariff protection, sometimes as high as 80%. It imposed local content requirements to promote the manufacturers of small parts and accessories. Rebates were provided on imports of those products that were used as inputs in export vehicles to promote exports. Similarly, tax exemptions were provided to domestic manufacturers who supplied product for export-oriented vehicles. Overall, these policies boosted the growth of the domestic automotive market in Thailand as well as brought in FDI by providing incentives to multinational carmakers to manufacture in Thailand. Thailand's no national car policy as well as almost equal treatment to both local and foreign firms made it the hub of automotive industry.

Post 1985, Thailand slowly removed all these restrictions one-step at a time. Local content requirements were relaxed. Quantitative import restrictions were replaced by higher tariffs. Certain category of products like pick-up trucks were exempted from excise taxes. Thailand thus moved from a protectionist philosophy to open competition.

3.7.2 Thailand-Australia Relationship

Thailand and Australia signed an FTA in January 2005, which significantly increased bilateral trade between the two countries. The manner in which Thailand advantaged from this FTA is discussed in the next section. However, even before an FTA was signed between the two countries, Thailand was able to export large volumes of automotive to Australia because of an MRA that was signed between the Thai Industrial Standards Institute (TISI) and the Australian Department of Transport and Regional Services (DoTARS). Under this MRA, each country recognized the equivalence of accreditations granted by its overseas counterpart. This reduced the need for re-testing, re-calibration or re-inspection of products or re-certification of reference materials in the importing country and saved time and money for the exporter. Moreover, both Thailand and Australia are signatories to the 1958 agreement, which provides for mutual recognition of Approvals.

3.7.3 How Thailand used the Thailand-Australia FTA to its advantage

The Thailand-Australia FTA was expected to boost Australia-Thailand automotive trade. There was a substantial complementarity as Australia had manufacturing capability in large vehicles and Thailand in smaller vehicles and pick-up trucks. However, following TAFTA, Thailand introduced an excise system based on capacity of engines. Therefore, Australia's large vehicles started facing a tax as high as 50% up from 29% before the TAFTA was signed. To boost exports of pick-up trucks, Thailand introduced a new category called Pick-Up Passenger Vehicle (PPV) for which the excise rate was only 20%. Other taxes like

interior taxes and VAT are also applicable on Australian exports to Thailand. According to a report from *Federation of Automotive Products Manufacture*, in 2013, a *Ford Territory Titanium* was listed at USD 62.7K in Australia and USD 101K in Thailand^{xi}. Thailand effectively used Excise duties to gain advantage from the FTA. Firstly, as Excise duties were not a part of the FTA, Thailand Government did not violate the FTA with Australia. In general, excise duties are not covered in FTAs as they fall in the domain of domestic policy of the governments. Secondly, Thailand Government had applied excise on all vehicles - imports as well as locally manufactured. Again, legally they were sound. (However, selective discrimination was built in this excise system as excise duty depended on the capacity of the engine. Thailand manufactured products were of lower capacity and faced excise between 3-20% whereas Australian vehicles were of larger capacity and faced excise duty in the range of 40-50%.

3.8 Conclusion for auto industry

Auto industry in India is one of the largest in the world. Automobiles and ancillaries account for 14% of India's GDP. India is a prominent exporter in this industry owing to its low manufacturing cost and good quality. With the recent thrust by Govt. of India for "Make In India" products, India has the potential to become the export hub for various automakers. European firms have started investing in India to serve global markets from India. Volvo and Scania have set up manufacturing facilities in Karnataka to export fully-built buses to Europe. Passenger car makers like Suzuki and Hyundai are already exporting small cars to Europe, heavy-duty commercial vehicles manufacturers are trying to make India the export hub for European markets. India is also emerging as an export hub for SUVs. Mahindra & Mahindra has started exporting XUV500 to Europe and Australia. Fiat Chrysler Automobiles plans to invest Rs. 1,500-2,000 crore to manufacture luxury SUVs and export it to key markets including UK, Australia and South Africa.

With a growing auto industry, an FTA with Australia would certainly benefit India in this sector. Australia currently imposes 10% tariffs on Indian imports in the sector. An FTA will reduce this tariff barrier, but true trade competitiveness will come only through non-tariff barriers. Due to the presence of tariff as well as non-tariff barriers, the Indian exports to Australia constitute just 0.54% of total Australian imports in the sector. Thailand is one of the major beneficiaries of the FTA with Australia, with ~0% tariffs and a mutual recognition agreement in the sector. Thailand has managed to manufacture high quality goods at low cost and the auto sector in Thailand is significantly driven by FDI inflows from Japan.

An FTA with Australia is expected to be beneficial for products where India has high competitiveness w.r.t Thailand in terms of quality and cost, and primarily non-tariff barriers are preventing India from penetrating in the Australian market. Based on the auto sector analysis, an FTA or to start with, an MRA with Australia can help increase India's exports to Australia in small cars, parts & accessories (mainly bumpers and suspension) and two-wheelers segment where India has high competitiveness (based on exports to the world), and is not able to penetrate due to non-tariffs barriers. Further, FDI from Australia could help with India's Make in India program as well as improve productivity of the Indian auto sector.

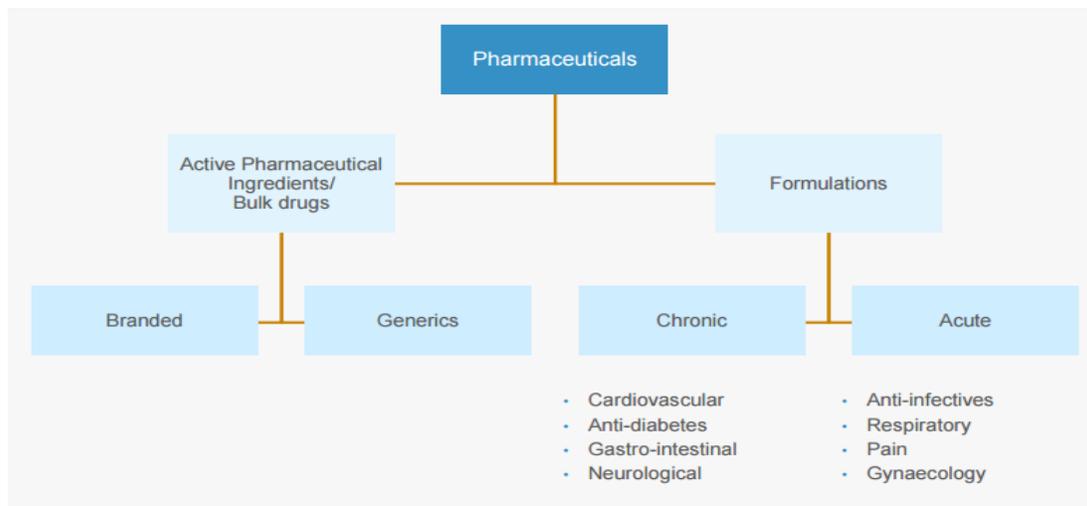
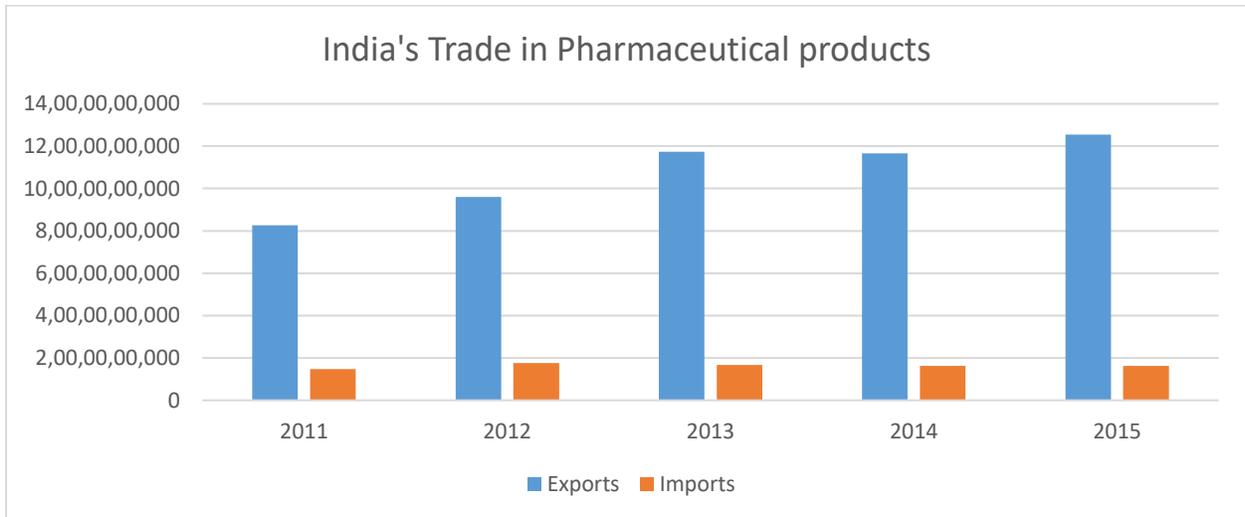
The existing FTAs of Australia with China and Thailand pose a great threat for India even if the FTA is signed. Both these countries have already captured significant share of total imports to Australia in the auto sector. Even though automobile is a lucrative export sector for India as part of FTA, it will be difficult to penetrate in Australia as Indian products will directly compete with the low cost products from China and Thailand.

4. Pharmaceutical Sectoral Narrative



4.1 India pharma industry overview

India is a leading producer of pharmaceutical products in the world accounting for 10% of global production. The pharma sector is one of the most important sectors for India in terms of exports and in addressing the needs of domestic population. Indian pharma companies are considered crucial to make affordable drugs available in developing countries. The industry generated ~USD 12 Bn worth of export revenues for India, and currently accounts for 20% of global exports in generics. Indian drugs are exported to over 200 countries in the world, with US being the top importer. India is a net exporter in pharmaceutical products, with a trade surplus of ~\$11 Bn. The exports have witness high growth rate of 8.7% during 2011-15.



The history of pharma industry in India can be divided into two periods –

- Pre-patent phase (till 2005)
- Post-patent phase (post 2005)

The expertise in reverse-engineering and generics production that India has developed can be directly attributed to the Indian Patents Act 1970, which allowed only process patents. This played a major role in shaping the industry by allowing the rapid growth of the generics industry in India to not only meet domestic

demand for low-priced drugs, but also export cheaper drugs to the developing countries. The Government also imposed strict import barriers through high tariffs on finished formulations and price controls.

In 2005, Indian Government passed an ordinance to introduce product patents owing to its commitments to WTO. The process patent regime helped India develop a world class generics industry, the product patent regime aims to facilitate new-drug discoveries in the long term. The regime saw re-entry by MNCs, who had left India during 1970s, in not only the manufacturing segment, but also in R&D (including clinical trials). From 2005, India has witnessed a handful of patented product launches by Pfizer, GSK and Roche. During 2009-15, 3043 clinical trials have been carried out in India.

4.1.1 Trade

India is expected to be the 3rd largest generic API merchant in the world by 2017. India is the largest exporter of formulations in terms of volume with a 14% market share. The low cost of production and R&D is an important competitive advantage for Indian pharma companies. India's cost of production is ~50-60% lower than that of US and Europe. This also makes India one of the attractive destinations for FDI. From 2000 till date, the industry has witnessed a cumulative FDI inflows worth USD 13.32 billion.

India is currently ranked 10 in the world w.r.t to exports in pharmaceutical products, with US being the major destination for exports.

The exports are also driven by other macro factors in the pharmaceutical industry:

- Patent expiry will lead to increased dependence on generics production
- Slow-down in invention/discovery of new compounds in developed nations
- Political pressure in developed countries to reduce healthcare expenditures

Indian companies are perfectly placed to capture the growth opportunities in generics production due to patent expiry. Indian pharma industry account for the second largest number of ANDAs (Abbreviated New Drug Applications), and is the global leader in Drug Master Files (DMFs) applications with the US. The exports is expected witness a double digit growth. India can also become a major manufacturing hub for generics production. There are 546 sites in India which are registered at USFDA. India accounts for 22 per cent of overall USFDA approved plants.

4.2 Australia pharma industry overview

The pharmaceutical industry in Australia is an advanced and innovative industry, with exports of \$2 billion in 2015-16. It has presence of around 50 global research based pharmaceutical companies, and employs 15,000 people in product manufacturing. The industry is the biggest investor in R&D with over \$400 million expenditure in 2011-12.

All products for therapeutic use are required to be approved by the Therapeutic Goods Administration (TGA), which is an agency within the Commonwealth Department of Health and Ageing. However, the Australian government has collaborated with the industry to provide subsidies to over 3000 medicines through the Pharmaceutical Benefits Scheme (PBS), which accounts for ~80% market share for medicines in Australia. The PBS acts as insurer as well as purchaser who negotiates prices of the medicines with the suppliers.

Both exports and imports have declined in Australia in 2011-15 with exports declining at a rate of 14.4%. Australia is currently ranked 23rd in the world w.r.t exports in the sector. This decline has highlighted the challenges and struggles faced by the local industry to remain competitive in the global pharmaceutical

industry. To support the industry, the government is finding out solutions to attract FDIs in the sector which has dried up in the recent years.



4.3 Trade prospects and challenges

4.3.1 Overview

The pharmaceutical sector contributes to ~6% of India’s overall exports to Australia. India has a poor penetration in the sector, with most of the exports dominated by Germany, USA and Switzerland, who are also the top 3 countries in terms of world exports. India’s exports to Australia in the sector have increased at a rate of 11.5% in 2011-15. For Australia, exports to India have declined at a rate of 6.8%, which is consistent with the exports decline in Australia in the sector. Both Australia and India are currently not significant trade partners in the pharmaceutical sector with overall trade amounting to ~\$212 Mn (1.4% of total merchandise trade).



4.3.2 HS 4 Level Analysis

Australia imported pharmaceutical products worth \$210 Mn from India in 2015, which was approximately 3% of Australia's pharmaceutical imports from the world at \$7.25 Bn. The HS 4 level analysis showed that India is not a primary importer for Australia in any segment. India's penetration in Australia varies from 0% to 4% in all segments of pharmaceuticals.

HS 4 Level	3001	3002	3003	3004	3005	3006
<i>Description</i>	<i>Glands & Other Organs</i>	<i>Human & Animal Blood</i>	<i>Medicaments not put up in measured doses or in forms or packings for retail sale.</i>	<i>Medicaments put up in measured doses or in forms or packings for retail sale.</i>	<i>Wadding, Gauze, & Bandages</i>	<i>Pharmaceutical goods specified in Note 4</i>
Australia imports from India (Mn)	0	0.59	0.66	207.36	1.60	0.61
Australia imports from the World (Mn)	24.34	1384.70	44.40	5451.24	152.10	200.27
Top 5 Importers to Australia & their Penetration	US (27%), Germany (23%), Switzerland (17%), UK (9%), Netherlands (7%)	US (22%), Belgium (13%), Germany (13%), Ireland (12%), Switzerland (11%)	Spain (31%), Ireland (17%), Germany (15%), US (12%), Austria (7%)	Germany (16%), Switzerland (13%), US (12%), Ireland (10%), France (7%)	China (25%), US (15%), UK (14%), Finland (10%), Other Asian Countries (4%)	US (27%), Germany (19%), Ireland (9%), China (7%), Netherlands (6%)
India's Rank and penetration in Australia	NA	25 (~0%)	9 (1.5%)	9 (3.8%)	16 (1%)	19 (~0%)

4.3.3 HS 6 Level Analysis

India has highest penetration at 3.8% in HS 3004 segment i.e. *Medicaments put up in measured doses or in forms or packings for retail sale*. This is also the largest import segment of Australia at \$ 5.45 Bn. Further analysis of HS 3004 segment revealed that the top exporters of pharmaceuticals in Australia were also the top exporters of pharmaceuticals in the world. For instance, top 5 exporters of Medicaments containing hormones but not antibiotics (HS 300440) in Australia in 2015 were United Kingdom, Germany, India, US and France. In the same year, the top 5 exporters of HS 300440 products in the world were Germany, US, UK, France and Italy. This could indicate that Australia doesn't give preferential treatment to any country in the pharmaceutical sector.

HS 6 Level	Top 5 exporters in Australia (# World Rank)
300410	Canada (8), Austria (2), India (3), Italy (4), UK (1)
300420	US (5), France (2), Italy (5), Germany (4), India (7)
300432	Spain (6), France (1), Belgium (4), Sweden (2), US (7)
300439	Ireland (11), Italy (4), US (9), Denmark, Austria (6)
300440	UK (2), Germany (1), India (14), US (2), France (4)
300450	Indonesia, Netherlands (8), China (21), US (2), Germany (1)
300490	Germany (1), Switzerland (2), US (4), Ireland (6), France (7)

* Top 5 exporters to Australia were found by using imports as reported by Australia

* World Rank was calculated by using exports as reported by the respective country

4.3.4 Tariff related barriers to trade

From the health perspective, a strong push has been made at the international level to remove tariffs on essential pharmaceutical products. According to a global health council report,

1. Close to 40% countries don't impose any tariff on finished pharmaceuticals.
2. 76% countries impose tariffs of less than 10%.
3. Mean tariff of all countries is close to 5%.
4. Pharma tariffs comprise less than 0.1% GDP in 92% countries.

India is one of few countries in the world which still imposes a tariff on pharma imports. A tariff of 10% is imposed by India on pharmaceuticals^{xii}. On the other hand, Australia imposes a tariff of 5% on some categories of pharmaceutical products and zero tariffs on others^{xiii}.

4.3.5 Non-Tariff barriers to trade

Several NTBs exist in the pharma industry. For example, Indian pharma exports to Japan are less than 1% of the Japanese pharma market due to tedious registration processes, which make it very difficult for Indian products to be sold in Japan. Other NTBs include stringent testing and certification procedures. However, there don't seem to be any major non-tariff barriers between India and Australia. In its FTA discussions, Australia is insisting on lower tariff rates for imports into India and there is no mention of non-tariff barriers from either side.

4.4 Recommendations

Automatic Approvals for Indian Facilities Recognised by Countries with Mutual Recognition Agreements

There is a mutual acceptance between USA and Australia for pharma products manufactured in either country. There are several pharmaceutical products in India, which are approved by the US FDA. Further the manufacturing sites have also been approved by the US FDA after plant inspections. However, these products will still need an approval by the Australian authorities for export to Australia. A case can be made for automatic approval for all Indian products approved by the US FDA to be approved in Australia as well without any plant inspection by authorities. Such a provision can be placed in the FTA between India and Australia. Similarly, Indian facilities approved by the EU or any other eminent country should also be recognized by the Australian regulatory authorities.

Exploring Clinical Trials as an emerging opportunity

India can be a major location for conducting clinical trials. So far only around 1% of all global clinical trials have been done in India. India, with a genetically diverse population and presence of skilled doctors, has the potential to attract investments to become leader in the clinical trials market. Many international Clinical Research Organizations (CROs) have set up base in India to expand their clinical research programs. Drug Controller General of India (DCGI) which is similar to the USFDA is the governing body responsible for all pharmaceutical-research and regulatory issues in India. A notable step has been taken in the direction of conducting clinical trials by launching online Clinical Trial Registry –India (CTRI). This facility ensures that all clinical trials remain transparent and in the public domain. This will ensure that exploitation of Indians due to poverty, illiteracy and unawareness does not take place.



Figure 1: Trend of clinical trial approval in India from 2007 - 2014.

5. Healthcare Services Sectoral Narrative



5.1 Services trade overview

Trade in healthcare sector can be divided in four modes based General Agreement on Trade in Services definitions:

1. **Cross border delivery of trade (Mode 1):** These includes telemedicines, tediagnosis and variety of telehealth services.
2. **Consumption of health services abroad (Mode 2):** Under this mode, patients go abroad for healthcare services either in developed countries for superior treatment or to less developed country for lower cost. Countries are focusing on promoting medical tourism to attract patients from foreign countries.
3. **Commercial presence (Mode 3):** This includes foreign direct investment (FDI) and establishment of hospitals in foreign countries.
4. **Movement of Health personnel (Mode 4):** Temporary and permanent movement of healthcare professionals to other countries.

5.2 Cross border delivery of trade (Mode 1):

5.2.1 Telehealth

Telehealth is the use of information technology to provide medical care to patients in remote areas. The International Organisation for Standardisation defines Telehealth as the “use of telecommunication techniques for the purpose of providing telemedicine, medical education, and health education over a distance”^{xiv}. Telehealth includes diagnosing the disease, providing treatment services and educating the care providers on how to prevent diseases. Exchange of images, data and information is done through various telecommunication services like video conferencing, email etc.

Telehealth has several benefits like

1. Increasing access to medical care in remote areas
2. Removing the need for a sick patient, healthcare professional or educator to travel
3. Reducing delivery time and costs of medical care
4. Providing support to patients with chronic condition
5. Educating and training health care workers in remote areas
6. Providing post-operative care

5.2.2 Need for Telehealth in Australia

The Australian government spends close to 10% of its GDP on providing medical care to its residents. There is a growing need to reduce this expenditure. Moreover, Australians in rural areas experience poor medical service compared to those in urban areas because of unavailability of primary health care services in rural areas. Even in metropolitan areas, patients have to wait for a long time to get elective procedures done because of shortage of doctors, nurses and medical facilities. According to a report by the Australian Institute of Health and Welfare, in 2014-2015, the median waiting time for patients for ENT (ear, nose and throat) surgery was 73 days. The median waiting time for Ophthalmology and Orthopedic surgeries was 70 and 64 days respectively. 10 percentile of the sampled population had to wait for 331 days before they could get a cataract surgery.

Telehealth can help reduce costs and improve access to medical facilities in both urban and rural areas. The Australian government recognises the potential of telehealth and has taken several initiatives to encourage the implementation of telehealth related facilities in Australia. They have rolled out a National Broadband Network to enable communication between health care providers and patients all over Australia. The Department of Health in Australia has launched several Telehealth Pilot programs. It has provided funding

to the tune of \$20.6 M to projects which aim to develop and deliver telehealth. These projects are focused towards providing palliative and cancer care services as well as services for the elderly in Australia.

5.2.3 Regulatory Barriers

Providing Telehealth has several regulatory barriers especially when medical care is provided across borders. Confidentiality, liability, insurance and other general norms of providing medical care are different in every country. There is a growing need to create a system where information can be shared between multiple countries to provide reliable treatment to the patients. The European Commission which is the executive body of European Union is trying to achieve this by implementing “interoperability” which will enable cross border connectivity and delivery of health care in EU. A similar step needs to be taken by other countries interested in promoting cross border delivery of healthcare.

5.2.4 Cross Border Telehealth by India

Several Indian companies are providing telehealth today in developed as well as developing countries. Apollo Hospitals provides telemedicine to 10 countries with a focus on stem cell research, clinical trials etc. Narayan Health, headquartered in Bangalore, India has 900 telemedicine centers in 60 countries. It provides close to 3,50,000 telehealth consultations annually^{xv}. Several start-ups like iCliniq and Practo are also involved in providing telehealth in India. Since India is one of the considerably advanced countries in the telehealth segment, there is potential for India as well as Australia to gain from each other’s strengths. Australia has advanced technology and India has a vast pool of qualified doctors.

5.2.5 Suggestions

1. An FTA between India and Australia can encourage the formation of a consortium of medical care, insurance and broadband service providers which will comprise members from Australia as well as India. This consortium will figure out how to remove the regulatory barriers in cross border telehealth between India and Australia.
2. Indian and Australian firms, which specialise in telehealth, can tie up with each other and provide telehealth in both countries. E.g. Narayan Health in India and Docto in Australia.

5.3 Consumption of health services abroad (Mode 2):

This mode can be referred to as Medical tourism, where patients travel abroad for medical care due to unavailability or unaffordability of certain medical procedures in their own country.

There are two different segments of medical tourism. The first segment travels to foreign country for better quality of medical care or due to unavailability of certain medical procedures in their own country. They may form the luxury segment of the economy. The other segment includes the price sensitive segment who travel for curative cure for lower cost of treatment.

5.3.1 Medical tourism in India

With increasing healthcare costs in developed nations, the medical tourism market in India is expected to double from current \$3 Bn (2015) to \$8 Bn by 2020. Although India receives medical tourists from across the globe, developing and underdeveloped nations like Bangladesh, Afghanistan and other neighbouring countries form a major share because of lack of quality healthcare infrastructure and skilled personnel in their own country, and also due to physical proximity and similarity in culture.

Cost is a major driver for the medical tourism followed by the number of accredited facilities in a country. This had led to a global medical tourism corridor - Thailand, India, Singapore, Malaysia, Taiwan, Mexico and Costa Rica. Amongst these health corridors, India ranks second in term of number of accredited facilities after Thailand.

Comparison of major medical tourism destinations in Asia

Country	Number of medical tourists (2012)	JCI accredited healthcare facilities ⁵⁷	Average saving % as compared to the U.S.	Popular treatment options
Thailand	25,30,000 ⁵⁸	37	50 to 75	Alternative medicine, cosmetic surgery, dental care, gender realignment, heart surgery, obesity surgery, oncology, and orthopaedics
India	1,70,000 ⁵⁹	21	65 to 90	Cardiology, orthopaedics, nephrology, oncology, and neuro surgery
Malaysia	6,71,000 ⁶⁰	13	65 to 80	Cardiology, oncology, orthopaedic, obstetrics, and gynaecology
Singapore <small>*None: Estimated values for Singapore</small>	4,94,000 ⁶¹	21	30 to 45	Cardiology, ophthalmology, oncology, and anti-ageing
Indonesia	NA	17	NA	Cosmetic surgery, and dentistry procedures
Taiwan	1,73,311 ⁶²	13	40 to 55	Orthopaedics, fertility treatment, cardiology, and cosmetic surgery

Figure 1: Source: KPMG - FICCI joint study on Medical Value Travel in India

5.3.2 Medical tourism and Australia

The medical tourism industry in Australia is fairly small compared to global market (0.001% of global medical tourists). As per a report commissioned by the Australian Government Department of Resources, Energy and Tourism, the industry's only competitive advantage was the high-quality of healthcare but it cannot compete on price. Many Australians are traveling to countries like Thailand, India, South Korea, Turkey and Malaysia for cosmetic surgery and complex dental work seeking for low cost treatments.

The Government of Australia spends close to 10% of the country's GDP on healthcare expenditures, which constitute ~70% of total healthcare spending in the country. This will put immense pressure on the Government to control healthcare spending and resort to medical tourism. United States face a similar situation where healthcare spending is ~16% of the country's GDP. One of the measures by the Obamacare Act was to lower the Government's spend in healthcare, as a result of which insurance companies resorted to medical tourism. In 2014, more than 1 million Americans travelled abroad for healthcare with Mexico being the popular destination. It is expected that Australia may also resort to similar means for reducing the healthcare spending.

5.3.3 Key drivers for medical tourism for India

- **Legal framework:** Visa process for medical tourists needs to be simplified. Patients are asked to personally report to Indian embassies with their medical reports and bank statements, with no special provision for availing wellness facilities. There needs to be a Government website that can serve as a one-stop window for enquiries by prospective medical tourists.
- **Cost effectiveness:** India has an edge over its peer in terms of cost competitiveness. The fall in Indian rupee as proved to be beneficial for medical travelers.

Procedure cost (US\$)	U.S.	Thailand	Singapore	Malaysia	U.A.E.	South Korea	Mexico	Costa Rica	India
Heart bypass	1,30,000	11,000	18,500	9,000	40,900	31,700	27,000	24,100	7,000
Heart valve replacement	1,60,000	10,000	12,500	9,000	50,600	42,000	30,000	30,000	9,500
Hip replacement	43,000	12,000	12,000	10,000	46,000	10,600	13,900	11,400	7,020
Knee replacement	40,000	10,000	13,000	8,000	40,200	11,800	14,900	10,700	9,200

Source: 'Indian Healthcare Services', J.P. Morgan, 12 March 2014, p2; 'Medical Tourism in India: Progress, Opportunities and Challenges', Madras School of Economics, Monograph 26/ 2013, March 2013, p21.

- **Quality of healthcare:** The Indian standards - NABH accreditation - is internationally accepted. However, there are only 60 hospitals accredited by NABH in India, which is not enough to cater to the healthcare demands.
- **Other opportunities:** Ayurveda, Unani and wellness therapy are some of the other opportunities that should be explored in parallel

5.3.4 Impact of an FTA

Medical tourism can be one of the chapters that can be included as part of the Indo-Australia FTA. Similar political cooperation agreements with SAARC countries have helped India attract medical tourists. With these treaties in place, there is a mutual consent to promote each other as medical tourism destinations. For e.g. Maldives has suggested that medical tourists coming to India can visit Maldives for rejuvenation purposes.

An FTA with Australia in place can increase medical tourism activity from Australia. Mutual recognition of accreditations can be part of the treaty, where the insurance providers in Australia can explore medical tourism tie-up with NABH accredited hospitals in India. This will be beneficial to both the parties; it will increase revenue for India and at the same time help in reducing cost for Australian Government.

5.4 Movement of Health personnel (Mode 4):

5.4.1 Shortage of Healthcare Providers

The requirement for healthcare providers- doctors and nurses in Australia is expected to increase in the next few years to service the growing proportion of old people as a result of increased life expectancy and lower fertility rates. Moreover, a wealthier middle class has increased the demand for advanced medical care. This has stressed the Australian Medical Care System. It has been estimated that Australia will face a shortage of 1,10,000 nurse and 2700 doctors by the year 2025. Currently, Australia is sourcing most of its shortage from Ireland. There is a potential for India to replace Ireland as the source of immigrants for short and long duration through favourable clauses in the FTA with Australia.

5.4.2 Recognition of qualifications

In Australia, International Medical Graduates seeking general registration in Australia need

1. A qualifying degree from an institute, which is recognised by Australian Medical Council and the World Directory of Medical Schools.
2. Training or assessment with an approved Competent Authority. (Medical Councils of UK, Canada, US, New Zealand and Ireland have been declared competent authorities.)

These international graduates have to follow a cumbersome bureaucratic process to register as general practitioners in Australia, which includes 12 months of supervised practice, as a provisionally registered candidate is required before a general practitioner certificate can be awarded to an International Graduate. Please see the table given below. Similar lengthy processes are applicable for registration as specialist practitioners as well.



Process for applying for general registration in Australia

Source: Medical Board of Australia

or

1. International graduates must take medical courses accredited by any of the 5 Competent Authorities mentioned above as these qualifications are considered to be comparable with Australian standards. For instance, healthcare providers in Australia hired 527 Irish healthcare workers in the year ending June 2014 to meet the expected shortage in the number of healthcare providers in Australia.

5.4.3 Recommendation

India has highly qualified medical providers and as mentioned above, Australia has a considerable shortage of medical professionals. India is in a position to fill this gap by providing medical consultation services to Australia. Indian doctors, nurses and other medical staff could visit Australia on deputation to fill the shortage in Australian medical system as well as earn revenue for India. This would require that the certifications of Indian medical providers is accepted in Australia. We suggest that India should do the following-

1. The Medical Council of India recognises 420 medical colleges in India. Out of these, 353 medical schools are listed in the World Directory of Medical Schools, which is an internationally recognised

database of medical schools all over the world. Almost all of these schools are recognised by the Australian Medical Council^{xvi}. This means that a considerable number of Indian doctors are eligible for practicing medicine in Australia except for the registration formalities, which act as an indirect barrier. Through an FTA, we can push for simpler registration processes as well as a shorter duration of supervised practice which would make hiring Indian doctors easy for public as well as private medical firms in Australia.

2. If possible, India should try to get the Medical Council of India declared as a Competent Authority. This would mean that the students in all Indian medical schools accredited by Indian Medical Council will be automatically eligible for a medical license in Australia. This, however is an ambitious plan and may take a long time to be implemented.
3. In the FTA, India should ask for accreditation of some of its internationally acclaimed medical schools like AIIMS, Lady Hardinge etc. Anyone who holds a primary qualification from these institutes should be allowed to directly apply for a medical license/job in Australia similar to the way Ireland and UK residents can apply for medical jobs in Australia. For instance, Singapore Medical Council recognises the MBBS degree from 8 medical schools in India^{xvii}. A similar approach could be used with Australia.

6. References

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