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Working Paper 291

India-Pakistan Trade:
A Case Study of the Pharmaceutical Sector

Vaqar Ahmed

Samavia Batool

December 2014

INDIAN COUNCIL FOR RESEARCH ON INTERNATIONAL ECONOMIC RELATIONS

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List of Abbreviations

APIs	Active Pharmaceutical Ingredients
BoI	Board of Investment
DRAP	Drug Regulatory Authority of Pakistan
FDGs	Focus Group Discussions
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GoP	Government of Pakistan
HS Classification	Harmonised System of Classification
IBM	Institute of Business Management
INR	Indian rupee
ITC	International Trade Centre
MFN	Most Favoured Nation
MNCs	Multi-national Companies
MoC	Ministry of Commerce, Pakistan
n.e.s	Not Elsewhere Specified
NHSRC	National Health Services Regulation and Co-ordination Division
OICCI	Overseas Investors Chamber of Commerce and Industry
PKR	Pakistani rupee
PPA	Pakistan Pharmacist Association
PPMA	Pakistan Pharmaceutical Manufacturers Association
QC	Quality Control
R&D	Research and Development
RCA	Revealed Comparative Advantage
SMEDA	Small and Medium Enterprise Development Authority
TDAP	Trade Development Authority of Pakistan

Abstract

This paper attempts to evaluate the possible gains and losses arising from the gradual opening up of pharmaceutical trade between India and Pakistan. We explain the comparative advantages of both countries at a disaggregated level, followed by a qualitative analysis of various perceptions and experiences of Pakistan's pharmaceutical manufacturers with respect to trade with India. We find that a gradual opening up of pharmaceutical trade with India may allow Pakistan to enhance the quality of locally produced medicines through raw material, intermediate inputs, knowledge, and skills transfer from India. Pakistan, in the medium to long run, may also be able to diversify its pharmaceutical export base, reduce cost of production and achieve higher competitiveness through the development of value chain linkages with India. Such linkages are important to cater to the projected rise in demand for pharmaceuticals in Pakistan, Afghanistan and abroad.

JEL Classification: *F13, F14, F15, L11, L65*

Keywords: *Trade, pharmaceutical, non-tariff barriers, India, Pakistan*

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India-Pakistan Trade: A Case Study of the Pharmaceutical Sector

Vaqar Ahmed and Samavia Batool

1. Introduction[1]

There have already been numerous studies on the gains from enhanced bilateral trade between India and Pakistan (Taneja, 2013; Taneja et al, 2013; Hussain, 2011; Chatterjee and George, 2013; Ahmed, 2012; Ahmed et al, 2013). Moreover, there is evidence from empirical literature of gains for a small country when it unilaterally liberalises its trade with a large country (Carsten, 2000; Alesina et al, 2005). While both countries are poised to gain in overall terms, there are sectors that are still apprehensive about their capacity to compete under the current milieu. In the case of Pakistan's industrial sector, these include the pharmaceutical and automobile sectors. In this study, we take a close look at the prospects of India-Pakistan bilateral trade in the pharmaceutical sector. We will present a Pakistani perspective, highlighting the views of both consumers and producers.

According to International Trade Centre (ITC) data, Pakistan's pharmaceutical trade stood at 0.08 per cent of the global pharmaceutical trade in 2013. While global trade increased from US$804.2 billion in 2008 to US$988.6 billion in 2013, Pakistan's pharmaceutical trade rose from US$551.8 million to US$844 million during the same period. In the case of India, the pharmaceutical sector had a 1.35 per cent share in global trade in 2013. India's pharmaceutical trade stood at US$5.9 billion in 2008, rising to US$13.3 billion in 2013.[2]

With a new national government in Pakistan, there have been renewed hopes about enhancing India-Pakistan trade through the grant of non-discriminatory market access (NDMA) status to India (Ahmed et al, 2013 (a); Ahmed et al, 2013 (b)). In this context, sector-specific comparative advantages with regard to India form the basis of the trade discourse in Pakistan. While India has made a mark in the pharmaceutical sector owing to FDA compliance, advanced R&D and cheaper inputs, Pakistan has also experienced impressive growth in the sector. It, therefore, has become important to look at the potential for trade in pharmaceuticals between the two countries on a mutually beneficial basis.

The next section provides the methodology followed in this paper. This is followed by an overview of the pharmaceutical sector and the trade structure of the pharmaceutical industry in Pakistan. We then calculate the revealed comparative advantage (RCA) index for the two neighbours. This is followed by an assessment of the protection measures for the industry and

[1] This paper has been written as part of research studies conducted under the project "Strengthening Research and Promoting Multi-level Dialogue for Trade Normalisation between India and Pakistan" led by Dr. Nisha Taneja. The authors are thankful to Dr. Nisha Taneja, Dr. Aradhna Aggarwal and Dr. Aparna Sawhney for comments.

[2] The statistics here pertain to chapter 30, i.e., pharmaceutical products, only.

a qualitative analysis of the possible impact of liberalising pharmaceutical trade with India. The final section examines the way forward and makes recommendations.

2. Methodology

In our analysis, we have used both qualitative and quantitative research tools to gain insights into the Indian and Pakistani pharmaceutical industry and trends in trade in pharmaceutical products. A desk review of literature, key informant interviews, and focus group discussions (FGDs) were conducted for the qualitative section of this study. These were undertaken to analyse pharmaceutical industry specifications, restrictions and barriers to trade, the impact of liberalising trade in pharmaceuticals, and possible avenues for collaboration among pharmaceutical manufacturers in the two countries. Fifteen key informant interviews were conducted with pharmaceutical manufacturers, representatives of the pharmaceutical manufacturers' association, the Ministry of Commerce and Intellectual Property Organization (Pakistan). Two FGDs were also conducted with various stakeholders, including manufacturers, government authorities, consumer groups and regulators.

On the quantitative side, an analysis of trade data for products under chapter 15, 28, 29 and 30 along with the computation of revealed comparative advantage (Balassa, 1965) index was carried out to assess the underlying features of India's and Pakistan's pharmaceutical trade. Trade data was extracted from the International Trade Centre's data repository for the period 2008-2013. Moreover, 2013 data was used for in-depth analysis of the trading partners and the products traded between the two countries.

3. Overview of the Pharmaceutical Industry in Pakistan

Pakistan's pharmaceutical industry is the 10th largest in the Asia-Pacific region and has shown significant growth over the last two decades (IBM, 2013). According to a representative of the Pakistan Pharmaceutical Manufacturers Association, (PPMA), the pharmaceutical industry in Pakistan has experienced an impressive growth of 17 per cent during 2013, which is more than the global pharmaceutical average annual growth rate of 8 per cent (Aamir and Zaman, 2011). The number of operational manufacturing firms in the sector increased from a mere 5 in 1990 to 700 in 2005. However, after a consolidation phase in the industry, this number came down to 500 by the year 2011 (Hussain, 2011).

According to statistics provided by the Pakistan Pharmaceutical Manufacturers Association, there are 806 pharmaceutical companies in Pakistan. Of these, 780 are domestic firms while 26 are MNCs. Local and multinational companies have a total share of 43.8 per cent and 56.2 per cent respectively in annual sales in the pharmaceutical sector (Board of Investment (BoI), 2012). Both, the number as well as the market share of domestic firms in the pharmaceutical industry, have been growing over the last few years.

According to a recent estimate, nearly 600 of the pharmaceutical firms in Pakistan are licensed (Lillah, 2012). These firms meet about 80 per cent of the country's pharmaceutical demand, of which MNCs have a major share. The remaining 20 per cent of demand is met by foreign

products, which are mostly imported from US, UK, Germany, Switzerland, Japan, Netherlands and France.

The pharmaceutical industry in Pakistan is the 4th largest in the large-scale manufacturing sector of the country, with an average growth rate (in the past 5 years) higher than that of the automobile, chemical, and electronics industries. According to a representative of PPMA, Pakistani pharmaceutical exports amount to US$200 million annually. Most of the pharmaceutical plants in the country are ISO certified. This sector attracts up to PKR21.1 billion worth of investment (both domestic and foreign) every year. The total sales volume of medicines increased from PKR123 billion in 2009 to PKR192.9 billion in 2012. In the same year, i.e., 2012, 2,956 new products were launched by local firms while 193 new products were launched by MNCs in the country.

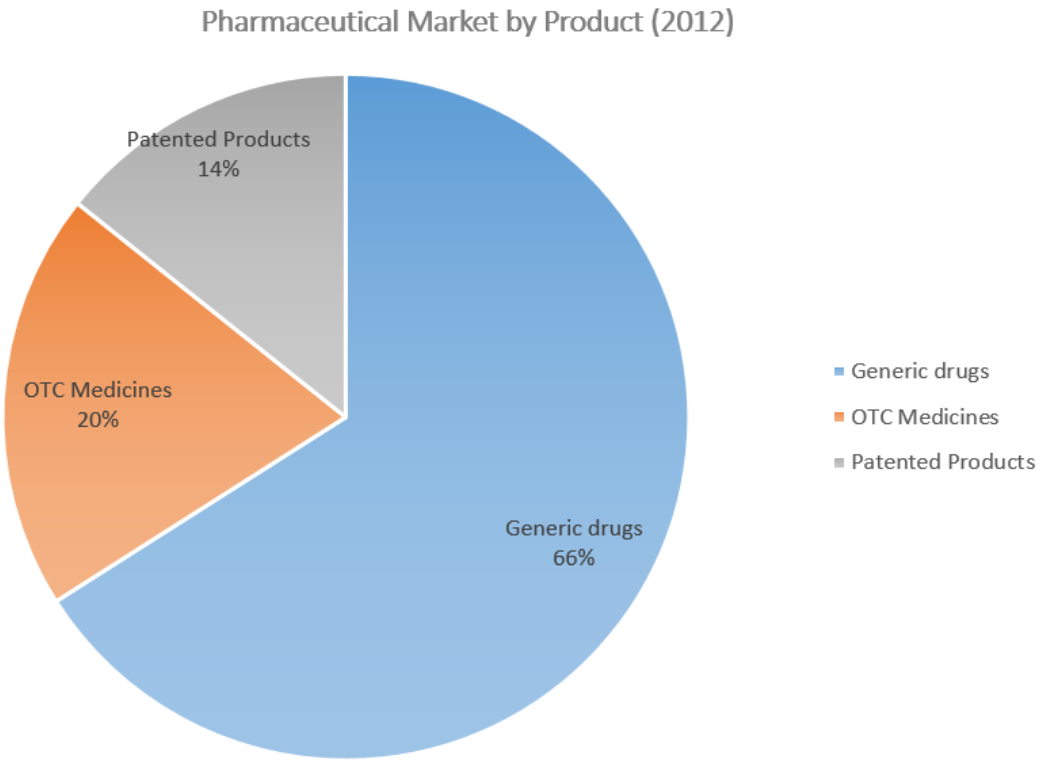
According to a BoI (2012) report, the pharmaceutical industry in Pakistan contributes nearly 1 per cent to the country's GDP. This sector employs approximately 150,000 people and provides indirect employment opportunities to an additional 300,000 through the cardboard manufacturing industry, the printing press industry, plastic and glass bottle industries, etc.

Currently, 47,000 drugs have been registered with the Ministry of Health. Recent research shows that the pharmaceutical industry generates three to four times more employment indirectly (upstream and downstream) than it does directly. A significant proportion of this employment consists of high value-added jobs (e.g. clinical sciences, universities, etc) (Ministry of Health, 2008 via IBM, 2013).

Demand for pharmaceutical products has also increased by 15 per cent in the last 5 years (BoI, 2012). Despite increased demand, annual per capita pharmaceutical consumption in Pakistan is less than US$ 10. The unavailability of medicines, particularly in rural areas, has forced people to rely on alternative medicines (OICCI, 2011).

Total local pharmaceutical production/consumption was estimated at US$2 billion in 2011 (Hussain, 2011). BMI (2010) further divides the pharmaceutical market in Pakistan on the basis of the share of major pharmaceutical products in total sales (shown in Figure 1). The sale of generic drugs accounted for 66 per cent (US$1.067 billion) of total pharmaceutical sales in 2009; patented products recorded sales worth US$0.231 billion and OTC medicines US$0.319 billion during the same year.

Figure 1: Pharmaceutical Market Overview



Source: BMI (2010) and PPMA

Apart from the mainstream pharmaceutical industry, the medical and biological products industry is progressing in Pakistan on the back of an educated labour force in this sector. The number of PhDs in biological and medical sciences has increased from an annual number of 83 in 2005 to 143 in 2010 (HEC, 2010-11), which indicates the availability of sophisticated human capital in the main and peripheral pharmaceutical industry.

Pakistan's pharmaceutical industry is dominated by multinationals. GlaxoSmithKline Pakistan leads the pharmaceutical industry with the largest market share of 11.59 per cent and an average annual growth rate of 8 per cent (2008-09) while Getz Pharma Pakistan (Pvt.) Ltd. has the largest market share of 3.76 per cent among local pharmaceutical manufacturers with a growth rate of nearly 70 per cent (Aamir and Zaman, 2011). According to BoI (2012), antibiotics, vaccines, analgesics, tranquilisers, and drugs for cardiovascular diseases and cancer are the major imported products while pain killers, anti-stress, anti-infective, penicillin, etc., are the major locally produced goods.

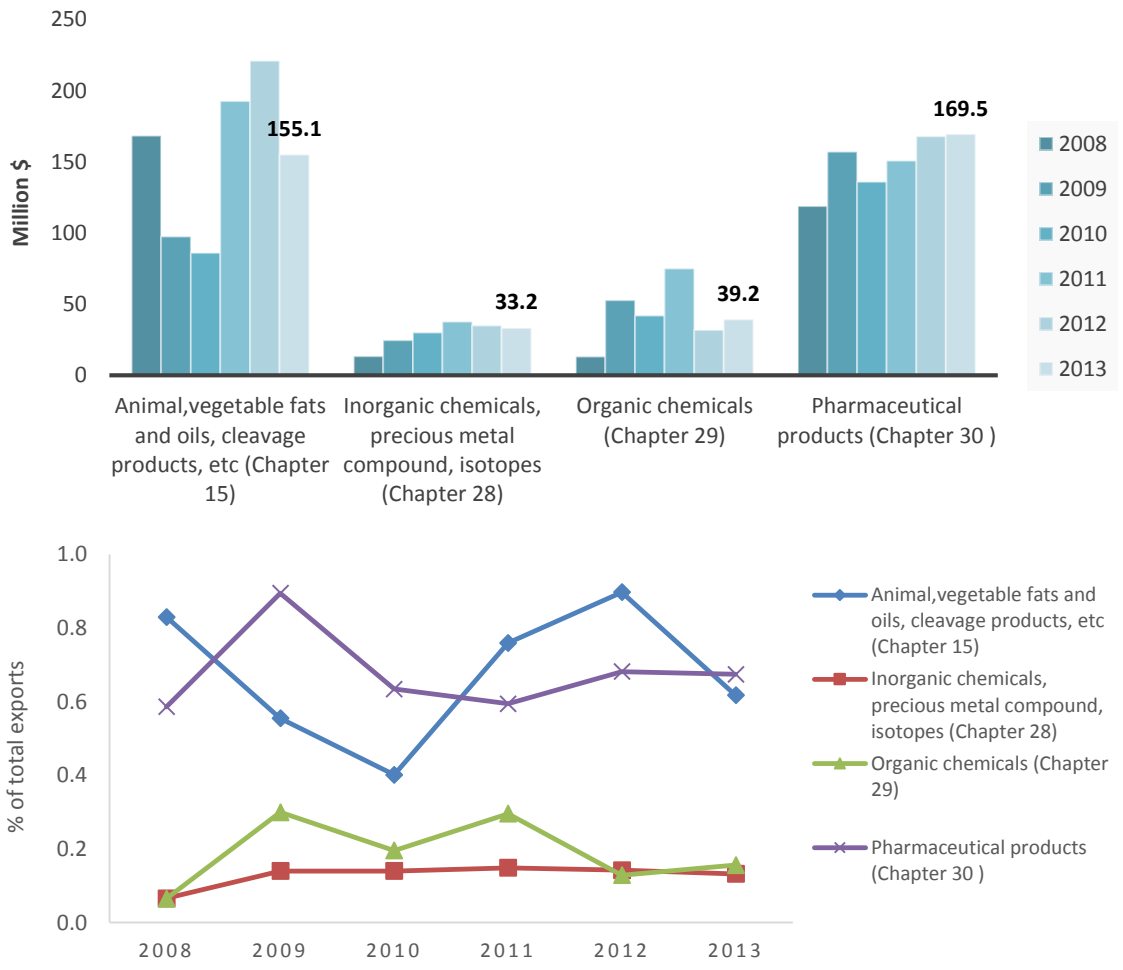
4. Pharmaceutical Trade in Pakistan

The productive capacity of local pharmaceutical manufacturers seems to have increased over time, which is evident from a rise in exports, especially of pharmaceutical products (Figure 2). Export of inorganic chemicals, however, has been declining since 2011. Moreover, the export

of organic chemicals, and animal, vegetable, and oils etc., has significantly reduced after 2011 and 2012 respectively.

Even though pharmaceutical exports continued to experience positive growth in the last few years, the share of pharmaceutical exports in Pakistan's total exports is still less than 1 per cent.

Figure 2: Exports of Selected Pharmaceutical Products and Chemical Raw Materials and their Percentage Share in Total Exports of Pakistan (2008-13)



Data Source: ITC, Trade Map (2014)

4.1. Chapter-wise Pharmaceutical Export and Import Partners of Pakistan

a. Trade Partners- 'Pharmaceutical Products' (chapter 30)

According to ITC, Pakistan's export of chapter 30 products represent 0.03 per cent of total world export of these product while Pakistan's imports of products under the same chapter represent 0.14 per cent of total world imports of these products. Table 1 presents the major

pharmaceutical export and import partners of Pakistan for 'pharmaceutical products' in the year 2013. Export partners refer to the countries to which Pakistan exports and import partners are the countries from which Pakistan imports.

Table 1: Major Trading Partners of Pakistan in Pharmaceutical Products

Export partners	Exported value 2013 (Million US $)	Percentage share in Pakistan's pharmaceutical exports	Import partners	Imported value 2012 (Million US $)	Percentage share in Pakistan's pharmaceutical imports
Afghanistan	42.52	25.1	**Denmark**	191.97	28.5
Sri Lanka	17.49	10.3	**Switzerland**	93.67	13.9
Viet Nam	13.85	8.2	**Germany**	51.77	7.7
Philippines	11.94	7.0	**Belgium**	46.62	6.9
Lithuania	8.90	5.3	**Italy**	36.31	5.4

Data Source: ITC, Trade Map (2014)

Pakistan imported most of its pharmaceutical product requirements from Denmark, which accounted for a 28.5 per cent share in total pharmaceutical imports in 2013. Because of the geographical distance between the two countries, freight and trade related costs tend to be high. It would be far more cost effective for Pakistan to import these products from its neighbours. According to Qamar (2005), and Chatterjee and George (2013), Pakistan can save between US$400 and US$900 million on its import bill if the same products are imported from India rather than from other parts of the world.

Moreover, only three out of the ten major pharmaceutical import partners are Asian economies with nearly 9 per cent share in total pharmaceutical import. An analysis in depth of the data indicates that there exists little diversification of export and import markets for products under chapter 30. In short, the top two or three import and export partners account for most of the import and export share while the rest of the partners have a share of 2 per cent or even less. The top five import and export partners have remained the same over the last five years. The share of Switzerland in total pharmaceutical imports has significantly increased during this period. Similarly, exports to Vietnam have also increased two-fold in the last five years. Contrary to this, pharmaceutical exports to Afghanistan declined sharply from US$59 million in 2009 to US$23 million in 2010.

Pakistan exports nearly 38 products (at the 8-digit level) of chapter 30 to nearly 122 countries in the world. Each of the three major items, 'medicaments consisting of mixed or unmixed products for therapeutic or prophylactic uses (HS Code: 30049099)', 'medicament hormone antibiotic (HS Code: 30033900)' and 'medicament hormone not antibiotic (HS code: 30043900)' occupies an 18.9 per cent share in the overall exports under this category. The value of exports in this category amounted to US$32 million in 2013.

On the import side, 'medicaments consisting of mixed or unmixed products for therapeutic or prophylactic uses (HS Code: 30049099)' forms the largest part of pharmaceutical imports (26.6 per cent), thus indicating high intra-industry trade in this product category. The 'vaccine for human medicines (HS Code: 30022090)', 'medicament antibiotics (HS Code: 30042000)' and 'Vaccine veterinary medicine (HS code: 30023000)' are other imported pharmaceutical products with import shares of 10 per cent, 4.4 per cent and 3.7 per cent in the country's total pharmaceutical (chapter 30) imports.

Pharmaceutical manufacturers indicate that raw materials (chemicals) are also major imports for local industry. Nearly 90 per cent of raw materials, such as aluminium used for manufacturing, are imported. Around 50 to 60 per cent of paper and box board are imported. PVC, capsule shells, glass bottles, vials, and ampoules are imported as well as produced locally.

b. Trade Partners- 'Inorganic Chemicals' (chapter 28)

Pakistan's exports of 'inorganic chemicals, precious metal compound, isotopes' represent 0.03 per cent of the world's exports of this product (ITC, 2013). Pakistan exported US$33 million worth of inorganic chemicals in 2013. The value of imports under the same chapter is US$431 million.

Table 2 shows Pakistan's top 5 export and import partners for 'inorganic chemicals'. Morocco is Pakistan's largest import partner (i.e. from which Pakistan imports) with a share of 48.1 per cent in total imports of inorganic chemicals. China follows with a share of nearly 22.6 per cent.

Similarly, there was some export of inorganic chemicals to India in 2013. India accounted for nearly 40 per cent of Pakistan's total export of inorganic chemicals. Pakistan's export market in the case of top ten export partners for this chapter is equally divided between western countries and South Asian countries. India, Malaysia, Afghanistan, Sri Lanka and Indonesia are among the top ten export partners (i.e., to which Pakistan exports) for inorganic chemicals.

Table 2 : Major Trading Partners of Pakistan in Inorganic Chemicals

Export partners	Exported value 2012 (Million US$)	Percentage share in Pakistan's inorganic chemicals exports	Import partners	Imported value 2012 (Million US$)	Percentage share in Pakistan's inorganic chemicals imports
India	13.24	40	**Morocco**	207.57	48.1
United Arab Emirates	3.93	12	**China**	97.68	22.6
Malaysia	2.81	8	**India**	13.99	3.2
Afghanistan	2.80	8	**Germany**	13.91	3.2
Canada	2.55	8	**New Caledonia**	12.73	3

Data Source: ITC, Trade Map (2014)

Fifty-five products at 8-digit level were exported by Pakistan to 85 countries while it imported 181 products from 86 different countries. The top 5 exported products from this chapter includes 'carbonates - 28362000 (19.5 per cent)', 'chlorides - 28272000 (13.7 per cent)', 'hydrogen chloride - 28061000 (13.4 per cent)' and 'hydrogen peroxide - 28470000 (9.2 per cent)'. 'Phosphoric acid - 28092010 (56.8 per cent)', 'carbonates - 28362000 (4.5 per cent)', 'dithionites of sodium - 28311010 (2.8 per cent)' and 'sulphates - 28331100 (2.5 per cent)' formed the top 5 imported products from chapter 28.

c. Trade Partners- 'Organic Chemicals' (chapter 29)

Pakistan's exports of chapter 29 represent 0.01 per cent of world exports under this chapter (ITC, 2013). Nearly US$2 billion worth of organic chemicals were imported by Pakistan in 2012 whereas export of this chapter stood at US$39 million during the same year. The top five countries to which Pakistan exports organic chemicals are India (77.4 per cent), Afghanistan (9.4 per cent), UAE (5.7 per cent), Oman (5.6 per cent), and Turkey (0.8 per cent) while the countries from which Pakistan imports organic chemicals are Kuwait (20.3 per cent), China (18.8 per cent), Saudi Arabia (15.6 per cent), India (12.9 per cent), and UAE (5.2 per cent)

(Table 3). These shares imply that the top four trade partners hold a substantial share of total imports of organic chemicals while exports are unequally divided between the top five exporting countries.

Table 3: Major Trading Partners of Pakistan in Organic Chemicals

Export partner	Exported value 2012 (Million US$)	Percentage share in Pakistan organic chemicals exports	Import partner	Imported value 2012 (Million US$)	Percentage share in Pakistan's organic chemicals imports
India	30.375	77.4	**Kuwait**	408.26	20.3
Afghanistan	3.685	9.4	**China**	378.28	18.8
United Arab Emirates	2.23	5.7	**Saudi Arabia**	314.31	15.6
Oman	2.181	5.6	**India**	259.12	12.9
Turkey	0.324	0.8	**United Arab Emirates**	104.42	5.2

Data Source: ITC, Trade Map (2014)

Further analysis of trade data reveals that 51 products from chapter 29 (at 8-digit level) are exported by Pakistan to nearly 66 countries in the world. On the contrary, as much as 438 items were imported by Pakistan in 2013 from 71 countries. Pakistan's major imports under this chapter are 'Cyclic hydrocarbons: Xylenes: p-Xylene – 29024300 (24.1 per cent)', 'Acyclic alcohols and their halogenated – 29053100 (14.8 per cent)', 'Acyclic hydrocarbons: Unsaturated: Ethylene – 29012100 (5.1 per cent)' and 'Cyclic hydrocarbons: Styrene – 29025000 (4.6 per cent)'. 'Pure terephthalic acid (pta) – 29173610 (49.2 per cent)', 'Halogenated derivatives of hydrocarbons – 29032100 (38.5 per cent)', 'Polycarboxylic acids, their anhydrides, halides, peroxides and peroxyacids – 29173500 (6.9 per cent)' are a few of the most exported products under chapter 29.

d. Trade Partners – 'Animal, vegetable fats and oils, cleavage products, etc' (chapter 15)

According to ITC, Pakistan's export of 'animal, vegetable fats and oils' represent 0.16 per cent of the world's total exports in this category. In 2013, Pakistan exported US$155 million worth of products under chapter 15 while it imported nearly US$1.97 billion worth of products. The export market for this product category, however, remained small in 2013 (35 countries) and only 1 country accounted for nearly 98.7 per cent of the total import of animal, vegetable fats and oils from Pakistan. Afghanistan was the largest export partner of Pakistan for this product

group, followed by UAE (01.1 per cent), Iran (0.23 per cent), Togo (0.2 per cent) and Saudi Arabia (0.2 per cent) (Table 4).

On the import side, Pakistan imported products from 43 different categories of products under chapter 15 from 50 different countries in 2013. Malaysia was the largest import partner of Pakistan with a share of 58.8 per cent.

Table 4: Major Trading Partners of Pakistan in Animal, Vegetable fats etc

Export partners	Exported value 2012 (Million US$)	Percentage share in Pakistan's animal, vegetable fats etc exports	Import partners	Imported value 2012 (Million US$)	Percentage share in Pakistan's animal, vegetable fats etc imports
Afghanistan	218	98.7	**Malaysia**	1163.80	58.8
United Arab Emirates	1.1	0.5	**Indonesia**	708.34	35.8
Iran (Islamic Republic of)	0.23	0.1	**Argentina**	55.54	2.8
Togo	0.2	0.1	**Australia**	16.27	0.8
Saudi Arabia	0.2	0.1	**United States of America**	8.89	0.4

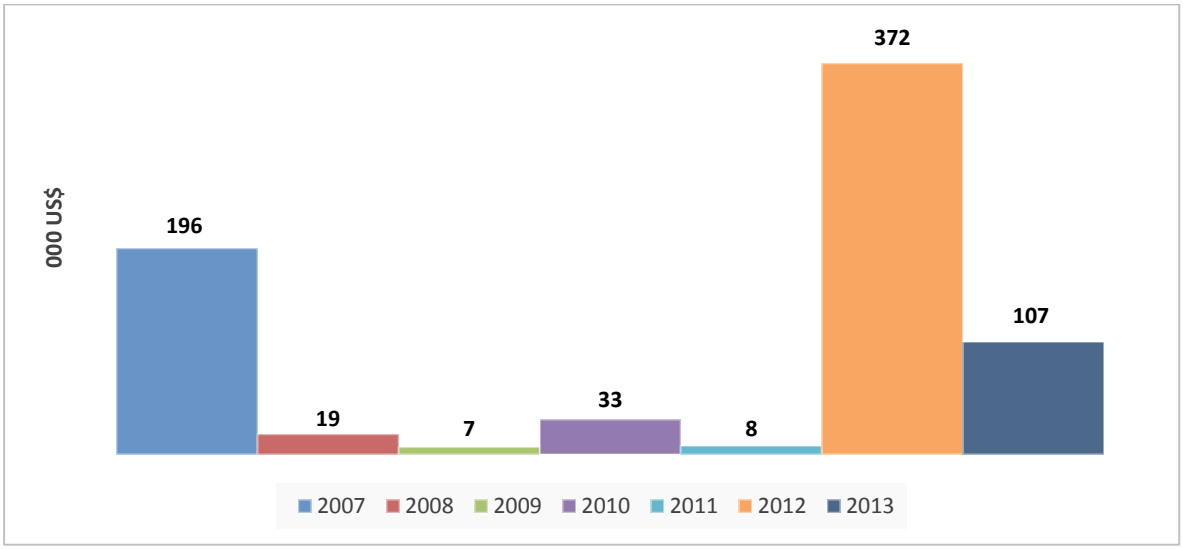
Data Source: ITC, Trade Map (2014)

The top imports of Pakistan in 2013 included 'palmolein – 15119030 (41.4 per cent)', 'Rbd palm oil – 15119020 (39.5 per cent)', 'palm oil and its fractions – 15111000 (12 per cent)', 'soya-bean oil and its fractions– 15071000 (3.1 per cent)' and 'palm strearin – 15119010 (2.2 per cent)', whereas the top five exported products under chapter 15 include 'vegetable fat and its fractions- 15162010 (73.2 per cent)', 'vegetable oils and its fractions – 15162020 (7 per cent)', 'fixed vegetable oils/fract – 15159000 (0.6 per cent)' and 'fixed vegetable fats and oils including jojoba oil – 15152900 (0.1 per cent)'.

5. India-Pakistan Bilateral Trade in Pharmaceuticals

The level of bilateral trade between India and Pakistan in pharmaceutical products remains low. Figure 3 shows that the level of Pakistan's exports of pharmaceutical products (chapter 30) to India has been extremely volatile during the last five years. Exports of this product category significantly declined in 2008 and remained below US$33,000. It was only in 2012 that exports rose to US$372,000, after which they again reduced to US$107,000 in 2013. This is in sharp contrast to informal trade volumes between the two countries. It was estimated that in 2013, pharmaceutical items worth US$59.4 million entered Pakistan (from India) through informal channels, primarily because of lower prices and better quality (Ahmed et al. 2013).

Figure 3: Pakistan's Exports of chapter 30 Products to India (2013)

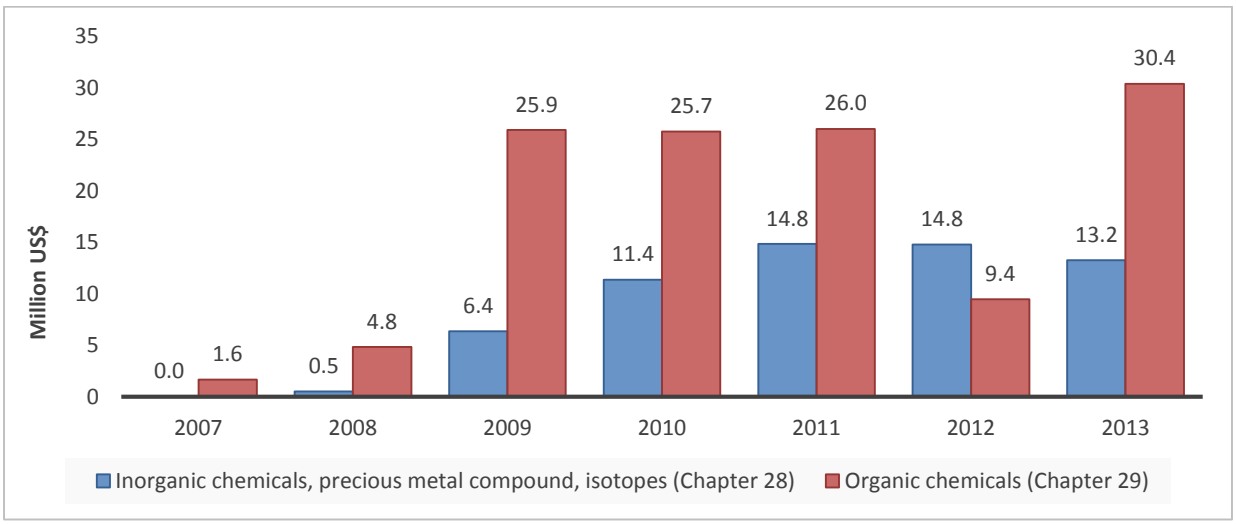


Data Source: ITC, Trade Map (2014)

In the case of chapter 15 products (animal, vegetable fats and oils), Pakistan's exports to India remained as low as US$1,000-2,000 between 2008 and 2012. Moreover, Pakistan did not export any product under chapter 15 to India in 2013. Further analysis of the data also suggests that Pakistan's export of 'animal, vegetable fats and oils' and 'pharmaceutical products' to India is less than 1 per cent of its total export of these products.

Figure 4 shows Pakistan's exports of organic and inorganic chemicals to India, from 2007 to 2013. Exports of inorganic chemicals and organic chemicals had shown a rising trend until 2012 and 2011 respectively. Pakistan's exports of 'organic chemicals' to India was 33.7 per cent of Pakistan's total export of organic chemicals while the average export share of 'inorganic chemicals' to India was 39.8 per cent in 2013.

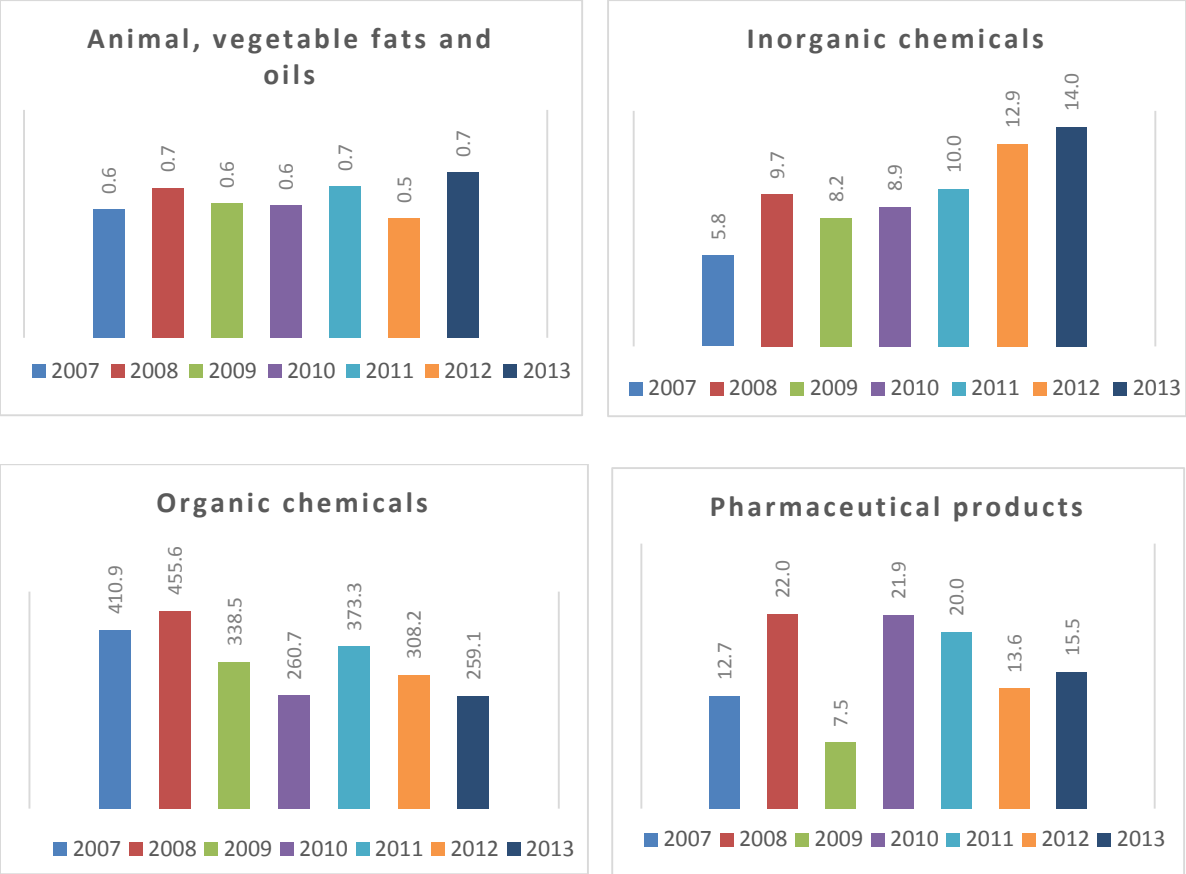
Figure 4: Pakistan's Export of Organic and Inorganic Chemicals to India (2013)



Data Source: ITC, Trade Map (2014)

On average, 19 per cent of organic chemicals imported by Pakistan come from India (Figure 5). However, this share has been on the decline since 2008. Imports of pharmaceutical products also seem to be declining after 2010, except for the last year when imports increased from US$13.6 million in 2012 to US$15.5 million in 2013. Imports of inorganic chemicals from India is on the rise since 2009 whereas imports of animal, vegetable fats and oils has not undergone any significant change during the last few years.

Figure 5: Pakistan's Imports from India– Million US$ (2013)



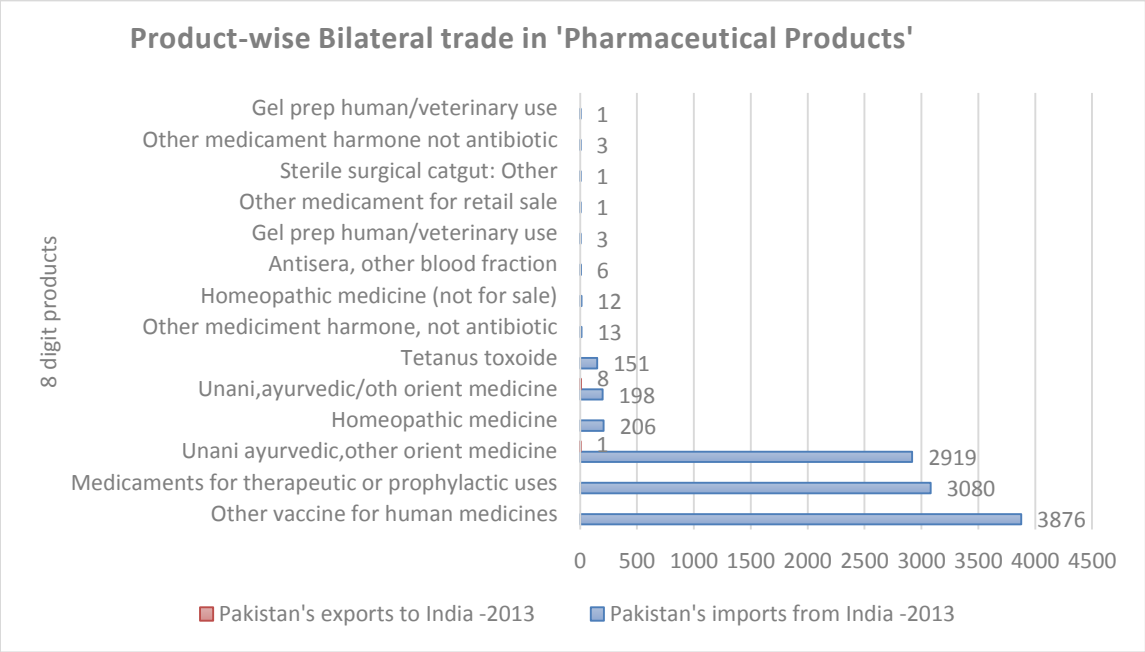
Data Source: ITC, Trade Map (2014)

5.1. Product-wise Trade in Pharmaceuticals

This analysis has been carried out on the lowest possible denomination available ('000 US$) in order to clearly identify the level of product wise bilateral trade. We use 8-digit level trade data for this analysis. One of the limitations of this data is that it does not provide the value for most of the products exported by Pakistan to India.

Figure 6 shows that in the bilateral trade for 'pharmaceutical products (Chapter 30)', 'vaccine for human medicine' and 'medicaments for therapeutic uses' constitute a large share in the pharmaceutical imports from India.

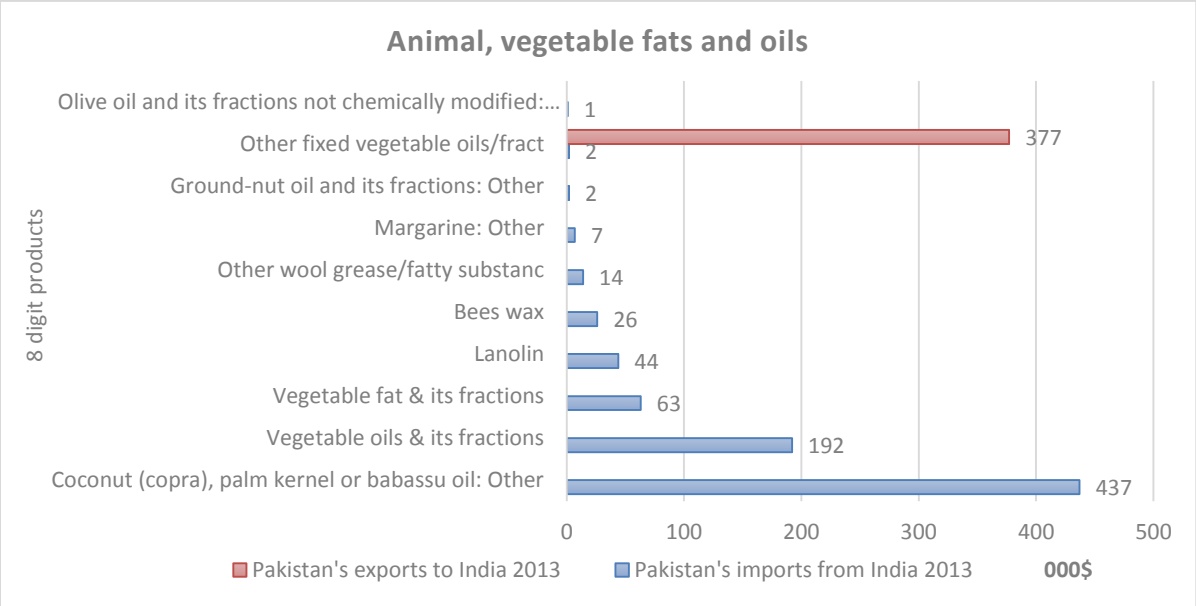
Figure 6: Product-wise Bilateral Trade (Chapter 30)



Data Source: ITC, Trade Map (2014)

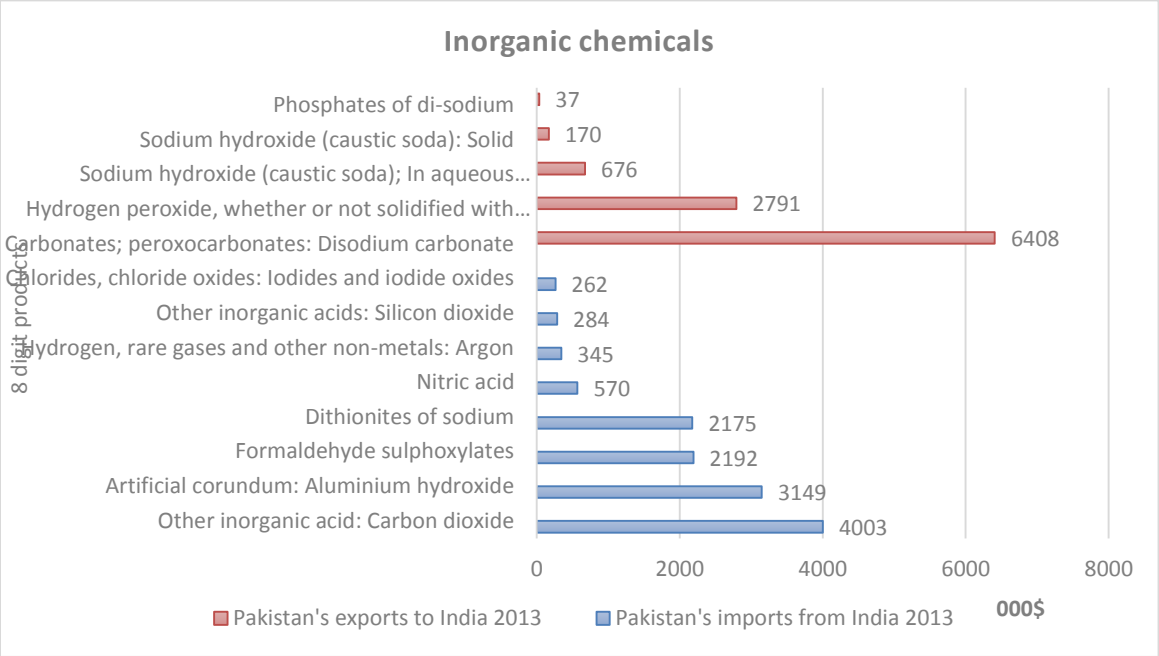
In the case of 'animal, vegetable fats and oils' (Chapter 15), ITC data shows that Pakistan exported only 'fixed vegetable oils/fraction (HS Code: 15159000)' worth US$0.377 million to India in 2013 whereas imports from India in this product group is much higher. Figure 7 projects the products traded under chapter 15 between India and Pakistan.

Figure 7: Product wise Bilateral Trade (Chapter 15)



As for trade in 'inorganic chemicals', Pakistan imported 65 products (at the 8-digit level) from India while it exported 11 products to India in 2013. Figure 8 presents major traded products under chapter 28 (inorganic chemicals).

Figure 8: Product-wise Bilateral Trade (Chapter 28)

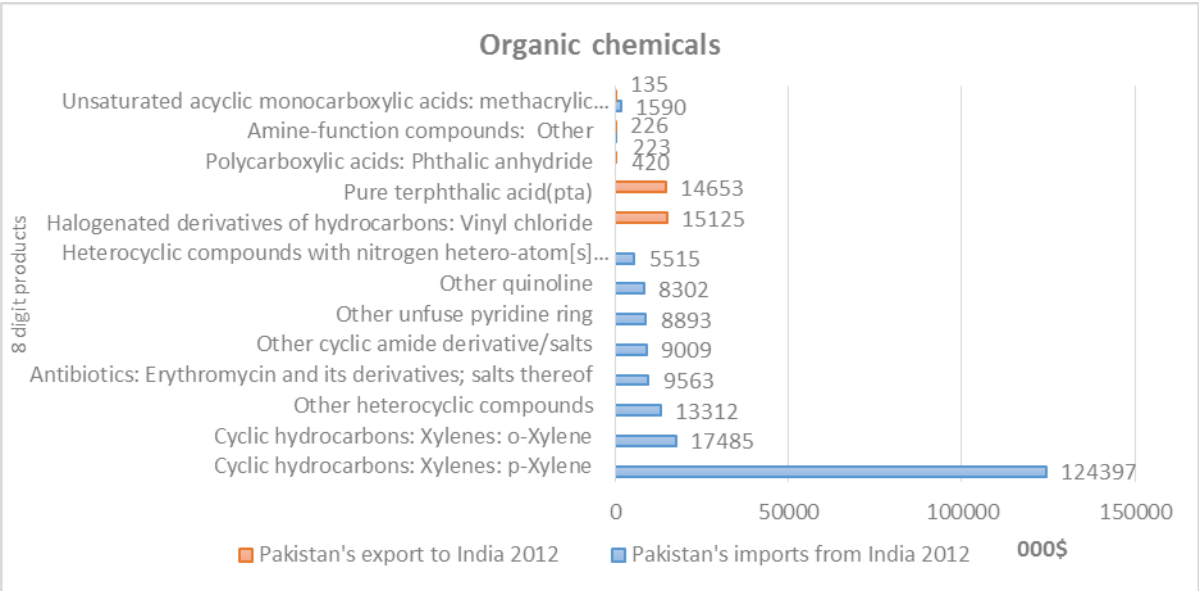


Data Source: ITC, Trade Map (2014)

When analysed in terms of trade shares, 14 products out of 65 have an import share of more than 26 per cent and seven products have an import share of more than 50 per cent. This figure also suggests that Pakistan needs to enhance its export base to export other products (inorganic chemicals) to India.

Trade figures for major traded products under chapter 29 (organic chemicals) are shown in Figure 9. Pakistan only exports four product categories to India but imports 221 products under this chapter from India. Moreover, 82 products imported from India had an import share of more than 30 per cent in 2013.

Figure 9: Product wise Bilateral Trade (Chapter 29)



Data Source: ITC, Trade Map (2014)

The analysis of bilateral trade in pharmaceutical products and chemical raw materials suggests that the trade balance is tilted predominantly in favour of India, except for inorganic chemicals trade. Having said this, there are a number of product categories in which India-Pakistan trade can be enhanced for mutual gains.

6. Protection measures

6.1. Negative List: Pharmaceutical Products and Chemical Raw Materials

Currently, out of the 1209 items in the negative list, 49 are from the pharmaceutical sector, with restriction on imports from India. This step was taken in order to provide protection to the local pharmaceutical sector of Pakistan. It also arose out of the fear that Indian pharmaceuticals would establish a dominating presence in the Pakistani market, which might drive locally manufactured drugs out of the Pakistani market.

At present, out of the total pharmaceutical products on the negative list (Ministry of Commerce, 2013), four products falls under chapter 15, eight under chapter 28, 31 under chapter 29, and 24 products under chapter 30. While the local pharmaceutical industry is highly dependent on trade (particularly import of inputs), it is important to note that most of the pharmaceutical inputs are included in the negative list for India.

Besides, Pakistan has allowed the import of pharmaceutical products, and chemical ingredients for the preparation of medicines from China; while these have been placed under the negative list for India. Putting pharmaceutical products under the negative list for India might be due to the concern of Pakistani authorities of possible dumping of sub-standard Indian medicines into Pakistan. There are three products under chapter 15 'animal or vegetable fats, oils & waxes', 175 products under chapter 28 ' inorganic chemicals, org/in-org compounds of precious metals, isotopes', 446 products of chapter 29 'organic chemicals', and 10 products of chapter 30 'pharmaceutical products' on which tariff has been completely abolished in the first three years under the China-Pakistan free trade agreement.[3] Moreover, many other products from these chapters are also subject to a tariff reduction of 0-5 per cent in five years under the same agreement.

India, on the other hand, maintains a list of restricted items, which includes 428 products. This list is not specific to Pakistan alone and is applicable to all trading partners of India. There is one product under chapter 15 'Fish body oil (crude) (HS Code: 15042010)', 12 products under chapter 28, 59 products under chapter 29, and one product under chapter 30, i.e., 'waste pharmaceuticals (HS code: 30069200)', whose imports are restricted in India (India-Pakistan trade, 2013).

6.2. Sensitive List: Pharmaceuticals

Under the SAFTA agreement, South Asian countries maintain a sensitive list, which includes items that can be imported but without any tariff concession. Each South Asian country was supposed to decrease its sensitive list by 20 per cent by the year 2011. Pakistan reduced the

[3] All these products are listed at the 8-digit level.

number of items in the sensitive list from 1169 to 936 (20 per cent) in 2011 (Ministry of Commerce (MoC), 2013). India excluded 455 items from the sensitive for the least developed countries (LDCs) and 254 items from the sensitive list for the non-least developed countries (NLDCs) (SAARC Secretariat, 2013).

Under the same agreement, India and Pakistan have to reduce their sensitive list to 100 items by 2013 and 2017 respectively. India has made cutting down the sensitive list conditional upon Pakistan's grant of the MFN status. Since Pakistan has not yet done so, India has not reduced its sensitive list for Pakistan either (Mishra, 2013).

Currently, there are 15 products under chapter 15, six products under chapter 28, 17 products under chapter 29, and four products under chapter 30 in Pakistan's sensitive list (MoC, 2013). Such a large sensitive list (at the 6-digit level) acts as a major hindrance to trade enhancement.

India also maintains a sensitive list for Pakistan, which includes 614 items. Each product under chapter 30 is subject to tariff of 5 per cent (India-Pakistan Trade, 2013). Other chapters are also included in the sensitive list at the 4-digit level, which are also subject to a tariff rate of 5 per cent.

6.3. Customs Duty Exemptions

Despite the high protection extended to the pharmaceutical industry, Pakistan frequently changes its customs duty structure, especially when there is a need to support local industry, or in the case of a natural disaster. The following are some of the tax exemptions given to the import of pharmaceutical products and raw materials:

S.R.O. 741(I)/2013: Pakistan eliminated custom duties on the import of the following products from Indonesia: crude oil, palm stearin, RBD palm oil, palmolein, others, crude oil of palm kernel, other.

S.R.O.567(I)/2006: Eliminated custom duty on the import of silicon dioxide, sulphur, zinc oxide, zinc peroxide, calcium chloride, BHT, and compounds containing in the structure of a benzothiazole ring system (whether or not hydrogenated, not further fused of chapter 28) only to be imported by football manufacturers. Import of poultry vaccines, anticoccidal n, sulphadimerzine and sulphaqunoxaline, packing material and various completed drugs were also given tax exemptions. Moreover, imports of nearly 50 active pharmaceutical ingredients were given tax exemption if imported for in-house manufacturing.

S.R.O. 565 (I)/2006: Extensive exemption given on the import of certain products in chapter 29 for pesticide manufacturers

According to our respondents from the PPMA, the exemptions help support these industries for a short period of time when no imported medicines can fill the demand-supply gap in the local market for a sustained time (PPMA).

It should be mentioned here that the above exemptions for pharmaceutical imports have come under scrutiny. The Ministry of Finance in its Economic Co-ordination Committee meeting of

January 2014 was not entirely convinced that these exemptions were justified. The ministry has asked a tax advisory committee to review these SROs. Furthermore, consumer groups have suggested that any future SRO should be thoroughly debated in Parliament before an exemption is allowed.

7. Comparing Price Structure in India and Pakistan

A desk review and on-sight examination of prices of medicines across the border reveals some contradictory price comparisons. A few studies highlight that medicines in Pakistan are comparatively more expensive than those in India. For example, Zinetac-Glaxo costs INR7.20 (per 10 tablets) in India while a similar quantity of this medicine is sold at PKR80 in Pakistan (Wajid, 2003).

Picazo (2011) while comparing the price differential of medicines in India, Pakistan and Philippines notes that prices of Ventolin and Imodium were lower in Pakistan as compared to the other two countries. Ventolin and Imodium are priced at PKR62 and PKR1.8 in Pakistan while in India these are priced at INR123 and INR3 respectively.

According to Shahrukh (2011), the top 30 Pakistani medicines in the export basket are 53 per cent cheaper than Indian medicines and nearly 42 per cent of Pakistani medicines are priced at less than PKR 5. It also highlights that prices of only a few drugs in India are controlled by regional authorities while others are left to compete, which results in higher prices. Moreover, 108 (61 per cent) items out of 178 common essential drugs marketed by MNCs across the border are cheaper in Pakistan whereas only 70 (395) of them are cheaper in India (Times of Pakistan, 2011).

Table 5 shows the price comparison of some medicines between India and Pakistan for the year 2014. The data has been provided by ICRIER in India and D. Watson Chemist in Pakistan. These medicines are sold under different names across the border but have the same underlying chemical formula.

Table 5: Comparison of Medicine Prices in India and Pakistan (2014)

Medicine (Chemical Name)	Strength	Dosage Form	Quantity	Price in India (Indian Rupee, INR)	Adjusted Price (Equivalent to PRK)	Price in Pakistan (Pakistani Rupee, PKR)
Amoxicillin	250 mg	cap/tab	15	43.50	73.1	47
Atenolol	50 mg	cap/tab	14	30.38	51	86
Ciprofloxacin	500 mg	cap/tab	10	93.30	157.7	505
Co-trimoxazole	40 mg	cap/tab	10	6.30	10.6	26
Ranitidine	150 mg	cap/tab	20	12	20.2	176
Salbutamol	0.1 mg/dose	inhaler	1	108	181.4	200
Ceftriaxone	1 g/vial	injection	1	30.09	50.6	597
Fluoxetine	20 mg	cap/tab	7	36.40	61.2	77

Source: Author's calculation based on the data provided by D.Watson and ICRIER

This price comparison reveals that most of the Pakistani medicines are highly priced in comparison to Indian medicines, at least for our sample. We understand that this price variation can be due to the difference of 'innovator brand' or 'generic brand' medicines. It is equally possible that prices of medicine in Pakistani have recently shot up due to the rising domestic costs of energy, transportation, distribution and insurance. The large price differential has also been highlighted as one of the reasons for the rising informal flow of Indian medicines in Pakistani markets (Ahmed et al. 2013).

The point regarding the price differential between the two countries has been emphasised by consumer groups in Pakistan. They believe that opening up trade with India should bring down the prices. Currently, prices in Pakistan are open to negotiation with government authorities. The negotiation power of local manufacturers will weaken once more economical (and standards compliant) pharmaceuticals are allowed entry into Pakistan. This, in turn, will enhance the consumer surplus.[4]

8. Revealed Comparative Advantage

The computation of revealed comparative advantage (RCA) helps assess the comparative advantage of a country for a specific sector or a commodity relative to the world (Balassa, 1965). The RCA reflects the relative trade performance of the country in a particular commodity (Batra and Khan, 2005).

An RCA value greater than one implies comparative advantage for a country, while less than one means that there is no comparative advantage for a sector or product for a particular country. In this study, RCA is based only on the data for products under chapters 15, 28, 29 and 30 of the HS classification. The RCA analysis undertaken in this study is based on the ITC dataset, 2013.

The RCA analysis for the Indian and Pakistani pharmaceutical sectors shows that the maximum number of products in which Pakistan has a comparative advantage are under chapters 28 and 30 while India has a comparative advantage in the case of products under chapters 28 and 29 (at 6-digit level). Two possibilities emerge and should be pursued (in theory) simultaneously: i) there is potential for trade in products that one of the two countries has a comparative advantage and hence, focus should be on importing those items in which the trading partner has a comparative advantage, and ii) given that many of the items exhibiting comparative advantage are amongst intermediate inputs, there seems potential for supply chain integration.

9. Impact of Liberalising Pharmaceutical Trade between India and Pakistan

Despite a number of tariff and non-tariff barriers facing pharmaceutical trade (Table 6), there is a need to analyse likely impact of liberailising pharmaceutical trade between India and Pakistan.

To assess the possible impact of liberalising pharmaceutical trade with India, the analysis takes into account the perspectives of the pharmaceutical manufacturing community and

[4] Leading consumer groups from Islamabad and Karachi participated in our focus group discussion.

pharmaceutical consumers in Pakistan. Segregating both perspectives would allow us to observe underlying demand side and supply side views with regard to liberalised trade, and also put on the table a more balanced view on this subject.

Table 6: Barriers to Pharmaceutical Trade between India and Pakistan

Barriers facing Pakistani pharmaceutical exports to India	Barriers facing Indian pharmaceutical exports to Pakistan
NTBs	
Despite compliance with ISO norms, none of the pharmaceutical units in Pakistan is FDA approved, while India has 74. Such issues on product quality make pharmaceutical products non-exportable to India or to any other country with strict regulations (*Ahmed, 2012*).	Many pharmaceutical products are listed in the negative list making Indian pharmaceutical products non-importable in Pakistan.
Pakistani pharmaceutical exports to India have been subject to testing and registration with Central Drug Standard Control Organization in India, which are extensively arduous and time-consuming processes. *(Ahmed, 2012).*	Indian pharmaceutical products are also subjected to the approval of Ministry of Health, Pakistan *(Ahmed, 2012).*
Tariff Barriers	
Basic duty of 10-12.5 per cent is imposed while other additional duties including CVD (6-16 per cent) and SPL. CVD (4 per cent) (Cybex Exim Solutions, 2013)	10 per cent customs duty imposed on pharmaceutical imports into Pakistan. For some products like ampicillin, amoxicillin and cloxicillin, (capsules or syrups), the imposed duty rate is 25 per cent (State Bank of Pakistan, 2014).

9.1. Perspective of Pakistani Pharmaceutical Manufacturers

Most pharmaceutical manufacturers in Pakistan view liberalisation of trade with India as an opportunity to expand Pakistan's nascent pharmaceutical industry. They believe that the industry has a lot to gain from knowledge and skill transfer from India that would help enhance the quality of locally produced medicines. However, these manufacturers favour 'selective buying' from India and believe that opening of trade should be planned in several phases. For instance, raw material import can be allowed in the first phase.

Raw materials are currently imported in bulk from western countries, resulting in substantial transport, freight and insurance costs. MNCs in Pakistan are restricted to importing raw materials only from their native countries, which results in high cost of locally manufactured

pharmaceutical products. In contrast, India has a comparative advantage in raw materials, which makes for an excellent avenue of trade between the two countries for mutual gain. This will not only help Pakistani manufacturers reduce their production costs, the import of raw materials from India will also strengthen incentives for future supply chain integration. Apart from raw materials, medical equipment and packaging material can also be imported from India.

Pharmaceutical manufacturers in Pakistan have also favoured the import of medicines, not locally produced, from India. These include medicines for cancer, HIV/AIDS, thalassemia and vaccines for polio, BCG (Bacillus Calmette–Guérin), tetravalent etc. Moreover, India specialises in semi-basic manufacturing of active pharmaceutical ingredients while there are only three such manufacturers in Pakistan. These can be imported from India at lower prices.

According to the key respondents, liberalisation of pharmaceutical trade with India also has demerits. First, India has a price advantage over Pakistani pharmaceutical products. A complete liberalisation of trade with India in pharmaceutical products is likely to drive locally manufactured medicines out of Pakistani markets owing to the cost advantage Indian medicines have over Pakistani medicines.

Further, the Indian pharmaceutical industry not only enjoys the advantage of lower labour costs, but also advantages in terms of infrastructure and government support. Pakistan, on the other hand, still lacks these facilities. The subsidies to Pakistani manufacturers discussed above and reported on TDAP's website were not mentioned by these respondents.

Second, there are concerns that liberalising pharmaceutical trade with India might lead to the import of low quality medicines from India. According to a representative of pharmaceutical importers in Pakistan, there is an inherent weakness in Indian quality control (QC) standards, which varies from province to province because of their decentralised system.

On the contrary, QC is centrally regulated by the Drug Regulatory Authority in Pakistan, ensuring higher quality. Moreover, only a few Indian pharmaceutical firms are foreign accredited and there is no certainty that only those companies will export their products to Pakistan. It was also reported that nearly 50-60 per cent of the counterfeit drugs (fake medicines that could be contaminated or contain the wrong amount of the active ingredient) used in the world are manufactured in India. The export of such spurious drugs to Pakistan would affect health conditions in the country.

On the flow of sub-standard medicines from India, certain regulatory checks at the border were recommended by the survey team. However, PPMA representative contended that border checks cannot be put in place and the formal way of quality testing is inspection of the exporting manufacturer. It was reported that Pakistani importers were denied Indian visas for inspection purposes, making it difficult to conduct such quality checks.

Third, the pharmaceutical industry is strategically important to a country, as it provides for health and support to the poor and the population in general during times of natural disasters. Given India's and Pakistan's political history, dependencies in a sector as important as health

(and pharmaceuticals) can have unforeseen repercussions. Conversely, some also thought that opening up trade in the sector, with gains for both India and Pakistan, could lead to an economic buy-in that would help prevent political conflicts between the two countries.

Another demerit of liberalising pharmaceutical trade with India is that MNCs in Pakistan would then outsource the manufacturing process to lower cost counterparts in India. At present, 40 per cent of the leading brands of medicines are manufactured by local firms under contract manufacturing (production of goods by one firm, under the label or brand of another firm). There is also the likelihood that MNCs would shift their production processes to Indian subsidiaries for supplies to Pakistan.

9.2. Perspectives of Pakistani Consumer Groups

Consumers are a potential stakeholder when it comes to medicines and cannot be ignored while devising any policy related to pharmaceuticals. Currently local manufacturers meet 80 per cent of the medicinal demand in the country while the rest is met by imports (BoI, 2012), as already mentioned in the study. Having said this, a substantial proportion of the population still does not have access to licensed medicines in Pakistan, mainly because of high prices.

According to Zaidi et al. (2013), despite the regulation of drug prices in Pakistan, medicines are still unaffordable for large segments of the population. Since input costs are a major factor in determining the price of a medicine, the dependence on imported, high-cost raw materials is a major cause of high drug prices in Pakistan. These raw materials are available at lower prices in India but are not allowed to enter the Pakistani market.

A key example cited by one of the consumer groups was regarding the chickenpox vaccine required for children less than 2 years of age. This vaccine is not locally produced. After several appeals to the government, import was allowed from China. However, the price of the Chinese vaccine is not affordable by an average consumer. If this vaccine was importable from India, it would have cost half as much as the Chinese vaccine (due to lower transportation costs and margins).

This study also highlights that the affordability index (defined by WHO) exceeds the ‘per day income’ in Pakistan, especially for those below the poverty line. Even with the current level of minimum wage under law, a person cannot afford to purchase medicines either for chronic illness or for a single episode of acute illness. Medicines particularly for the treatment of hypertension, depression, diabetes, epilepsy, arthritis and peptic ulcer are unaffordable; and the wage equivalent of a month-and-a-half is required to purchase medicines for chronic illness.

In order to roughly estimate the number of poor households that will benefit from increased access to medicines, as a result of liberalised pharmaceutical trade with India, data from Pakistan Social and Living Standards Measurement-PSLM (2010-11) was used.

This database covers 76,546 households in Pakistan with an average of 6 to 7 persons per household. According to an estimate from the health section of the PSLM report, nearly 101,355 individuals visit doctors twice every two weeks, of which 26,759 people belong to

urban areas while 74,596 belong to rural areas. This estimate gives a rough idea of people regularly visiting doctors and buying prescribed medicines. Estimates also reveal that most of these individuals fall under the low-income category, thus making a huge number of poor 'potential consumers' of medicines in Pakistan.

Based on the PSLM data discussed above, we estimated that around 28.6 million people will benefit from increased trade with India in terms of both price and quality. These are mostly persons falling under various categories of the poor – as defined by the Planning Commission of Pakistan.

10. Way Forward

In this section, we discuss recommendations with regard to India-Pakistan bilateral trade in the pharmaceutical sector.

The Ministry of Commerce in Pakistan should grant MFN status to India, which will result in reducing the items on the sensitive lists of both countries. Various studies have shown that a substantial amount of Indian pharmaceutical items find their way into Pakistani markets through informal channels. Thus, it is important for the Ministry of Commerce to recognise the domestic availability of Indian medicines and gradually allow the deletion of these items from the negative list.

The Ministry of Commerce should also collaborate with the Board of Investment to strategically capitalise on the investment-trade nexus that Pakistan can harness with regard to the pharmaceutical sector. As we have shown in this paper, instances of trade in inputs is a sign that supply chain integration can take place and be beneficial for both countries.

Ahmed et al. (2013) identifies various Indian medicines (like aspirin, amoxycillin, ampicillin, vasograin, pramipexole dihydrochloride etc.) that are brought informally into Pakistan and are easily available in the domestic market. It is thus important for the Drug Regulatory Authority of Pakistan (DRAP) to identify and test these medicines on the basis of centrally managed quality control systems to ensure that no sub-standard medicine enters the domestic market. DRAP can also establish liaison with standards associations in India to maintain uniformity of testing standards. This would facilitate easier mobility of goods across borders.

Apart from informally traded medicines, under-invoicing of imported products is also threatening the local industry. This has been a persistent issue that hurts the local pharmaceutical industry. This needs to be taken care of before liberalising pharmaceutical trade with India.

The Ministry of Interior should take serious note of customs clearance checkpoints, which facilitate informal trade in pharmaceutical products. Once that is done, cumbersome and irregular procedures at the customs department should be revised to allow easier flow of goods across borders. This would ensure that these medicines pass through the required quality assurance tests. Complicated customs procedures have often been identified as significant contributors to non-tariff barriers preventing India-Pakistan trade. The Ministry of Interior

should also consider a relaxed visa regime for the Indian business community to help ease trade and investments.

As trade theory suggests, intra-industry trade and vertical specialisation can minimise cost and enhance product quality with each country focusing on the product/service in which it has a comparative advantage. In this regard, one can look at numerous examples globally where industrial joint ventures have benefitted both trading partners. The Board of Investment (BoI) can thus facilitate joint ventures in pharmaceutical research and development between India and Pakistan. Investment policies need to be conducive to those products in which Pakistan has a comparative advantage. The Central Bank in Pakistan should now consider facilitation for cross-border bank branches that allow letters of credit for both traders and investors. This would help in enhancing trade and investment opportunities on both sides of the border.

Information and knowledge management at the business associations' level remains weak. Traders' associations in Pakistan should focus on importing products from India that are not included in the negative list, and particularly those in which India has a comparative advantage, such as active pharmaceutical ingredients (APIs). Similarly, they should identify markets in India for export of products in which Pakistan has gained a reputation. These include herbal and veterinary medicines and surgical goods.

Given that as neighbours, both India and Pakistan have been experiencing growth in their pharmaceutical sectors, it is time for manufacturers to shift their focus on products in which they have a comparative advantage. For example, Pakistani manufacturers can consider importing raw materials from India, which would allow them to produce low cost medicines. On the other hand, Pakistan has a lucrative opportunity in the export of alternative medicines to India. These products from Pakistan are highly sought after by both the Indian and Pakistani diaspora overseas. There can also be cross-border collaboration between various medical research institutes, especially those working on alternative/herbal medicines, plant bio-technology etc. Both the countries have similar demographics and a similar consumer base, allowing research from one country to be replicated in the industry of the other.

Given the prospects for enhancing pharmaceutical trade and cross-border investment, consumer groups in Pakistan can voice their support to importing from India. This would be beneficial in terms of providing cheaper medicines in the country. As already noted, there are a number of items that are not on the negative list, whose prices can be lowered if they are imported from India instead of other countries.

Think tanks should now undertake joint research with regard to common challenges in the health and pharmaceutical sectors. Track-II meetings between pharmaceutical manufacturers, service providers and traders must take place to identify specific areas of comparative advantage. This will help each country to focus on specialised products and services. It will also boost the confidence of Pakistan's pharmaceutical sector, which is at present apprehensive of the MFN status being considered for India. Development partners can play an important role in this context by supporting such research avenues and track-II and track-III meetings.

Lastly, PPMA and other pharmaceutical sector associations need to develop strong databases in order to promote evidence based policy-making. Unfortunately, no recent research on the industry's competitiveness could be found and most of the discourse relied on estimates by consulting organisations. This creates confusion as various data sources, when compared with each other, are contradictory.

Unless a single body is responsible for collecting and organising data related to the pharmaceutical sector's inputs, outputs, trade patterns, cost and price trends, it becomes a near impossible task to assess comparative advantages across borders. Another major platform known as 'Pharma Bureau of Information and Statistics', which seems to be the body responsible for maintaining data, is nearly inaccessible.[5] Even information as simple as the pharmaceutical sector's labour statistics, for instance, the number of students who graduated in D-pharmacy, is not maintained either by the Higher Education Commission or Pakistan Pharmacy Council, under which pharmacy educational institutes are registered.

[5] The organisation does not even have a website.

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