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Industrial Exports of Pakistan and Competition from China in Global Market

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Pakistan's industrial sector has major share in the exports, GDP, and employment of the country. A strong and growing industrial sector is pivotal for economic development of any country. Trade and industry are inseparable. Currently like many other countries of the world Pakistan's industrial sector is facing fierce competition by China in domestic and international markets. China has largest share in world trade and world GDP. After joining the WTO in 2001, China has increased its exports tremendously. China's rise as a huge economic power has many direct and indirect effects for other developed and developing economies. Despite the growing domestic trade share of industrial sector, Pakistan's share in international trade is not improving. Industrial sector can sustain and contribute positively to the economy of a country only if it can maintain its market share, and can compete successfully in global market. This paper is an attempt to recognise the competitive threat posed by China's increasing exports on the market share of Pakistan's major exports in world market and in United States of America market. Changes in relative market share are used to recognise the vulnerable exports of Pakistan. Results show that Pakistan's major industrial exports are facing competitive threat from China in world market as well as in USA market. Role of Revealed comparative advantage (RCA) is also discussed in this regard. It is found that products which have RCA more than that of China at the beginning of the study period were more likely to maintain or improve their market share. Though higher RCA does not mean that a product is performing well in world market.

JEL Classification: F10, F14
Keywords: Export, Comparative Advantage, International Trade

1. INTRODUCTION

Industrial growth is key to economic prosperity of any country. Pakistan's industrial sector is a major contributor to trade, employment and GDP of the country. Developed industrial sector provides employment to a major portion of population and increases productivity per worker. Share of industrial sector in Pakistan's GDP is about 21 percent [Pakistan (2016)]. Only cotton based textile products and garment manufacturing industries accounts for nearly 66 percent of exports, showing lack of diversification. International trade has significant role in economic and industrial development of any country. International trade enhances industrial productivity through

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competitive pressure and imports of better raw materials and know how. Trade also decreases poverty and increases supply of goods. Pakistan is also not an exception and depends on trade for imports of important raw material and exports of its industrial and agricultural goods for better prices in international markets, though its share in international trade is still very low. Pakistan's share in global exports is only 0.13 percent [WTO (2016)] Industrial and manufacturing sector can contribute to economic growth of the country if it can expand and maintain its share in domestic and global markets.

In last two decades China, has emerged as an economic giant in world economy. It is largest exporter of the goods to world since 2009 [WTO (2010)], and has largest share in world GDP based on PPP [WB (2016)]. Since joining WTO in 2001, China's exports increased tremendously in low tech less sophisticated goods. With the passage of time China is reallocating its production mix and emphasising on production of comparatively high-tech goods [Amiti and Freund (2008); Rodrick (2006)]. Keeping in view the trade patterns and performances, it can be concluded that even though Chinese products has improved a lot over time, economies producing high tech goods are still relatively in better position to compete with China. While economies whose dependence is on low tech labour intensive production are losing their market share to China [Fontagné, *et al.* (2008); Schott (2008)].

1.1. Why China is Selected to Study Competitive Threat

Pakistan is particularly vulnerable in this aspect as it has export structure very similar to that of China. After the completion of CPEC (China Pakistan Economic Corridor), China's exports will increase manifold, as coefficient of distance in trade studies is always negative and is usually significant [Magerman, *et al*. (2016)].

Pakistan's major export destinations are USA, China, UK and Germany. These countries are also among the top export destinations of China [UN-COMTRADE (2016)]. Pakistan's industrial goods are limited to some traditional products and there is lack of variety and innovation [Bari and Ejaz (2012)]. Though Pakistan has comparative advantage in production of textile related goods but is still facing fierce competition in domestic and international markets from China [Ahmad (2013); Akhtar, *et al.* (2008)]. Pakistan's comparative advantage depends on low cost labour but so has China a large supply of low wage labour from rural areas. Therefore, it is largest supplier of low cost low tech goods to the world. Over time productivity of its labourer has increased more than the wages so ensuring its competitiveness in the world market for low tech labour intensive goods. China is not only increasing the value and volume of its exports but also expanding its export base [Lall, *et al.* (2005)]. Pakistan is facing both complementary and competitive effects of China's exports. Focus of this paper is on competitive effects.

1.2. Objectives of the Study

Objective of the study is to explore the competitive threat from China to Pakistan in world market and in the USA market. Specific objectives of the study are;

(1) To find the interaction between changing world market and USA market, shares of Pakistan and China.
(2) To identify the Pakistan's exports, which are under competitive threat from China's exports.

(3) To estimate the dollar value of Pakistan's exports which are under competitive threat from China's exports.
(4) To explore the role of Revealed comparative advantage in exports' competitiveness.

2. REVIEW OF LITERATURE

There are number of studies which have analysed the direct and indirect effects of economic expansion of China on the other countries and regions. Here is review of some of these which are more relevant to the current work.

Bhattacharya, *et al.* (2001) focused on manufactured goods to study the China's effect on trade of selected Asian economies. Study used two digits disaggregated data for the period 1988 to 1996. Fixed effect, panel regression analysis was used for the analysis of the data. The research found a little effect before 1994 but after it results suggested that there was a strong correlation between declining market share of these countries and increasing share of China in the third markets. The study also emphasised on the role of devaluation of the Chain's currency in this trade effect. Findings suggested that more affected economies were Malaysia, Thailand and Pakistan. Findings of the study recommended that these countries need to upgrade and diversify their products. Improvements in technology, skills, and R&D was also suggested for maintaining the market share.

Eichengreen, *et al.* (2004) studied direct and indirect effects of China on other Asian exporters. The study used data of 13 Asian countries and all 180 remaining countries as importers. The research used complementarity index and competitive index and import and export penetration techniques for their study. The finding was that crowding-out effect was more in consumer goods markets as China was good player in those markets. While the Asian economies exporting capital goods or technology embodied goods were found in safe position. They also found that in the said period China's imports from these Asian countries also increased rapidly and had an uplifting impact on these economies. But this positive effect was for developed and high-income capital exporting countries while crowding-out effects were for low tech goods exporters.

Akhtar, *et al.* (2008) analysed the competitiveness of footwear industry of Pakistan in world market. Revealed comparative advantage index at 2 and 4-digit level of classification for 1996 to 2006 was calculated. RCA of Pakistan was compared with that of China and India. Results showed that industry has potential to expand trade. It was found that comparative disadvantage changed to advantage as compared to India and China during the study period. The study recommended that keeping in view the global competition government should decrease the cost of energy and inputs for industry.

Greenaway, *et al.* (2008) used gravity model to explore the displacement effect of China's exports on the exports of other Asian countries in third market. Study period was from 1990 to 2003. Two separate models were estimated, one for the exports from China only and second model included also Hong Kong re-exports of China's goods. Findings were that displacement effect was present and was more prominent in case of developed third markets. Study also showed that two Asian countries in sample, Japan and Korea had some reverse effect as their exports increased toward China during the observed period.

Fu, *et al.* (2009) explored the effects of Chinese's exports on the prices of manufactured goods from other countries. Disaggregated data for the major imports market as USA Japan and EU was used. Study period was 1989 to 2006. Results showed that exports from China not hurt only the exports of low income countries but also of the other countries with sophisticated goods and in all above-mentioned markets. Middle income countries were found to be most affected specially by the price competition posed by the China's exports.

Giovannetti, *et al.* (2011) explored the indirect competitive effects of China's exports on exports of Italy to their joint trading partners. Gravity trade model was used on the data for the period 1995 to 2007. It was classified at 6-digits level, per HS. Study found that as Italian exports were traditional and low tech so it was more at risk from China's exports. Results showed a significant adverse effect on its exports especially in developed markets. Traditional sectors such as textile was found to be at higher risk while specialisation within the sectors had provide some safeguard against the competition.

Edwards and Jenkins (2015) explored the effect of China's export penetration on industrial products and employment of South Africa using the data from 1992 to 2010. They applied econometric analysis and a Chenery decomposition to study the data [Chenery (1979)]. The findings of the study were that China's exports to South Asia has decreased African industrial output by 5 percent in 2010 than it should be otherwise. While reduction in employment in manufacturing sector was found about 8 percent. Reduction in employment was 3 percent more than the reduction in output. Reason was that China's exports were labour intensive so decrease in output was more pronounced in labour intensive industries which caused more reduction in employment. Positive effect was increase in labour productivity in some industries.

Wang (2015) examined the data on export similarity index between China and European Union for the period 2007 to 2013. Focus was on United States of America (USA) and Indian markets. Empirical analysis of the data showed that there was higher level of similarity in the exports of China and EU, but it was more for America than was in Indian Market. This similarity in exports has induced a severe competition between China and EU. Conclusion of the study was that China and European union have competition in American market while their exports are more complementary in case of Indian market. Wang (2015) suggested that China and EU should enhance cooperation in inter regional markets and should take measures to reduce trade frictions.

2.1. Competitiveness in International Trade

In business, firms compete for market share and increase in market share is loss for some other firm. In business studies, it is referred as competitive threat; expansion of market share of one is considered threat for others. On international level, same is considered for countries, where loss of export market share means incompetence. But countries trade in many commodities so if some of its industries are not performing well and losing market share it does not mean that whole economy is not competent [Lall, *et al.* (2005)].

According to Krugman (1994), competitiveness is a misguiding term when used for countries. Trade increases the welfare of all partners through specialisation. He argues

that in given scenario addition of a competitor will enhance the specialisation and gain will increase the welfare of all participating countries' there is no such thing as competitive threat. Krugman's conclusion depends on Heckscher and Ohlin trade model. The model explains that comparative advantage rises from resource endowment pattern of individual countries. And if the assumptions of the model are fulfilled, trading countries can consume beyond their production possibility frontier after specialisation under free trade. Some of the assumptions are full employment, perfect competition, perfect information, no economies of scale, factors of production are completely mobile within the country [Blaug (1992)].

Unfortunately, this does not happen as the assumptions are not realistic especially for developing countries. Though trade always enhance specialisation but when markets are not efficient and resources are not perfectly mobile as assumed, adjustment of resources according to changing trade pattern just not required trade openness but also policy inducement. This adjustment is not costless [Lall (2000)].

When it comes to China and Pakistan, competitive threat becomes a real thing to deal with. Pakistan will have to bear a significant adjustment cost even if it recognises well before time that what and which type of adjustment is required. If the adjustment is not quick and to required extent it may cause welfare-lose on permanent basis. Its highly depends on similarity of export pattern of China and Pakistan. More similarity means that more competition and more adjustment required. Pakistan's 50 percent exports go to only five countries, and these are also major destinations for China's exports [UN COMTRADE (2016)].

Lall and Albaladejo (2004) considered the threat imposed by Chinese export on East Asian countries manufacture exports. They found the loss of market share to some extent but threat was not serious. Reason was greater distance and that the export structure was rather complementary with that of the China's. Above mention both factors are not found in case of Pakistan, as Pakistan share border with China and exports are also not complementary as both countries are labour abundant.

3. METHODOLOGY

There is not any standard method for estimating 'competitive threat' for trade data. In business studies, market share is used to measure the extent of competitive pressure. Following the Lall, *et al.* (2004), and Lall, *et al.* (2005), matrix of competitive threat between China and Pakistan is constructed based on changes in relative market share of both (Table 1).

Nine possibilities of relative changes in market share are recognised (Table 1) and competitive threat categories are defined accordingly. These categories are defined below according to the type of threat posed by each combination of world market share.

Facing Threat: when share of one country is increasing and that of other is decreasing i.e. China is increasing and Pakistan is decreasing. *At Risk:* When share of one country is increasing and that of the other is constant. *Limited Threat:* Share of both countries is increasing but share of one is increasing more than the other. *No Threat:* Both countries share is increasing in the world market or both countries share is decreasing or share of both countries is constant. *Threat Reverse:* Threat to China. The paper makes use of this method to find the indication for competition and more

Table 1

Threat Possibilities Matrix between China and Pakistan

		China's Exports Share in World Market		
		Increased	Decreased	Constant
Pakistan's exports share in world market	Increased	No Threat or limited threat to Pakistan if share of Pakistan's is increased less than China's, vice versa	Threat to China	China's exports are at risk
Pakistan's exports share in world market	Decreased	Facing Competitive Threat from China	Both countries lost market share to some other country	No Threat from China
	Constant	Pakistan's exports are at risk	No Threat from China	No Threat from China

Derived from the Lall, *et al.* (2004) and Lall, *et al.* (2005).

vulnerable exports of Pakistan in world market. World market share (WMS) of exports of a country is calculated by dividing exports of that country by total exports of that good in world market.

In this context, RCA (Revealed comparative advantage) of both countries is also considered. The index is originated from David Ricardo classical theory of comparative advantage in trade. Most commonly used index is given by Balassa (1965):

$$RCA, P = \frac{Epj/Ept}{Enj/Ent}$$

Where *RCA, P* is revealed comparative advantage of Pakistan, numerator is share of that commodity in total export of Pakistan and denominator is share of that commodity in the world exports. If RCA is more than one it shows comparative advantage of the country, i.e. Pakistan in that commodity. In other words, share of that commodity in the country's exports is more than its average share in world market.

Data for the study is taken from UN COMTRADE on line data base (http://comtrade.un.org) and World Bank (WB), World Integrated Trade Solution WITS (http://wits.worldbank.org).

4. EMPIRICAL OUTCOMES

4.1. World Market Analysis

4.1.1. *WMS of Pakistan and China at Aggregate Level*

World market share of Pakistan and China is compared at aggregate level for 2003 and 2015. Table 2 shows that China's overall share in world market has increased from 5 percent to 15 percent while Pakistan share is same as was in 2003 and is very small as 0.14 percent in world market. Calculations show that China's world market share has increased three times from 2003 to 2015 for capital, consumer and intermediate goods

Table 2

World Market Share of Pakistan and China

Product Group	China % Share in 2003	China % Share in 2015	Pak % Share in 2003	Pak % Share In 2015
All Products	5.22	14.64	0.14	0.14
Capital Goods	5.83	19.58	0.01	0.01
Consumer Goods	6.87	16.71	0.27	0.26
Intermediate Goods	4.00	11.23	0.24	0.20
Raw Materials	2.20	2.37	0.07	0.14

Source: calculated from WITS data.

while that of Pakistan is constant in capital and is decreased in consumer and intermediate goods. Pakistan share has doubled in raw materials while China's share of raw materials increased only by 0.17 percent. These calculations are on aggregate level of products and do not prove any direct effect of China's exports share on Pakistan's exports share. But there is an indication for further analysis of competitive threat from China's exports to Pakistan's exports as Pakistan share has increased only in that category in which China's share is almost constant, i.e. Raw Materials. It is also possible that due to China's increasing demand for raw materials, Pakistan exports have increased in this category.

4.1.2. *WMS of Pakistan and China at Disaggregate Level and Threat Possibilities*

At aggregate level, it is possible that China's exports are increasing in footwear and that of Pakistan is decreasing in textile but both comes under consumer goods so showing that Chinas increase in foot wear export taking share of textile of Pakistan. It is obviously not conceivable. For a disaggregated level analysis, we started from relative changes in market share for different products classification.[1] First, we identified the most vulnerable commodities depending on the relative changes of WMS of both countries. Table 3 displays the percentage WMS of both countries in 2003 and 2015. To see the direction of change in WMS for both countries ratio of WMS in 2015 to the share in 2003 is calculated. If the ratio is more than one, it shows that share of the country has increased during the period. Examination of Table 3 reveals that China's market share increased in almost all products except minerals. While Pakistan could not improve even textile and clothing which is its major export goods. Pakistan market share increased only in primary goods as Animals, Food products, Vegetables, Wood and Minerals.

While all other goods as Textile and Clothing and Transportation, Footwear's, Fuels, Hides and Skins, Miscellaneous, Plastic or Rubber, Stone and Glass did not perform well in the world market for the said period. Classification of the Pakistan's exports for each of five categories[2] of competitive threat depending on the changes in market share of each product over time are given below, taken from Table 3.

[1]Products classification and HS CODES are given in the Appendix A & B.

[2] See Table 1.

Table 3

Changes in World Market Share of Pakistan and China

Product Group	China % Share in 2003	China % share in 2015	Pak % Share in 2003	Pak % Share in 2015	Direction of Change of China's WMS Share	Direction of Change of Pakistan's WMS Share	*Competi-tive Threat to Pakistan
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Animal	3.39	5.63	0.12	0.23	1.7	1.9	No threat
Chemicals	2.33	7.49	0.02	0.03	3.2	1.3	Limited threat
Food Products	3.01	5.49	0.06	0.17	1.8	2.7	No threat
Footwear	23.20	46.37	0.13	0.08	2.0	0.6	Facing threat
Fuels	1.52	1.80	0.04	0.02	1.2	0.5	Facing threat
Hides and Skins	17.61	30.97	1.06	0.98	1.8	0.9	Facing threat
Mach and Elec	7.32	23.22	0.005	0.01	3.2	1.3	Limited threat
Metals	4.77	16.90	0.02	0.04	3.5	2.0	Limited threat
Minerals	3.20	2.10	0.07	0.32	0.7	4.4	Threat reverse
Miscellaneous	5.33	16.13	0.07	0.05	3.0	0.8	Facing threat
Plastic or Rubber	3.66	12.54	0.05	0.04	3.4	1.0	At risk
Stone and Glass	3.85	11.56	0.02	0.01	3.0	0.4	Facing threat
Textiles and Clothing	15.97	38.37	1.81	1.81	2.4	1.0	At risk
Transportation	1.50	6.41	0.005	0.005	4.3	1.0	At risk
Vegetable	3.63	4.56	0.47	0.64	1.3	1.4	No threat
Wood	2.65	11.11	0.01	0.03	4.2	4.5	No threat

Source: Author calculations from WITS data. Column (6), (7) are calculated by dividing the % share of each country in world market 2015 to its share in 2003. If this ratio is more than one it shows that WMS has increased in.

*Competitive threat category is determined by comparing the values of column (6) and (7).

Facing Threat: Footwears, Fuels, Hides and Skins, Miscellaneous, Plastic or Rubber, Stone and Glass. *At Risk:* Plastic and Rubber, Textile and Clothing and Transportation. *Limited Threat:* Chemicals and Wood, Mechanicals and Electronics, Metal. *No Threat:* Animals, Food Products, Vegetables and Wood. *Threat Reverse:* Minerals. Again, these measures are just indicative and are not evidence that China is cause of changes in international market share of Pakistan. Pakistan's share improved a little in Mechanicals, Electronics and Metal.

4.1.3. *Dollar Value of Pakistan's Exports under Different Categories of Competitive Threat*

In previous section changes in WMS are considered and threat categories are assigned accordingly. To make this analysis meaningful for Pakistan, absolute dollar values of these exports and their percentage share in total exports of Pakistan is calculated for each category of threat.

Table 4

Threat Distribution by Value in US$ Million and as Percentage of Total Exports of Pakistan, 2015

Categories of Threat as are Defined in Table 1	Value of Exports under Given Category in 2015 (US$ Million)	% Distribution of Threat among the Defined Categories
Threat	2604.4	11.8
At Risk	13641.7	61.8
Limited Threat	472.13	2.1
No Threat	4778.7	21.6
Threat Reverse	592.04	2.7
Total	22089	100

Source: Computed from WITS data.

Calculated values of threat are given in Table 4. Calculations show that exports which are under one or other type of threat are 75.7 percent of total value of Pakistan's export. It seems clearly that industrial goods of Pakistan are not competent in world market and it requires some attention of policy makers. Percentage changes in WMS appeared to be negligible as were considered on world level but value of these changes is not negligible for Pakistan.

4.1.4. *RCA and World Market Share Comparison of China and Pakistan*

Country which has RCA more than one is said to have comparative advantage in that good. Table 5 shows RCA of Pakistan and China for the 2003 and 2015. Ratio of RCA of Pakistan to RCA of China is calculated for 2003 and 2015. A ratio more than one shows that Pakistan RCA is more than China [Shafaeddin (2002)]. It appears that mainly those products of Pakistan maintained their market which has RCA more than that of the China at the beginning of period, in 2003 and are primary goods. As are Animals, Food products and Vegetables except hides and skins. Pakistan RCA is more than China in hides and skin but China's market share has doubled during the said period while that of Pakistan's has decreased. In case of minerals Pakistan's RCA and market share has improved a lot from 2003 to 2015. Pakistan's RCA ratio to China's RCA for minerals was 0.7 in 2003 but has improved to 12 in 2015 which shows that Pakistan has a lot of potential in this category. All other goods which has RCA less than that of the China in 2003 are under one or other category of threat.

Textile and clothing sector of Pakistan exhibit the opposite trend. Pakistan's RCA in textile and clothing was 12.67 in 2003 and is 14.63 in 2015 while that of the China was 2.6 in 2003 and fall to 2.2 in 2015. Despite such a huge RCA, Pakistan's performance is very discouraging in this sector when WMS is considered, Table 3. Pakistan's higher RCA in textile and clothing is in accordance with its factor endowment. As Pakistan is labour intensive country with a large production of cotton. According to Heckscher Ohlin theorem, RCA is determined by factor endowment of the country [Jones (1956)].

Table 5

Comparison of RCA and Market Share, for China and Pakistan, 2003-2015

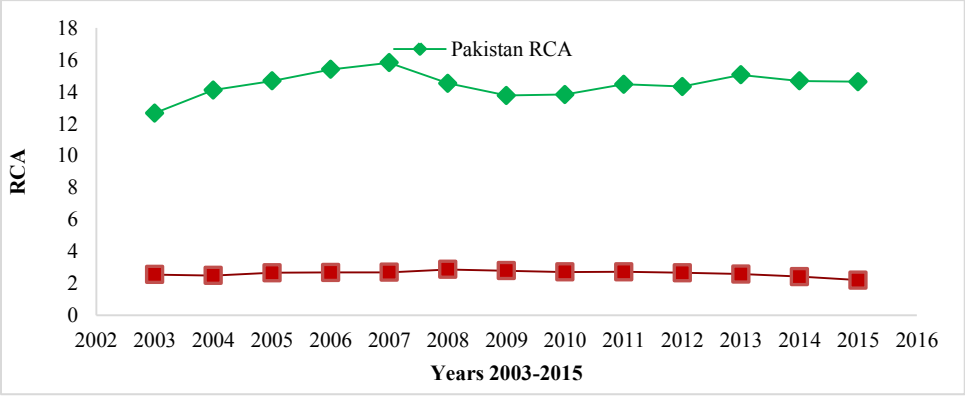
Product Group	China RCA 2003	China RCA 2015	Pak RCA 2003	Pak RCA 2015	Competitive Threat to Pakistan based on WMS	Relative RCA 2003 *Pak/ China	Relative RCA 2015 Pak/ China
All Products	1	1	1	1	–	–	–
Animal	0.47	0.29	0.81	1.15	No threat	1.7	4.0
Chemicals	0.34	0.46	0.13	0.12	Limited threat	0.4	0.3
Food Products	0.4	0.28	0.53	0.94	No threat	1.3	3.4
Footwear	5.31	2.96	0.65	0.78	Threat	0.1	0.3
Fuels	0.17	0.07	0.13	0.26	Threat	0.8	3.7
Hides and Skins	3.88	2.14	8.22	7.7	Threat	2.1	3.6
Mach and Elec	1.46	1.89	0.03	0.03	At risk	0.0	0.0
Metals	0.78	1.03	0.17	0.3	At risk	0.2	0.3
Minerals	0.44	0.13	0.29	1.58	Threat to China	0.7	12.2
Miscellaneous	1.62	1.24	0.47	0.51	Threat	0.3	0.4
Plastic or Rubber	0.71	0.79	0.37	0.28	Threat	0.5	0.4
Stone and Glass	0.78	0.59	0.32	0.24	Threat	0.4	0.4
Textiles and Clothing	2.56	2.21	12.67	14.63	At risk	4.9	6.6
Transportation	0.13	0.27	0.02	0.02	At risk	0.2	0.1
Vegetable	0.48	0.21	2.88	3.03	No threat	6.0	14.4
Wood	0.55	0.66	0.06	0.08	Limited threat	0.1	0.1

Source: Calculated from UN COMTRADE and WITS data.

*Pak/ China is Ratio of Pakistan's RCA to China RCA in given year, if its value is more than one it shows that Pakistan RCA is more than that of China in that year.

Share of China in textile and clothing has increased from 16 percent to 38 percent and Pakistan share is stagnant at only 1.8 percent in world market regardless of its RCA. It appears that a higher RCA does not mean that a sector or industry is performing well in world market. Higher RCA and lower WMS is an indication of competitive threat. Textile sector of Pakistan required more value addition to secure a better position in value chain, and to be able to export better valued exports. It should enhance quality and product planning. Export competitiveness can be achieved and maintained by international marketing, quality and design improvement and capacity building [Mahmood (2004)]. Figure 1, shows the comparison of Pakistan's and China's RCA for the period 2003-15 in textile and clothing.

Fig. 1. Textile and Clothing RCA of Pakistan and China



Source: Drawn from UN COMTRADE data.

Figure 2 is a comparison of dollar values of textile and clothing exports of Pakistan, with China and the world exports. Though Pakistan has maintained it share over the time but its share is negligible. World's and China's exports growing trend shows that world exports or demand for textile and clothing is increasing but Pakistan is not availing the opportunity.

Fig. 2. Textile and Clothing Exports of Pakistan, China and the World

Source: Drawn from UN COMTRADE data.

Pakistan's RCA is well above then that of the China's while dollar value of exports is well below the China's, during the same period for textile.

4.2. USA Market Analysis

In the first part analysis of WMS is conducted on aggregate and product level. Results have indication of threat from China's exports to Pakistan's WMS of exports. USA is major export destination of both China and Pakistan. 16.58 percent of total exports of Pakistan and 18 percent of total exports of China is destined to USA [WITS (2016)]. In the World market collective analysis, it is possible that threat indication is exaggerated or camouflaged due to different export destinations of China and Pakistan even if the products are same. For better insight of the issue analysis is conducted for USA market also.

4.2.1. *USA Market Share of Pakistan and China at Aggregate Level*

Table 6 shows that China's percentage share in USA market has increased from 6 percent to 20 percent, while that of the Pakistan has decreased from 0.19 percent to 0.18 percent, Table 6. It is different from World market where Pakistan maintained the overall share for the same period. Though decline in Pakistan share appears to be small as share of USA market but it's not small when the value of change is considered as total exports of the Pakistan.

Table 6

USA Market Share of Pakistan and China

Product Group	China % Share in 2003	China % Share in 2015	Pak % Share in 2003	Pak % Share In 2015
All Products	6.47	19.96	0.19	0.18
Capital Goods	7.43	23.29	0.01	0.02
Consumer Goods	8.49	24.55	0.41	0.42
Intermediate Goods	2.87	10.13	0.20	0.07
Raw Materials	1.28	2.51	0.02	0.04

Source: Calculated from WITS data.

USA a is major export destination of Pakistan and 16 percent of total exports of Pakistan goes to USA. China's share increased 14 percent in USA market and was 9 percent in world market. This comparison is suggestive of competitive threat.

4.2.2. USA Market Share of Pakistan and China at Disaggregate Level and Threat Possibilities

Further we analysed the changes in percentage share at product level in the USA market only, Table 7. For comparison purpose, same products categories and classification is used as was in WMS analysis.

Table 7

Changes in USA Market Share of Pakistan and China

Product Group	China % Share in 2003	China % Share in 2015	Pak % Share in 2003	Pak % Share in 2015	Direction of Change of China's Share	Direction of Change of Pakistan's Share	*Competitive Threat to Pakistan
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
All Products	6.47	19.96	0.19	0.18	3.1	0.9	Facing Threat
Animal	5.06	7.61	0.01	0.01	1.5	0.7	Facing threat
Chemicals	2.11	7.19	0.00	0.00	3.4	0.9	Facing threat
Food Products	2.42	6.69	0.01	0.08	2.8	6.6	No threat
Footwear	36.53	63.76	0.005	0.014	1.7	2.9	No threat
Fuels	0.42	0.74	0.00	0.00	1.8	0.0	----------
Hides and Skins	30.56	50.17	0.94	0.81	1.6	0.9	Facing threat
Mach and Elec	10.08	29.76	0.002	0.003	3.0	1.8	Limited threat
Metals	8.73	20.42	0.03	0.04	2.3	1.5	Limited threat
Minerals	7.45	6.92	0.03	0.40	0.9	14.1	Threat revers
Miscellaneous	10.71	26.38	0.07	0.08	2.5	1.1	Limited threat
Plastic or Rubber	9.18	24.75	0.01	0.04	2.7	3.3	No threat
Stone and Glass	4.15	16.67	0.03	0.01	4.0	0.4	Facing threat
Textiles and Clothing	9.58	41.04	3.30	2.84	4.3	0.9	Facing Threat
Transportation	1.43	5.05	0.001	0.002	3.5	2.2	Limited threat
Vegetable	1.80	3.59	0.15	0.15	2.0	1.0	At risk
Wood	3.98	21.00	0.004	0.01	5.3	2.9	Limited threat

Source: Author calculations from WITS data.

Column (6) and (7) are calculated by dividing the % share of each country in USA market 2015 to its share in 2003. If this ratio is more than one it shows that its share in USA market has increased.

*Competitive threat category is determined by comparing the values of column (6) and (7).

China's share in USA market has almost doubled in all categories. It seems that Pakistan's share has also improved not only in primary goods but also for some value-added goods as foot wears, mechanicals and electronics and transportation. Point is that this improvement is from very lower WMS. Considering Foot Wears industry China's share doubled from 36 percent to 64 percent while Pakistan share rise more than doubled but only from 0.005 percent 0.014 percent. Same is the case for other goods. Textile sector of Pakistan maintained its WMS but its fall from 3.3 percent to 2.8 percent in USA market.

Pakistan's exports classification in USA market according to the threat category[3] are given as, *Facing Threat:* Animal, Chemical, Hides and Skin, Stone and Glass, Textiles and Clothing. *At Risk:* Vegetable. *Limited Threat:* Mach and Electronics, Metals, Miscellaneous, transportation and wood. *No Threat:* Food products, Footwear, Plastic or Rubber. *Threat Reverse:* Minerals. Important change as compared to world is that Textile sector now falls under the category of facing threat and foot wear has improved its category to no threat.

4.2.3. Dollar Value of Pakistan's Exports under Different Categories of Competitive Threat in USA Market

Table 8 shows dollar value of threat for Pakistan's exports in USA market. Dollar value of the exports falling under the category of facing threat is 88.7 percent of total exports value of the Pakistan's exports, in case of world market it was only 11.8 percent. Destination specific analysis at disaggregated level of exports, reveals that competing with China in third market is a serious issue for Pakistan's export. If other categories of threat are ignored and we focus only on "facing Threat" which is obviously negative, is not small enough to ignore.

Comparison of RCA of China and Pakistan in USA market (Appendix C) gave the same results as were in the world market.

Table 8

Threat Distribution by Value in US$ Million and as Percentage of Total Exports of Pakistan, 2015. For USA Market Share

Categories of Threat as are Defined in Table 1	Value of Exports under Given Category in 2015 (US$ Million)	% Distribution of Threat among the Defined Categories
Facing Threat	3248.1	88.7
At Risk	62.5	1.7
Limited Threat	253.3	6.9
No Threat	75.7	2.1
Reverse Threat	22.0	0.6
Total	3661.6	100

Source: Computed from WITS data.

[3]See Table 1.

5. CONCLUSION AND POLICY OPTIONS

Relative changes in market share and threat dollar value as percentage of total export value, both measures have some shortcomings as a measure of competitive threat. Nevertheless, in this analysis both at aggregated level and disaggregated level these measures have pointed out in same direction. It appears that Pakistan's exports are facing threat from China's enormously growing exports in world market and in USA market. Despite growing world demand and trade volume, share of Pakistan's exports in world market is stagnant over time. Pakistan is facing competition in world market and in USA market from China for its major exports categories i.e. textile and foot wears, though Pakistan has comparative advantage in production of these goods. Results show that RCA is not a guaranty of better performance at world level. It only shows that a sector or industry is growing fast as compared to other sectors domestically. CPEC (China Pakistan Economic Corridor) is an opportunity to enhance the exports but Pakistan's trade and industrial sector not seems to be equipped to avail the opportunity.

Pakistan policy makers need to observe China's approach to economic development and export orientated growth and should implement in accordance to Pakistan economy requirements.

Pakistan should synchronise its economic policies with that of the Chine's, i.e. China is shifting its production from labour intensive low-tech goods to capital intensive high-tech goods so its again an opportunity to avail. China is capturing world market share through E-commerce and digital marketing. Pakistan should also promote its products through digital marketing and should acquire its share in world E-commerce. Providing quality at competitive prices in world market is the only way to exports growth in this era of free trade and globalisation.

Appendices

Appendix A

Aggregate Products, HS Classification and Codes

All Products	HS 1988-92
Capital Goods	Number of Products at HS 6 digit: 905
Consumer Goods	Number of Products at HS 6 digit: 1532
Intermediate Goods	Number of Products at HS 6 digit: 2049
Raw Materials	Number of Products at HS 6 digit: 584

Source: UN COMTRADE data base.

Appendix B

Products and Codes HS 1988-92

Products	Codes HS 1988-92
Animal	HS 01-05
Chemicals	HS 28-38
Food Products	HS 16-24
Footwear	HS 64-67
Fuels	HS 27
Hides and Skins	HS 41-43
Mach and Electronics	HS 84, 85
Metals	HS 72-83
Minerals	HS 25, 26
Miscellaneous	HS 90-99
Plastic or Rubber	HS 39, 40
Stone and Glass	HS 68-71
Textiles and Clothing	HS 50-63
Transportation	HS 86-89
Vegetable	HS 06-15
Wood	HS 44-49

Source: UN COMTRADE and WITS. Online data base.

Appendix C

Comparison of RCA and Market Share for China and Pakistan

Product Group	China RCA 2003	China RCA 2015	Pak RCA 2003	Pak RCA 2015	Competitive Threat to Pakistan based on WMS	Relative RCA 2003 *Pak/ China	Relative RCA 2015 *Pak/Chin a
Animal	0.59	0.36	0.10	0.05	Facing threat	0.2	0.1
Chemicals	0.27	0.33	0.00	0.01	Facing threat	0.0	0.0
Food Products	0.26	0.22	0.22	0.59	No threat	0.8	2.7
Footwear	5.45	2.96	0.08	0.12	No threat	0.0	0.0
Fuels	0.02	0.01	0	0	–	0.0	0.0
Hides and Skins	4.85	2.71	5.27	4.9	Facing threat	1.1	1.8
Mach and Elec	1.45	1.69	0.00	0.00	Limited threat	0.0	0.0
Metals	1.14	1.00	0.22	0.28	Limited threat	0.2	0.3
Minerals	0.63	0.37	0.04	2.85	Threat revers	0.1	7.7
Miscellaneous	1.89	1.28	0.40	0.56	Limited threat	0.2	0.4
Plastic or Rubber	1.26	1.18	0.11	0.24	No threat	0.1	0.2
Stone and Glass	0.86	0.61	0.32	0.19	Facing threat	0.4	0.3
Textiles and Clothing	1.21	1.71	13.43	15.77	Facing Threat	11.1	9.2
Transportation	0.12	0.22	0.00	0.01	Limited threat	0.0	0.0
Vegetable	0.21	0.16	0.75	0.93	At risk	3.6	5.8
Wood	0.73	1.06	0.02	0.05	Limited threat	0.0	0.0

Source: Calculated from UN COMTRADE and WITS.

*Pak/ China is Ratio of Pakistan's RCA to China RCA in given year, if its value is more than one it shows that Pakistan RCA is more than that of the China.

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