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Towards a vision 2030 and the challenges of openness to Pakistan economy:

Export competitiveness of Pakistan's manufacturing sector, past trends and future prospects.

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Abstract

The study reviewed the industrial and export structure of Pakistan economy during the last two decades, and evaluated the changes in the structure and composition of Pakistan's manufacturing exports over the time, especially during 1990-2007. The key features of trade liberalization reforms since 1998 have been discussed and found that the reforms have not changed the composition of exports of Pakistan's manufacturing sector. The exports of Pakistan still concentrate on traditional resource-base and low value added products relying on labor-intensive technology. The above observations also reflect the weakness of Pakistan's industrial sector in transforming from low to relatively high technology products over the time. Although trade liberalizations are important and necessary in the new era of global integration, there is need to undertake relevant structural reforms focusing on to bring about significant changes in the industrial structure of Pakistan. A more focused attention to be given to those production activities which have relatively higher scope and larger size in the international markets. In the view of past and current performance of the industrial/manufacturing sector, the growth targets for the manufacturing sector of Pakistan as envisaged in the long term plan vision 2030 in the year 2006, seems to be ambitious.

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Introduction:

Export performance for the developing countries is generally believed to have a pivotal role in providing the much-needed impetus for economic growth. Export led growth has been put forward as the efficient alternative to inward-orientation strategies for development because it is believe to lead to higher total factor productivity growth and encourage foreign direct investment. The pressure of competing in the world markets may also lead to better product quality and force domestic producers to reduce production inefficiencies. Foreign exchange liberalization, an important component of the export led growth strategy, is likely to reduce the allocative inefficiencies of exchange control[1].

Trade has been an engine of growth for East Asian countries the process began with Japan's era of high economic growth in the 1960s, followed by the newly industrialized East Asian economies, Korea, Hong Kong, Singapore and Taiwan in the 1970s and 1980s, the ASEAN four in the 1980s and China in the 1990s. Economic growth in East Asia, which for decades was above that of other developing countries, was driven by an export-oriented industrialization policy. Policy usually began with industrial-policy type instruments specific to target sectors or more general export incentives, such as subsidized export credit, duty free imports for manufacturing export products, and encouraging export-oriented foreign investment. In more recent years, due to restrictions on the use of these instruments under the World Trade Organization (WTO) and changes in policy stance, more general incentive structures for reforming trade and investment regimes, appropriate exchange rates, and macroeconomic policies have been adopted (WB 1998, 2004).

In the case of Pakistan until the end of 1990's an inward-oriented import substitution policy had been followed. In fact, the changes in the global scenario, trade openness and international integration compelled Pakistan to pursue trade liberalization. During the early and mid 1990s, most countries in South Asia liberalized their trade policies significantly, while Pakistan postponed trade reforms until the end of decade. In 1998 with a major departure from the strongly protectionist policies of the previous decades, the Government of Pakistan has embarked on a substantial trade liberalization programs. The major objectives include: enhancing domestic competition; boosting trade integration with an increasing emphasis on export diversification and outward-orientation; and gradual alignment of domestic relative prices of traded goods with international prices. Those major changes in the trade policy will help promote efficiency in resource allocation, stimulate productivity growth, foster technological progress, and encourage potential export activities. Improvements in the trade policy regime have been implemented through tariff cuts and rationalization, as well through the removal of import quotas, import surcharges, and the

[1] For debate on inward and outward strategies see, Ram, 1987, 1985; Balassa, 1983, 1978, 1979, 1965; Bhagwati, 1987, 1979; Kavonssi, 1984; Dollar, 1991; Mochose, 1989; Feder, 1983.

regulatory duties. State enterprises that used to have control over imports and exports of certain products were also eliminated. Although the government intended to expedite the process of reforms, structural changes and integration, the political instability and war on terrorism by the western powers in the region (Pakistan has been the frontline state in the war on terrorism) the progress remained inconsistent during last several years, especially after the event of nine-eleven.

The fact that trade liberalization in Pakistan was much too slow in the 1990s, when other developing countries both in South Asia and in other regions pressed ahead with significant trade liberalization and the complementary structural reforms, Pakistan opted not to change much in trade openness. That is why Pakistan performed below her potential in raising factor productivity and overall economic growth. Of course, the other key problems of large macroeconomic imbalances, domestic political instability and the security concerns, the regional tensions, and very slow improvement in the investment climate significantly limited any gains in efficiency and productivity that could have been realized from whatever trade liberalization took place[2].

The growth performance of Pakistan had not been steady over the past three decades it fluctuated year by year during the 1980's and 1990's[3], since last few years the economy is growing relatively steady on an average around 7 percent. The reasons for the slow and fluctuating growth were political, economic and financial shocks. But more importantly, a number of unresolved structural problems such as low tax base, inflexible public expenditures and a heavy debt burden that limited the fiscal space for public sector led investments. The private sector has been constrained by a difficult investment climate due to excessive regulations and government interventions, an uncertain economic policy environment and pervasive governance problems. There has been an attempt in the past few years to turn around the economy and to bring about structural changes. A major focus of the economic and structural reforms has been to make exports as an engine of growth[4].

The characteristics of industrial structure of Pakistan indicate that it has rather fixed shares of specific industries since last several decades. Traditional products such as textile & fibers, leather, food and tobacco, based on low-technology or labor intensive technology, are the major industries in terms of their contribution to value addition. The share of these industries dominates the whole of industrial sector and this group of products/industries also procures the major share of domestic raw materials. However, the share of food and tobacco has been declining over the time where as the share of textile and fiber has increased significantly since during last one decade. On the other hand the share of relatively medium or high level of technology products remains low or decreasing over the time.

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[2] See WB (2006) and Naqvi (2001).
[3] See Pakistan Economic Survey 2008.
[4] See Ashfaq (1993).

Regarding the export sector, traditionally because of industrial structure and factor endowment or what so ever reasons, the export exports of Pakistan have been dominated by textile, cotton, leather, food and raw materials, mainly produced by resource based and low-technology labor-intensive industries (73% of total exports). Those products have lower price in the international markets as well as their share in the world export market is small. In terms of diversity and concentration the exports of Pakistan have been characterized as least diversified and concentrated to few partners, especially the United States and Europe. Furthermore, the recent external developments has dramatically intensified the competition among textile and apparel exporters since the end of year 2005 with the removal of the textile and clothing export quotas under the Agreement on Textiles & Clothing (ATC). In the coming years the contest will heighten further with the end of permissible safeguards against China's exports. Pakistan's past export performance relying on textile and low value added commodities does not guarantee success in the future.

Pakistan's past experience in the export sector shows a little success. The export earnings of Pakistan have been stuck at around 8-9 billion US dollars during 1990's and around 16-17 billion US dollars during 2005-2006, (around 13% of the GDP). Its share in world trade (exports) has been stagnant at less than 0.2% of world trade[5]. Export growth rates have fluctuated from year to year during the past three decades. As mentioned above, Pakistan's export base has been limited and heavily relied on low value-added cotton and cotton-based textile products, which make up about 70% of merchandise exports.

Other factors that led to the poor export performance include: falling unit prices of a wide range of exports, including commodity exports and low value cotton manufactured goods: issues of gaining deeper access in the US and European markets, which are the dominant export markets for Pakistani textiles; and a wide range of behind the border policies, particularly the heavy reliance of trade related taxes in the tax structure, high interest rates during the 1990s, a fairly intrusive regulatory environment for businesses and exporters, and problems of poor governance and political/sectarian violence that affected the larger export centers. It is quite clear that Pakistan's export competitiveness, which can be defined as its ability to achieve sustained high rates of export growth, has been affected by those exogenous and endogenous factors resulting in stagnating exports[6].

In the line of structural and trade liberalization reforms which started in early 1998, the government of Pakistan in 2006 announced to pursue "Vision 2030" in response the Planning Commission of Pakistan drafted a long-term plan to realize the vision. The plan broadly envisages carry on structural reforms in order to cope with the challenges of changed scenario in the global trade regimes. The economy of Pakistan would be further liberalized and globally integrated by significantly increasing the share of trade as percentage of GDP, and especial attention to be given to value added exports and

[5] See Table 1 in the annexure.
[6] See Naqvi and Muhammad (2001).

diversification. The plan also sets specific quantitative targets such as increasing per capita income to 3,000 US dollars by the year 2030. These targets based on several assumptions, for example keeping average annual growth rate of GDP and manufacturing sector at 7 percent and 10 percent respectively and increasing the share of manufacturing sector in GDP to 30 percent by the target year.

This study intends to evaluate the trade policy reforms and examine the changes in the structure of exports of Pakistan over the time specially, during 1990-2007. Furthermore, the broader targets of growth of manufacturing sector would be evaluated in the light of changes in the structure and composition of Pakistan's manufacturing exports. The rest of study is organized as follows: Section 2 describes general growth performance, industrial composition and export structure of Pakistan economy. In section 3 the key features of the trade policy reforms since 1998 have been discussed. Section 4 deals with the measurements of export competitiveness of manufacturing as well other key sectors of Pakistan's economy. And finally on the basis of analyses and reviews main findings are summarized in Section 5.

Section 2: General overview of economy

2-1 Structure and growth performance of Pakistan economy:

The economy of Pakistan can broadly be described into three sectors, agriculture, manufacturing and the services sectors. The services sector contributes around 60 percent, where as manufacturing 19 percent and agriculture sector 21 percent in GDP. The growth performance of Pakistan has not been steady over the past three decades, during the 1980's average growth rates of around 6 percent whereas during 1990's it witnessed a steady decline in growth rates around 5 percent. The average annual growth rates of the economy remained around 5 percent since 1971. Table 1, indicates that since 2004, the economy has shown a relatively high and steady growth on average around 7 percent. The reasons for the slow and fluctuating growth were political, economic and financial shocks. But more importantly, a number of unresolved structural problems such as low tax base, inflexible public expenditures and a heavy debt burden that limited the fiscal space for public sector led investments. The private sector has been constrained by a difficult investment climate due to excessive regulations and government interventions, an uncertain economic policy environment and pervasive governance problems. There has been an attempt in the past few years to turn around the economy and to bring about structural changes. A major focus of the economic and structural reforms, since 1998, has been to make exports as an engine of growth.

Table 1 Growth performance of Pakistan economy (real GDP)

Period	GDP	Agriculture	Manufacturing	Services
1971-2000	5.37	3.89	6.32	5.82
2000-2001	1.80	-2.20	9.30	3.10
2001-2002	3.10	0.10	4.50	4.80
2002-2003	5.10	4.10	6.90	5.30
2003-2004	7.50	2.40	14.00	5.80
2004-2005	8.60	6.50	15.50	8.50
2005-2006	6.60	1.60	10.00	9.60
2006-2007	7.00	5.00	8.40	8.00

Source: Pakistan Economic Survey (various issue), GDP.

2-2 Structure of Pakistan's Industrial sector:

The growth rates in manufacturing sector also shows the same trend as that of economy, it has fluctuated from year to year during last three decades. Since 2003, manufacturing sector has shown relatively steady and higher growth (in double digits). The characteristics of manufacturing/industrial structure of Pakistan indicate that it has rather fixed shares of specific industries since last several decades. Traditional products such as textile & fibers, leather, food and tobacco, based on low-technology or labor intensive technology, are the major industries in terms of their contribution to value addition 43.2 % in 19986, and 38.8 % in 2007 as shown in Table 2. The share of these industries dominates the whole of industrial sector and this group of products/industries also procures the major share of domestic raw materials. However, the share of food and tobacco has been declining over the time where as the share of textile and fiber has increased significantly since during last one decade (sine 1986). On the other hand chemicals and pharmaceutical industries constitutes 12.7 % share in value added during 1986, increases its share slowly to 9.8 % during 2007. This sector is characterized as relatively technology intensive and faces difficulties to achieve the economies of scale as most of the raw materials used by this industry in Pakistan are imported at high costs. The other sectors like non-metal products, electrical appliance iron and steel and petroleum products witnesses declining trend in their share while comparing 1986-2007. Automobile industry witnessed moderate growth during the last two decades and its share in value addition has gone up from 2.5 % in 1986 to 3.9 % during 2007. In brief, the textile and leather based traditional products, based on low or labor intensive technology, are still the major industries in terms of their contribution to value addition whereas the share of relatively medium or high technology intensive products/industries remains low or decreasing over the time.

Table 2 Major Industries in Manufacturing Sector Pakistan (value added % share)

Type of Industry	1986	1996	20007
Textile	**15.5**	**22.3**	**24.5**
Food	**17.6**	**15.2**	**11.3**
Tobacco	**10.1**	**6.2**	**3.0**
	43.2 %	**43.7 %**	**38.8 %**
Chemical	8.3	8.5	4.8
Non-metal Product	7.4	7.7	4.2
Electrical Appliance	3.4	7.7	2.5
Pharmaceuticals	4.3	4.8	5.0
Iron & Steel	4.0	4.2	3.5
Automobile	2.5	3.5	3.9
Petroleum Refining	7.5	3.1	5.2

Source: Pakistan Economic Survey (various issues).

2-3 Structure of Pakistan's Exports:

Owing to the industrial structure of Pakistan, factor endowment or what so ever reasons, traditionally the export of Pakistan have been dominated by textile, cotton, leather, food and raw materials, mainly produced by resource based and low-tech labor intensive industries (more than 74 percent total exports). Those products have lower price in the international markets as well as their share in the world export market is small. Table 3, shows the value share of major categories of products exported by Pakistan during 1990-2007. In terms of value, since 1990's the major share is from either resource based or labor-intensive technology based industries. Exports of Pakistan have been dominated generally by low tech and low value added products such as textile, leather, raw materials and food items in the past and even in the year 2007.

In terms of composition by technology classification comparison over the time, as shown in Table 4, the share of raw materials and resource based products in the total exports of Pakistan has decreased significantly from 37.15 percent in 1985 to 19 percent during 2005. Whereas the share of labor-intensive technology based products has increased from around 53 percent in 1985 to almost 73 percent during 2005. In the composition of exports the share of medium & high technology products remained the same rather it has experienced a slight

Table 3 Major Exports of Pakistan's (value share %)

Code	Commodity	1990	2000	2007
03	Fish (RI)	**1.92**	**1.63**	**1.02**
04	Cereals (LI)	**4.38**	**5.97**	**7.64**
11	Beverages (LI)	0.00	0.00	0.05
12	Tobacco (RI)	0.12	0.07	0.06
21	Hides (RI)	0.01	0.00	0.00
22	Oil seeds (RI)	0.40	0.10	0.18
25	Pulp and waste (LI)	0.00	0.00	0.00
29	Crude materials (RI)	1.12	0.58	0.35
32	Coal (RI)	0.06	0.00	0.01
33	Petroleum products (RI)	**1.21**	**1.43**	**5.57**
51	Organic chemicals (TI)	0.08	0.32	0.90
52	Inorganic chemicals (TI)	0.01	0.01	0.07
53	Dyeing materials (LI)	0.02	0.01	0.08
54	Pharmaceutical (TI)	0.21	0.46	0.62
57	Explosives products (TI)	0.00	0.00	0.00
59	Chemical products (TI)	0.04	0.11	0.11
61	Leather (LI)	**5.63**	**2.35**	**2.27**
65	Textile (LI)	**56.78**	**51.59**	**42.14**
83	Travel goods (LI)	0.05	0.02	0.08
85	Footwear (LI)	0.40	0.43	0.62

Data source: UN comtrade 2008, calculated by author.

Table 4 Comparison of Pakistan's exports by technology classification (1985 & 2005)

Technology Level	Pakistan's export		World export
	Share in 1985	Share in 2005	Share in 2005
Raw material (PP)	33.06	10.99	8.86
Resource-based (RB)	4.09	8.00	14.05
Low-tech (LT)	52.98	72.70	13.88
Medium-tech (MT)	8.57	6.94	32.27
High-tech- (HT)	0.30	1.21	22.43
Others	0.99	0.13	8.51

Source of data: UN Comtrade Database 2008, definition of technological classification based on Lall, S. (2001).

decline from 8.87 percent during 1985 to 8.15 percent during 2005. While looking at the trends in the world exports during 2005, the composition/share of raw material and resource based products were around 23 percent, whereas labor-intensive products constituted around 14 percent. The major share of world exports based on medium & high technology products during the year 2005. In other words, the trend in world exports shows that the scope and size of raw materials, resource based and labor-intensive products have been decreasing over the time. The above comparison identifies one of the important reasons why the share of Pakistan's exports to the world has been stuck up at less than 0.2 percent for last two decades[7].

2-4 Export Diversification:

As mentioned above the exports of Pakistan have been least diversified since last several decades. Export diversification is held to be important for developing countries because many developing countries are often highly dependent on relatively few primary commodities for their export earnings. Unstable prices for these commodities may subject a developing country exporter to serious terms of trade shocks. Since the covariation in individual commodity prices is less than perfect, diversification into new primary export products is generally viewed as positive development. The strongest positive effects are normally associated with diversification into relatively high value-added manufactured goods, in other words from labor to technology intensive products, and its benefits include higher and more stable export earnings, job creation and learning effects, and the development of new skills and infrastructure that would facilitate the development of even newer export products.

Table 5, show that the exports of Pakistan have been least diversified in terms of commodities since 1990's it is rather stagnant more or less at 30 percent[8]. This is an

[7] See Table1, in the annexure.

[8] For the calculations of index we used 349 individual products using SITC-2 four digits classification. The lower the index the less concentrated are a county's exports.

Table 5 Export diversification (or Concentration) of Pakistan

Year	1990	1995	2000	2005	2006
Index	30.21	30.07	31.49	29.78	29.12

Calculated by author, data source: UN comtrade 2008.

indication that Pakistan's manufacturing sector has not been shifted from labor-intensive (low value added) towards relatively technology intensive production base even after several structural and trade liberalization reforms[9]. The major factors for low diversification index include: the pace of structural reforms related to industries was too slow, supply side negative shocks such as oil price increase, shortage of power, high tariff rates on industrial use of electricity, and the exchange rate (devaluation of rupee) contributed most in increasing the cost of imported raw materials of technology base industries. Thus the technology based production industries were unable to achieve the economies of scale and with the high cost of production they were unable to compete in the international markets[10].

Another important feature in the structure of exports of Pakistan is concentration, the bulk of exports around 78 percent concentrated to few partners. The major partners include the United States, United Kingdom, Germany, Italy, Spain, France, Turkey, China, United Arab Emirates and Saudi Arabia and recently Afghanistan has emerged as major market for food and constructions related products. Table 6, below shows the list of major export partners as well as the trends of exports over time.

The trend of bilateral trade generally determines whether the value of trade between two countries is greater or smaller than would be expected on the basis of their importance in world trade. Trade intensity (in terms of exports) of Pakistan with selected partners is shown in Table 2, of the annexure. The bilateral export pattern indicate that the with the United States, China and middle eastern countries exports were higher than expected during the years 2005 and 2006. Whereas with other major European and Asian partners less than expected during the same period[11].

The current and past trends of Pakistan's exports show that the traditional products like textile and clothing, cotton, leather, food and raw materials, mainly produced by resource based and low-tech labor intensive industries, have been competitive in the international markets, where as the scope and size of those products in the world market is limited and declining over the time. In the era of trade liberalization and open boarders even if a country has experienced rapid growth of such products in the past can easily loose her share in the world market as soon as the labor costs of production increases as

[9] Reference period is 1990-2007.

[10] Those industries are facing several other severe problems like shortage of skilled labor and electricity, inadequate physical infrastructure, administrative policies beside the political instability and security factors.

[11] See Akhtar (2000); Khan (1993) and Naqvi (2000).

Table 6 Pakistan's exports to major countries (% share)

Country	1990	2000	2006	2007
USA	12.4	24.7	25.7	21.6
United Arab Emirates	3.3	6.2	7.3	11.9
UK	7.4	6.5	5.5	5.4
Germany	0.0	5.6	4.1	4.1
Afghanistan	0.0	1.3	5.9	4.7
Italy	4.5	2.4	3.7	3.8
China, Hong Kong SAR	5.0	5.9	4.0	3.4
Spain	1.7	1.8	2.8	2.7
France	4.0	3.1	2.1	2.0
Belgium	0.0	2.0	2.0	2.0
Saudi Arabia	2.9	2.7	1.8	1.7
Turkey	1.5	1.1	2.0	2.5
Rep. of Korea	3.0	2.9	1.0	1.0
Japan	8.2	2.6	0.8	0.7
Bangladesh	1.8	1.5	1.6	1.6
Canada	1.7	2.1	1.2	1.1
Sri Lanka	1.2	0.9	1.0	1.2
Iran	0.6	0.2	1.1	0.8
India	0.9	0.7	1.9	1.6
Total	61.4	76.9	78.6	77.3
Others	38.6	23.1	21.4	22.7

Source: Calculated by author, data source UN comtrade 2008.

compare to other competitors. Furthermore, the recent external developments has dramatically intensified the competition among textile and apparel exporters since the end of year 2005 with the removal of the textile and clothing export quotas under the Agreement on Textiles & Clothing (ATC). In the coming years the contest will heighten further with the end of permissible safeguards against China's exports, and the outcomes of WTO multilateral trade negotiations. Pakistan's past export performance relying on textile and low value added commodities does not guarantee success in the future. However, if the manufacturing industry Pakistan to grow by 10 percent per year (as envisaged in the vision 2030, long term plan) it is imperative to promote more high tech value added manufacturing which would expect increasing demand in the world market. Trade liberalization reforms are no doubt, necessary there is need to expedite other sufficient broader structural reforms ranging from provision of adequate physical infrastructure, provision of power, skill development as well as political stability and law and order to facilitate foreign direct investment and joint venture to technology transfer, so that those industries could achieve economies of scale in their production and compete in the international markets.

Section 3: Trade Policy Reforms Since 1998

There is widespread agreement that in the long run economies with liberal trade policies and greater openness show stronger economic growth and overall development performance. Many cross-country studies and country case studies (that have assessed the impacts of trade liberalization episodes in sub-periods in a given country) have found this positive relationship between trade liberalization and economic performance[12]. Trade liberalization accompanied by complementary policies and structural reforms aimed at improving business environment increases trade openness, brings domestic prices into closer alignment with international prices, fosters market competition, and facilitates technology diffusion and upgrading. These developments strengthen productivity growth and efficiency in resource use and allocation, thus also boosting export performance and economic growth[13]. As mentioned earlier, Pakistan delayed the trade liberalization reforms comparing to other developing countries. The comparison over the period shows that during the second half of the 1990's Pakistan had one of the most highly protectionist trade regimes in South Asia and in the world, whereas in the recent years specially after 2005, the trade policy regime of Pakistan is one of the most open in South Asia.

Trade openness', as measured by the ratio of trade to GDP, is one of the key indicators of global integration. In the medium and longer term, trade openness is affected to a large extent measure by how liberal the trade policy has been and is, as well by economic growth and competitiveness of the real effective exchange rates. During the 1990s, most countries in South Asia liberalized their trade policies significantly, while Pakistan postponed broader and deeper tariff rationalization until end of the decade. Pakistan's simple average tariff (customs duty) rate fell from about 64.8 percent in 1990 to 47.1 percent in 1998 as shown in Table 8, while in India it fell from 94 percent in 1992 to 40.2 percent by 1998, in Bangladesh from 73.6 percent to 33.2 percent over the same period[14]. In line with these fairly high tariff levels and also reflecting generally weak growth performance, Pakistan's trade openness, based on her merchandise trade, remained stable at around 25 percent of GDP in the 1990s. Whereas during the same period India and Bangladesh as a result of greater openness and trade liberalization experienced relatively stronger growth performance which in turns was partly spurred by reductions in protection rates and structural reforms in the domestic economy.

[12] Dollar, D. and A. Kraay (2004), Dollar, D. and A. Kraay (2002), Michaely, M., D. Papageorgiou, and A. Choksi (1991), Winters, L. Alan, N. McCulloch, and A. McKay (2004), Rodriguez, F. and Rodrik, D. (2000), Srinivasan. T.N. and J. Bhagwati (2001).
[13] See WB (2006).
[14] Also see WB (2006).

3-1 Trade Regime in Pakistan's Major Competitors (2000-2006)

The trade performance of Pakistan by comparing the degree of openness of the economy, measured in terms of the ratio of external trade to GDP, with her major competitors during the years 2000-2006 is represented in Table 7. The major competitors of Pakistan are being identified on the basis of export similarity index[15]. Table shows Pakistan's trade performance, the degree of openness of economy *vis-à-vis* her major competitors during 2000-2006 remained considerably lower than in most other countries under consideration, Pakistan is the least open to trade country after India during 2000 as well as in 2006. Although Pakistan' trade as percentage GDP has increased significantly from 25 percent of GDP in 1990's to 37 percent of GDP in 2006. The likely reasons for this relatively poor performance might include continued restrictive trade system of Pakistan, especially in relation to that of most other countries (for example in 1990's simple average tariff rate in Pakistan was much higher than many other countries, and this has created considerable anti-export bias in the trade regime during the last decade). Cyclical factors and supply shocks (e.g. bad crops, oil price hikes) have complicated the quantitative assessment of the impact of trade liberalization on trade performance. These factors in the short run significantly reduce exports and thus indirectly curb imports as income levels fall. Political instability and security factors are also important in affecting the economic performance, as Pakistan largely depends on western countries and international institutions for financing its development and structural reforms projects (Pakistan has been the frontline state in the war on terrorism in the region, which has created security problems as well as negatively affected the foreign direct investments).

Table 7 Trade regime in Pakistan's major competitors (Trade as % of GDP)

Countries	2000	2006	% Change (2000-2006)
Pakistan	27	37	6.2
China	40	67	11.3
Indonesia	66	50	-4.0
Korea	65	71	1.5
Malaysia	200	194	-0.5
Philipines	101	84	-2.8
Sri Lanka	77	64	-2.8
Thailand	107	126	3.0
India	20	32	10.0
Bangladesh	32	45	6.8

Calculated by author, Source of data: IMF, International Financial Statistics, competitors selected on the basis of trade similarity index.

[15] See Naqvi and Muhammad (2001).

3-2 Key features of trade reforms since 1998:

The trends in custom duties and the tariff structure as shown in Table 8, indicates that since 1998, there has been gradual reduction and the maximum rate was reduced from 47 percent in 1998 and to 14 percent in 2006. At the same time, the number of (standard) tariff slabs has been reduced gradually from 14 in 1997 to 4 in 2006. At present, these 4 slabs (at rates of 5 percent, 10 percent, 20 percent, and 25 percent) continue to exist. The other important change was the removal of the zero tariff slab and the introduction of 5 percent minimum tariff rate in 2002. The main features of trade reform policies since 1998 includes:

1. Since 1998, custom duties drastically reduced and it contributes towards reducing tariff dispersion and constitutes a move towards the desirable ultimate policy target of establishing a low, uniform tariff rate.
2. Another major move by the Government of Pakistan has been a steady reduction of average tariffs on imports of agricultural imports. The result is that today Pakistan has the lowest average protection in agriculture (together with Nepal) in South Asia (WB 2006)
3. Furthermore, from 2004, the extremely high customs duty rates on built up motor vehicles have been reduced from the 75-150 percent range in 2004 to the 50-75 percent range in 2006, with the lower rates applying to cars with smaller engines. These latter changes have certainly cut the levels of Pakistan's very high 'tariff peaks' above the 25 percent 'normal' maximum tariff rate, while reducing the average level and dispersion of extremely high customs duties applied to cars. For example, for cars up to 1000 cc the tariff rate was reduced from 75 percent in 2004 to 50 percent in 2006, while for cars with above 1800 cc the rate fell from 150 percent to 75 percent. Note however that for the domestic automotive assembly industry 35 percent tariffs rates apply to imports of 'completely knockdown' (CKD) units --as set by a Statutory Regulatory Order (SRO) (WB 2006).
4. In addition, with a view to supporting the textile and garment sector in the aftermath of the removal of the elimination of the ATC (Agreement on Textiles and Clothing) export quotas, customs duties have been reduced on imports of synthetic, woolen and cotton raw materials and products from 2006. However, five new tariff slabs have been introduced (3.0, 6.5, 7, 14, and 15 percent) applying mostly to inputs for the textile/apparel sector. This measure constitutes a backsliding away from the much simpler system of the previous four tariff slabs (5, 10, 20, 25, percent).

Table 8 Pakistan: Trends in Custom Duties (Simple average rate/a) (1990-2006)

	All Products	Industrial Products	Agricultural Products/b	Normal Maximum/c	Minimum Rate
1990	64.8	66	57.2	n.a.	n.a.
1998	**47.1**			45	0
2001	24.8	24.3	28	35	5
2002	20.4	20.2	21.8	30	5
2003	17.3	16.9	19.6	25	5
2004	17.1	16.7	19.5	25	5
2005	16.8	16.6	18.1	25	5
2006	**14.4**	10.4	15.6	25	5

Source: World Bank (2006)-Trade policies in South Asia, Pakistan: Tariff Rationalization study

a: refers to un-weighted average customs duty rates.

b: includes Harmonized system chapters

c: is the general maximum statutory custom duty rate

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These tariff rationalization measures, the gradual reduction of the normal maximum tariff rate as well as the number of standard tariff slabs, and the introduction of a non-zero minimum tariff, all aimed at lowering the overall average tariff level, with the result that more and more tariff lines were being pushed down to lower tariff slabs. At the same time, the Government has also followed a policy of occasional tariff cuts on imports of intermediate inputs. Here, it is worth noting that the tariff cuts on intermediate inputs, of course, have meant that the existing tariff escalation (rising tariff levels with the stages of processing) has been maintained and that the 'effective protection rates for the final consumer goods have not necessarily come down with the falling average nominal protection.

3-3 Current Situation:

Tariff escalation, tariff dispersion and tariff peaks.

It is clear that, while undertaking a major tariff reform in recent years, the Government of Pakistan has decided to maintain the principle of tariff escalation by stages of processing, as also observed in the rest of the South Asian countries and in other developing countries. Generally, imports of final consumer goods are subject to the normal maximum tariff rate of 25 percent and even higher rates as described above (tariff peaks). Whereas, imports of raw materials and intermediates are generally subject to 5 and 10 percent customs duty, respectively. Table 9 provides a more specific example of tariff escalation by stages of processing in the manufacturing sector in 2005 and 2006.

Traditionally most developing countries have adopted escalating tariff structures which are sometimes further cascaded with the imposition of other levies for example non-neutral surcharges and other import taxes and protection neutral taxes such as VAT or GST. While generally the intention is to promote the domestic production of final, higher value-added products, in practice the resource allocation costs of such high protection through tariff escalation tend to be very high as demonstrated by wide-spread failures of prolonged import substitution policies. There are several interrelated reasons why prolonged tariff escalation is harmful to efficient resource allocation and to the development of competitive and dynamic production patterns with an expanding export base[16]:

- An escalating tariff structure, with the resulting high effective protection rates for final products, encourages low 'value-added' pattern of production in the economy, contrary to the intended objective. This is because the resulting lower effective protection rates discourage the production of intermediate and other inputs, as high protection on final products block foreign competition and lower tariffs on raw materials and intermediate create disincentive for their domestic production.
- Consequently, an escalating tariff structure also aggravates anti-export bias of the trade regime. For example, Pakistan's 'light engineering' is often mentioned as a sub-sector with significant export potential, but its limited export-orientation until now could be explained by the sustained reliance on the principle of escalating tariffs far too long.
- Other very common and high cost aspect of a non-uniform, escalating tariff structure is its administration. It is very vulnerable to rent-seeking activities and has been widely abused wherever it has been applied.

Table 9 Tariff escalation by stages of processing in the manufacturing sector: 2005 & 2006

	2005			2006		
	Ist Stage	Semi-finished	Final	Ist Stage	Semi-finished	Final
Manufactured food, Beverages and Tobacco	11.8	20.2	25.6	8.9	13.1	16.4
Textile, Apparel and Leather	9.8	19.7	24	7.9	14.5	23.6
Manufactured wood Products		17.1	23.7		14.2	30.9
Paper, Printing, Publishing	6.7	21.2	19.3	7.5	19.5	18.5
Manufactured chemicals, petroleum, plastics, rubber	10.7	11.8	17.9	7.5	8.7	15.5
Manufactured non-metallic minerals	5	21.7	21.9	5	22.3	21.3
Basic metal industry	18.1	12.8	17	11.2	10.7	16.6
Machinery and equipment		10.5	16.5		13.5	14
other Manufacturing	5	5	19.6	5	8.8	18.7
Simple average Tariff by stages of Processing (%)	11.4	14.5	19.2	9	11.3	17.3

Source: (WB 2006).

[16] See WB (2004, 2005 and 2006).

Import taxes and their protective effects:

Imports are also subject to Pakistan's value-added tax (VAT), like generalized sales tax (GST) and the income withholding tax, which are the two other key levies. Also, a limited number of imports are subject to the central excise duty.

- The sales tax is levied at 15 percent both on imports and domestically produced products. Its tax base the customs duty inclusive value of imports, therefore it has a significant cascading impact, raising the landed cost of imports more than 15 percent of c.i.f. costs of imports.
- The income withholding tax is levied at 6 percent on imports and at 3.5 percent on the sales of domestic taxpayers. On imports, it is levied on the tariff and sales tax inclusive value of imports, thus creating a substantial cascading effect on the landed costs of imports.
- Central excise taxes are levied on imports and on their domestic substitutes at the same rates, therefore they are trade neutral.

Anti-export bias:

Pakistan's recent trade liberalization efforts since the late 1990's have undoubtedly reduced the anti-export bias of the trade regime compared to the mid-1990s[17]. Table 10, below shows that the trade regime still has considerable anti-export bias. The ratio of average effective exchange rate for imports to that of exports is used as an indicator of the trade regime's anti-export bias, the higher the ratio above unity the higher the bias against export activities[18].

Table 10 Estimates of Anti-Export Bias[19]

Year	2004	2005
Average total nominal protection rate (%)/a	18.9	18.5
Average total nominal export subsidy rate (%)/b	0.09	0.08
Nominal exchange rate (%)/c (RS/US $)	57.5	59.29
Effective exchange rate for imports	68.37	70.26
Effective exchange rate for exports	57.55	59.34
Anti-Export bias	1.19	1.18

a: average (un-weighted) total nominal protection based on statutory MFN customs duty rates, and adjusted for the protective element of the income withholding tax.
b: export subsidy rates (as % of f.o.b. prices)
c: period average

[17] See Khan, Ashfaque (1998).
[18] If the ratio is unity, this would imply that the trade regime is, on average, neutral towards imports substituting production and export production and exporting (WB 2006).
[19] Anti-Export Bias based on the ratio of effective exchange rates for imports and exports during 2004 & 2005.

Section 4: Measurement of export competitiveness of Pakistan's manufacturing sector: 1990-2007

The study focuses on to observe the structural changes in the exports of Pakistan's manufacturing sector over the time, especially during 1990-2007. One of the main objectives of the analysis is to evaluate the impact of trade reforms which Pakistan has been undertaking since 1998, whether the trade liberalization reforms have change the structure of exports in terms of their diversity, intensity and international competitiveness, that is whether the structure and composition of exports of Pakistan has been shifting from low value added labor intensive products to relatively medium or high value added products over the time. Furthermore, such an analysis would be critical and helpful in evaluating rationality of the growth targets for the economy as well as manufacturing sector of Pakistan, as envisaged in the vision 2030.

4-1 Changes in the structure of exports by Factor intensity:

The general picture of changes in the structure of Pakistan's exports can be observed by looking at the changes in the factor intensity of major exports over the time in Table 11. To assess the impact of trade liberalization reforms[20], we divided the time into two broader periods 1990-2000, when the Pakistan was rather reluctant to undertake trade liberalization reforms and the period (2000-2007), when Pakistan significantly liberalized her trade sector to integrate globally. Pakistan had average growth in the value of exports of resource-intensive products during 1990-2000 around 3 percent, labor intensive products experienced around 5 percent growth where as technology intensive products (low and medium) 34 percent. In the later period (2000-2007) average growth of resource-based products shows significant increase, 38 percent while labor-intensive products increased modestly to 10 percent comparing 5 percent during the first period. The average growth technology based products in the exports shows slight change comparing the previous period, 38 percent. From the above observations it emerged that the trade liberalization reforms in Pakistan has not changed the composition of exports in terms of technology. The major share in terms of value of exports is still dominated by resource based and low-value added labor-intensive products. In other words, the observations from factor intensity reflect the weaknesses of Pakistan's industrial sector in transforming from low technology base to relatively medium or high technology base[21].

Of course there are several internal as well as external factors contributed in this regard, for example inadequate industrial infrastructure, lack of skilled labor resource

[20] As mentioned earlier, the trade liberalization reforms in Pakistan started from 1998.
[21] For example, Iffat (2004) pointed out that the cost share of factor and non-factor inputs of manufacturing sector has significantly increased during last one decade.

constraints in adopting new and advanced technologies, government's industrial policies, weak linkage between business organizations and governmental institutions, inadequate availability of power for industries and high tariff rates on electricity for industrial usage. On the other hand factors such as oil price hikes, increase in prices of raw materials in the international markets, exchange rate (rupee devaluation) which have largely affected the technology based industries in terms of their cost of production, as most of those industries largely depends on imported raw materials. Thus, as a result those industries were unable to achieve economies of scale in their production and their products could not compete in the international markets.

Table 11 Factor Intensity of Major Exports of Pakistan[22], 1990-2007

Code	Commodity	Value (US $ million)			Average growth (%)	
		1990	2000	2007	1990-2000	2000-2007
	Resource Intensive Industries	**269.9**	**350.3**	**1282.7**	**2.98**	**38.0**
03	Fish	107.1	149.6	182.0	4.0	3.1
12	Tobacco	6.4	6.1	10.5	-0.5	10.3
21	Hides	0.6	0.2	0.5	-6.8	27.3
22	Oil seeds	22.5	9.1	32.6	-5.9	36.7
29	Crude materials	62.5	53.8	62.9	-1.4	2.4
32	Coal	3.4	0.1	1.2	-9.7	170.7
33	Petroleum products	67.5	131.4	992.9	9.5	93.7
	Labor Intensive industries	**3747.8**	**5555.8**	**9434.1**	**4.82**	**10.0**
26	Textile	3163.8	4747.3	7516.7	5.0	8.3
61	Leather	313.8	216.6	405.0	-3.1	12.4
83	Travel goods	2.9	2.2	13.8	-2.2	74.2
85	Footwear	22.5	39.7	111.1	7.7	25.6
25	Pulp and waste	0.0	0.1	0.7	8.0	168.0
04	Cereals	243.9	549.0	1363.0	12.5	21.2
11	Beverages	0.0	0.1	9.6	4038.5	1249.7
53	Dyeing materials	0.9	0.8	14.3	-1.9	249.5
	Technology Intensive industries	18.8	82.4	302.2	33.88	38.1
51	Organic chemicals	4.2	29.8	159.9	60.9	62.3
57	Explosives products	0.1	0.0	0.4	-7.4	162.5
59	Chemical products	2.4	10.0	20.0	32.4	14.4
54	Pharmaceutical	11.4	42.0	110.2	26.7	23.2
52	Inorganic chemicals	0.7	0.6	11.8	-1.1	260.6

Calculated by author, data source comtrade 2008.

[22] Instead of using Lall's (2001) technological classification as mentioned in Table 4, we used three broad categories: resource, labor and technology intensive industries for simplicity.

4-2 Revealed comparative advantage:

One of the most widely used measures of the trade competitiveness is the revealed comparative advantage index. The revealed comparative advantage (RCA) index of a given country for a given product is measured by the item's share in the country's exports relative to its share in world trade (exports). This traditional measure has a simple interpretation, if the index exceeds unity for a particular product category, implies the country has a RCA in that product. The index, therefore, reveals information regarding a country's competitive position in the world market. On the basis of competitive position of different categories of products, we can answer several relevant questions. The first obviously, whether Pakistan has lost a comparative advantage in the manufacturing sector in general, or has it lost comparative advantage in traditional sectors, while at the same time gaining comparative advantage in other sectors with high potential. Furthermore, the observed changes in the structure and composition of Pakistan's manufactured exports during 2000-07 would help evaluate the trade policy reforms. For this purpose the study mainly focuses on two broader periods, 1990-2000, prior to reforms and 2000-07 when Pakistan undertook trade liberalization reforms.

For the purposes stated above the study utilizes United Nations com-trade database 2008. Regarding the product codes SITC-2 four digits level of product classification has been used[23]. In order to provide better understanding regarding the challenges and opportunities for the manufacturing sector/industries of Pakistan in the changed external environment we divided 349 product lines in to four broad groups according to their relative strength in export on the basis of revealed comparative advantage[24].

The revealed comparative advantage index of a country is defined as:

$$RCA_{ij} = \frac{\left(x_{ij} / X_{it} \right)}{\left(x_{wj} / X_{wt} \right)}$$

Where

x_{ij} = value of total exports of Pakistan of commodity " j ".

x_{wj} = value of total exports of world of commodity " j ".

[23] Unfortunately Pakistan start reporting trade data in HS codes from 2000-03 and our study intends to evaluate changes in export structure due to trade policy reforms from 1998, we therefore relied on SITC-2 codes for product classification.

[24] Although the main focus of the study is manufacturing sector, we included few selected commodities from crude materials and ago-based category keeping in view of their significant and consistent share in the total exports of Pakistan for the last several decades.

X_{it} = value of total exports of Pakistan during time "t".

X_{wt} = value of total exports of world during time "t".

The comparative advantage of a country at a given time depends on her pre-trade relative prices that rely on relative production costs, the data on those variables are difficult to generate in the presence of factor and product market distortions. Thus, the comparative advantage is an useful methodology, which rely on post-trade data that manifests post-trade relative prices and prevailing factors and product market distortions. This approach however, is not meant to capture the potential future comparative advantage of a country, as the indices based on actual trade data. However, indices estimated across time can point to the general direction and pattern of comparative advantage[25]. Another important feature of revealed comparative advantage methodology is that the indices are robust and insensitive to changes in growth and business cycle differences across trading partners. On the other hand the indices are not sensitive to the height of market access barriers, as long as these barriers are across the board, against all exporters of a particular product, yet, they are sensitive to discriminatory market access barriers against exports of a particular country[26].

As mentioned above, the study categorizes 349 product lines into four broader groups according to their relative strength in export of Pakistan on the basis of revealed comparative[27], and in the case of emerging and weak positioned products (to be discussed later) they are further divided into two groups such as tire I and II respectively. The framework described below will be helpful in identifying the strengths and weaknesses of Pakistan's exports' structure in the year 2006.

a) Competitive Products (CP):

Those product lines have RCA greater than unity and show consistent improvement over time owing to favorable external and internal conditions. Competitive Products are selected on the basis of criteria:

The revealed comparative advantage index of a product line, $(RCA_j > 1)_{2006}$ and $(RCA_j)_{2006} - (RCA_j)_{(2000,2005)} > 0$.

[25] See Maule, Andrew (1996), for more details on methodology, see Balassa and Noland (1989), also Balassa (1979, 1978, 1965); Peterson (1988); Craft (1989), Jean-Michel (1998); Hoekman and Djankov (1997); Ray (1999), Richardson and Zhang, (1999), Lee (1995), Maule (1996), Bender and Li (2002).

[26] Richardson and Zhang, (1999).

[27] The idea for product grouping is taken from Standard & Poor (1997) and Mehmood (2004).

b) Threatened Products (TP):

Threatened positioned products are those products, which have RCA greater than unity, but indices are declining over time, due to adverse domestic environment and/or global competitive pressures. Threatened positioned products are being identified on the basis of criteria:

The revealed comparative advantage index of a product line, $(RCA_j > 1)_{2006}$ and $(RCA_j)_{2006} - (RCA_j)_{(2000,2005)} < 0$.

c) Emerging Products (EP):

In this category, those products are identified which exhibits revealed comparative disadvantage at present, but their relative global position in the exports market is improving. Emerging products are important for future export potential of the country. Those products can be further divided into two groups on the basis of revealed comparative advantage indices.

Emerging products (Tire I), selected on the basis of following condition:

The revealed comparative advantage index of a product line, $(RCA_j < 1 > 0.5)_{2006}$ and $(RCA_j)_{2006} - (RCA_j)_{(2000,2005)} > 0$.

Similarly, emerging products (Tire II), selected on the basis of condition:

The revealed comparative advantage index of a product line, $(RCA_j < 0.5)_{2006}$ and $(RCA_j)_{2006} - (RCA_j)_{(2000,2005)} > 0$.

d) Weakly Positioned Products Lines (WP):

The comparative advantage indices of those products are less than unity and declining over time due to unfavorable global and domestic factors. The weakly positioned products are also divided into two groups based on their relative level of revealed comparative disadvantage. In the category of weakly positioned products Tire I, the selection criterion used as follows:

The revealed comparative advantage index of a product line, $(RCA_j < 1 > 0.5)_{2006}$ and $(RCA_j)_{2006} - (RCA_j)_{(2000,2005)} < 0$.

Similarly, for the products in Tire II, the selection criterion is defined as:

The revealed comparative advantage index of a product line, $(RCA_j < 0.5)_{2006}$ and $(RCA_j)_{2006} - (RCA_j)_{(2000,2005)} < 0$.

4-3 Revealed comparative advantage profile: 1990-2006.

Table 12, shows the summary of revealed comparative advantage profile of all products during 1990-2006. In the case of manufacturing sector/industries there has been relatively significant growth in terms of number of competitive products over the time (50 products in 1990 to 69 in 2006. In the case of traditional agro-based and raw materials product categories here has been either no or very modest change during the same period. The general pattern of competitive product lines during 1990-2006, as shown in the Table 14 reveals that there has been little or no change in the structure of Pakistan's manufacturing exports over the time. Exports of Pakistan still primarily dominated by low-level technology (low-value added) products.

Table 12 Revealed comparative advantage profile for all products during 1990-2006

Product Category/Code	Number of Products	RCA	1990	1995	2000	2005	2006
Agro-based products (0341-1223)	16	RCA >1	4	5	6	5	5
		RCA <1	8	6	8	10	11
Crude Material (2111-2690)	56	RCA >1	12	12	10	15	15
		RCA <1	13	8	16	19	17
Manufacturing (6112-8999)	277	RCA >1	50	45	57	77	69
		RCA <1	130	137	145	181	192

Source: Calculated by author.

In Table 13 list of top 30 products based on their highest revealed comparative advantage and technological classification in 2006 is cited. Among the top 30 product lines exported with highest revealed comparative advantage in 2006, 22 (73.3%) were labor-intensive based products and remaining 8 (26.7%), resource-intensive. Cotton, textile and clothing comprises 19 (63.3%) products, leather 3 (10%), agro-based (rice) 4 and raw materials 4 (13.3%). The pattern of Pakistan's export specialization in manufacturing sector highlights the failure of Pakistani manufacturing to move into relatively technology based, and differentiated areas. Those trends are highlighted in Table 13 that lists the top 30

ranking products in their technological orientation and relative factor intensities[28].

Table 13 List of top 30 competitive products and their technological classification (2006)

Rank	Code	Description	2006	Tech-Classification
1	6113	Calf leather	586.75	Resource Intensive
2	6121	Articles of leather	281.86	Resource Intensive
3	6521	Cotton fabrics, woven, unbleached,	120.26	Labor Intensive
4	6592	Carpets, carpeting and rugs, knotted	104.91	Labor Intensive
5	8464	Under-garments, knitted or crocheted	104.24	Labor Intensive
6	6584	Linens and furnishing articles of textile	95.81	Labor Intensive
7	2633	Cotton waste, not carded or combed	95.18	Labor Intensive
8	6513	Cotton yarn	90.67	Labor Intensive
9	0422	Rice, semi-milled or wholly milled	80.56	Labor Intensive
10	6115	Sheep and lamb skin leather	79.45	Resource Intensive
11	2640	Jute, other textile bast fibres, nes.	75.06	Labor Intensive
12	6589	Other made-up articles of textile	48.42	Labor Intensive
13	8481	Articles of apparel, clothing accessories	48.41	Labor Intensive
14	6545	Fabrics, woven of jute or other textile bast	43.90	Resource Intensive
15	2235	Castor oil seeds	41.50	Resource Intensive
16	6593	Kelem, Schumacks and Karamanie rugs	38.54	Labor Intensive
17	6522	Cotton fabrics, woven, bleached, dyed, etc,	35.92	Labor Intensive
18	2634	Cotton, carded or combed	30.07	Resource Intensive
19	8991	Articles and manufacture of carving, nes	24.37	Labor Intensive
20	8472	Clothing accessories, knitted or crocheted,	20.91	Labor Intensive
21	6582	Tarpaulins, sails, tents, camping goods, etc,	20.07	Labor Intensive
22	8462	Under-garments, knitted or crocheted	19.24	Labor Intensive
23	6534	Fabrics, woven, less 85% of discontinuous	17.52	Labor Intensive
24	8423	Men's and boys' outerwear, textile fabrics	16.66	Labor Intensive
25	2686	Waste of sheep's or lambs' wool, or of other	13.38	Labor Intensive
26	8947	Other sporting goods and fairground	10.91	Labor Intensive
27	6643	Drawn or blown glass (flashed glass),	10.53	Labor Intensive
28	6612	Cement	9.42	Resource Intensive
29	2225	Sesame seeds	9.36	Resource Intensive
30	8424	Men's and boys' outerwear, textile fabrics	9.35	Labor Intensive

Calculated by author, data source: UN com-trade data 2008.

[28] For more details on the technological classification, see Lall (2001) and Krause (1984).

The general trend as shown in Table 3 of annexure, the list of top 30 competitive products during the 1990-2006, indicates that Pakistan's exports primarily concentrated on low technology base products and the pattern has not changed much over the time.

Using the framework, as mentioned above, product grouping on the basis of comparative advantage profile of manufactured as well as other relevant exported products during 2006, are summarized in Table 14.

Competitive Products

Out of the 349 product lines, 51 (15%) products have revealed comparative advantage grater than unity and their competitive position is increasing over the time. Among the competitive products 40 belongs to manufacturing sector, 9 from crude materials and 2 from agro-based product groups. In the manufacturing sector 25 (49%) of the products belongs to textile and clothing industries. Textile and cotton have been major items in exports of Pakistan since last several decades. Rice and fish in agro-based, animal hides, oil seeds and raw cotton and ores and minerals in crude material category constitutes 51% of the competitive products. The major category of exports in manufacturing sector, other than textile and clothing comprises leather products (6121, 6113, & 6115), rubber (6251), plywood (6351), cement and glass materials (6612, 6643, 6644), non-ferrous metals (6863), parts and machine tools (6954), furniture and fixtures (8124), surgical instruments (8212), footwear (8510) parts of musical instruments (8989) and candles, matches (8993). In the case of agro-based products, fish (0342) and rice (0422) are competitive and experiencing gain in demand in the international markets. While in the case of raw materials there are nine products out of them five belongs to cotton and its affiliates (2640, 2635, 2686, 2633, 2690), the rest other four constitute oil seeds categories (2235, 2225, 2238, 2332).

Given the industrial structure and factor endowments of Pakistan, the products of textile and clothing sector have been dominant in the exports since last several decades, and the pattern has not changed much during 1990-2006. It is rather surprising to note that despite several structural reforms and infrastructure development major exports of manufacturing sector largely depends on labor intensive or resource based and low value added industries. Pakistan's gradual export specialization in relatively high value added medium and high-technology products have been very slow. The changes in the share of products such as chemical, parts of instruments and tools, cement and base metals, light machinery, mechanical appliances, tools and measuring instruments reflects the structural change experienced by the manufacturing sector has been very slow as the shifts in export structure towards relatively high value-added commodities seems to be stagnant during the year 2000-2006.

Table 14 Competitiveness Profile and Product Grouping, 2006

Category/Sector & SITC Code	CP	TP	EP(I)	EP(II)	WP(I)	WP(II)
Agro-based Products (0341-1223)	2	4	1	7	1	1
%	3.9	11.1	5.9	5.4	16.7	0.9
Crude materials (2111-2690)	9	6	3	7		27
%	17.6	16.7	17.6	5.4	0.0	24.8
Manufacturing (8121-8999)	16	14	4	28	1	29
%	31.4	38.9	23.5	21.5	16.7	26.6
Other Manufacturing (6112-6999)	24	12	9	88	4	52
%	47.1	33.3	52.9	67.7	66.7	47.7
Total No. of Products	51	36	17	130	6	109
%	14.61	10.32	4.87	37.25	1.72	31.23
Textile & Clothing (6511-6596 & 8310-8484)	25	18	5	12	2	12
%	49.0	50.0	29.4	9.2	33.3	11.0

Calculated by author

Threatened Products

In the case of the threatened product group there are 36 product lines (10% of the total). These products exhibit revealed comparative advantage, but have experienced a declining share in world markets during 2006. It is important to note, that 18 (50%) out of 36 products of this group are from the textile and clothing industries/sector, which has been the dominant industry in the export structure of Pakistan since last several decades. The rest of 8 products are such as articles of moulding materials (8991), articles of precious materials (6673), articles and manufactures of leather (6122, 6129), cutlery items (6960), medical instruments ((8720), sports goods and games (8947), manufactures of mineral materials (6633). In the agro-based product category there are 4 products, which are experiencing threatened in competition in the international markets in 2006, three of them belong to seafood categories, such as crustaceans, fish and shrimps items (0341, 0350, 0360) and one from resource base category, tobacco, (1211). In the category of raw materials, there are 6 commodities under the threatened positioned products in 2006, five of them are from cotton and its affiliates (2632, 2667, 2631, 2685, 2665), and one from cereals category (2239).

It is important to be noted that most of the products under this product groupings used to be competitive in the past years and almost all those products belongs to either labor intensive or low technology industries. The most significant decline in the revealed comparative advantage occurred in traditionally competitive items such as textile, garments

and leather products. Among the likely reasons might be attributed to high competition by the competitor, especially India and Bangladesh, where industry specific assistance measures were undertaken to boost those industries to enhance their international competitiveness. Furthermore, the recent external developments has dramatically intensified the competition among textile and apparel exporters since the end of year 2005 with the removal of the textile and clothing export quotas under the Agreement on Textiles & Clothing (ATC). In the coming years the competition will increase further with the end of permissible safeguards against China's exports, and the outcomes of WTO multilateral trade negotiations. Pakistan's past export performance relying on textile and low value added commodities does not guarantee success in the future.

Emerging Products

The emerging product group is divided into two sub-groups Tire I and II, to draw a distinction between two types of product lines. In Tire I, those products are identified which show the underlying trends to join the competitive group, but exhibit a comparative disadvantage at present; and (b) the product lines that have relatively more comparative disadvantage at present but have potentials to become competitive.

In this grouping there are 17 product lines (around 5% of the total) are placed in Tire I on the basis of above criterion, out of those 13 products are from manufacturing, 3 from raw materials and 1 from agro-based category. Out of 13 manufactures 5 are from textile and clothing industries, the 8 others are Non-ferrous metals, iron and steel, manufactures of mineral, fabrics of silk, chemicals, manufactures of base metals and glass-wears. The product lines like chemical, steel & machinery and base metals and articles, are relatively technology intensive products, as mentioned before, this group of industries faces problems due to supply side effects, exchange rate and increase in prices of raw materials in international markets, as they largely depends on imported raw materials, thus they are unable to achieve economies of scale in their production.

Emerging Products: Tier II

In emerging product tire II category there are 130 (37 %) commodities which are relatively in a disadvantageous position at present but have the potentials to emerge as competitive product lines. Out of 130, 116 products are from manufacturing sector, among them 12 (9%) belongs to textile and clothing sector, and the rest of other 104 constitutes several diversified products. In manufacturing the main product lines belong to following categories, rubber and plastic manufactures, wood and furniture, paper and articles of pulp, minerals and precious stones, iron and steel alloys, chemicals and pharmaceutical products, tools and parts of machines, medical and surgical instruments, optical instruments,

photographic films, plates and paper, toys and games. Seven products in the case of agro-based and raw materials categories respectively are being identified as emerging products.

The observations in the context of this analysis are significant, as the industries such as, metals and metal-products, machinery and mechanical appliances are important and have both backward and forward linkages beside their positive spillover effects on the other segments of industrial sector, thus, those industries need especial attention in industrial reforms/policy.

Weakly Positioned Products:

The analysis identified 6 weakly positioned products category in Tier 1, (products have indices less than unity but greater than 0.5 and thus have experienced negative growth), among them 5 are from manufacturing sector. Among the manufacturing products, 2 are from textile and clothing industries such as yarn of synthetic fiber (6514), embroidery (6560) and 3 others are leather (6114), base metal indoors sanitary ware and parts (6975) and musical instruments (8982). In the case of agro-based, fish (0344) is placed in weak product category.

Weakly Positioned Products: Tier 11

There are total 109 (31%) products characterized as weakly position in exports, and they are placed in Tier II. Out of them 81 are from manufacturing sector, 12 belong to textile and clothing. Other than textile and clothing, there are 69 product lines varying from footwear, rubber tires and tubes, papers and boards, articles of ceramic materials and glass, precious and semi-precious stones, small machine tools, tips and blades, measuring controlling instruments and apparatus, optical goods and spectacle and parts, printed matters and office equipments, carpets and rugs, clocks and miscellaneous manufactured items, jute and other textile bast fibers, office equipments.

This analysis points to inter-industry and intra-industry variation in the degree of revealed comparative disadvantage in this product grouping. The manufacturing sector is making slow progress to move towards the technology-intensive export markets, there are a significant number of product lines, which are in weak position during 2006 in the competition.

Evidence provided by the ranking of products on the basis of revealed comparative advantage indicates that there has been a little shift in the comparative advantage pattern of Pakistan's manufacturing exports the comparative advantage has been relatively same and stable in terms of industries. Pakistan’s exports still rely mainly on textile and clothing sector and this reflects the failure of industrial sector in transforming towards technology

base production (towards high value added). However, if the manufacturing sector of Pakistan to grow by 10 percent per year (as envisaged in the vision 2030, long term plan) it is imperative to promote more high technology manufacturing (value added) which would expect increasing demand in the world market. Trade liberalization reforms are no doubt, necessary there is need to expedite other sufficient broader structural reforms ranging from provision of adequate physical infrastructure, provision of power, skill development as well as political stability and law and order to facilitate foreign direct investment and joint venture to technology transfer, so that those industries could achieve economies of scale in their production and compete in the international markets.

Section 5: Main findings and concluding remarks

The main focus of this study is to evaluate the changes in the structure and composition of Pakistan's manufacturing exports over the time, especially during 1990-2007. The study sought to answer whether the trade liberalization reforms in Pakistan since 1998 have changed composition of exports, that is, whether Pakistan has moved from traditionally resource-base and low value added products relying on labor intensive technology towards relatively high value added and technology products over the time. Answers to those questions would be critical and helpful in evaluating the importance of trade reforms as well as rationality of growth targets for the manufacturing sector of Pakistan as envisaged in the long-term plan vision 2030.

The main findings of the analyses are summarized as follows:

- Pakistan has followed inward oriented protectionist trade policies for decades, and preferred to delay the trade liberalization reforms in early and mid 1990's, whereas most of the other developing countries in South Asian followed the norms.
- Since 1998, Pakistan started trade liberalization and moved towards relatively liberal trade regime by significantly reducing the tariff structure and custom duties. The comparison with potential competitors shows that Pakistan is still least open to trade country after India in 2006.
- In the structure of tariffs, Pakistan still preferred to maintain the principle of tariff escalation by stages of processing whereas, imports of raw materials and intermediates are generally subject to 5 and 10 percent customs duty, respectively. Imports of final consumer goods are subject to the normal maximum tariff rate of 25 percent and even higher rates. There are other levies on imports like value-added tax (VAT) generalized sales tax (GST) and the income withholding tax besides that a limited number of imports are subject to the central excise duty as well. The average effective exchange rates for imports are higher than that of exports, thus creating anti-export biases.
- The growth performance Pakistan had not been steady during last three decades due to a number of unresolved structural problems, political instability and security factors played important role. The growth performance of manufacturing sector also shows similar unsteady trends during last three decades.
- The industrial structure of Pakistan has rather fixed shares of specific industries since last several decades. Traditional products like cotton, textile, leather and food items etc, based on labor intensive technology dominates the whole industrial sector.
- The structure of Pakistan's exports reflects the industrial composition, exports are dominated by those industries (as mentioned above) and constitutes around 73

percent of total exports in 2007, thus, Pakistan's exports are least diversified in terms of product categories. Regarding the concentration, the exports of Pakistan have been focused to few partners, US and Europe are the main destinations. The general picture of changes in the structure of Pakistan's exports over time indicates that the major share in terms of value is still dominated by resource based and labor-intensive products. This also reflects the weaknesses of Pakistan's industrial sector in transforming from low technology base to relatively medium or high technology base over the time.

- Since last two decades, Pakistan's exports have been stuck up at less than 0.2 percent of world's exports. The main reasons include: exports of Pakistan have been dominated generally by low tech and low value added products, whereas the share and scope of those products in world exports have been relatively smaller and decreasing over the time. The other important reasons include, the industrial structure, unresolved broader structural problems, political and security factors, developments in the international markets and oil price hikes played major role.
- The analysis of comparative advantage profile of all selected products during 1990-2006 shows that there has been relatively significant growth in terms of number of competitive products from manufacturing sector/industries, where as in the case of traditional agro-based and raw materials product categories there has been either no or very modest change during the same period. The general pattern of export competitiveness (1990-2006) reveals that there has been little or no change in the structure of Pakistan's manufacturing exports over the time.
- On the basis of past performance and current position, 51 (15 percent) products have been identified as "competitive positioned" in 2006, and their competitive position is increasing over the time. Among the competitive products 40 belongs to manufacturing sector and the rest other 11 belongs to traditional resources-base and agricultural products.
- Among the top 30 products exported with their highest revealed comparative advantage during 2006, 22 (73.3 percent of total exports) based on labor-intensive technology, remaining 8 (26.7 percent) were resource intensive. In manufactured exports, cotton, textile and clothing comprises 19 products, remaining 8 products belong to resource-base or agriculture sector.
- It is important to note that despite several structural reforms and infrastructure development major exports of manufacturing sector largely depends on labor intensive or resource based and low value added industries. This indicates that Pakistan's gradual export specialization in relatively medium and high-technology products have been very slow. The changes in the share of products such as chemical, parts of instruments and tools, cement and base metals, light machinery, mechanical appliances, tools and measuring instruments reflects the structural

change experienced by the manufacturing sector has been very slow as the shifts in export structure towards relatively high technology intensive commodities seems to be stagnant during the year 2000-2006.

- 36 product lines (10 percent of the total) have been identifies as “threatened products” in 2006, currently those products exhibit revealed comparative advantage, but they have experienced a declining share in world markets over the time. Among the threatened product lines 18 (50 percent) are from the textile and clothing industries/sector, which has been the dominant industry in the export structure of Pakistan since last several decades.
- 147 product lines considered as “emerging products” (Tire I & II), these products are showing underlying trends to join the competitive group, but exhibit a comparative disadvantage at present. In this category of products 129 belongs to manufacturing sector.
- In the category of weakly positioned products (Tire I & II) 115 products have been identified, and among them 86 are from diversified manufacturing industries/sectors.

Concluding Remarks:

The study reviewed the industrial and export structure of Pakistan economy during the last two decades, and tried to evaluate the changes in the structure and composition of Pakistan’s manufacturing exports over the time, especially during 1990-2007. The key features of trade liberalization reforms since 1998 have been discussed and found that the reforms have not changed the composition of exports of Pakistan’s manufacturing sector. Like in the pre-reform period, exports of Pakistan still concentrate on traditional resource-base and low value added products relying on labor-intensive technology. The above observations also reflect the weakness of Pakistan’s industrial sector in transforming from low to relatively high technology products over the time. Although trade liberalizations are important and necessary in the new era of global integration, there is need to undertake relevant structural reforms focusing on to bring about significant changes in the industrial structure of Pakistan. A careful and selective attention to be given to those production activities which have relatively higher scope and larger size in the international markets. In the view of past and current performance of the industrial sector, the growth targets for the manufacturing sector of Pakistan as envisaged in the long term plan vision 2030 in the year 2006, seems to be a little ambitious.

Annexure:

Table 1 Share of Pakistan's Exports in the World (%)

Year	Pakistan's Exports (US $ billion)	Total World Exports (US $ billion)	Share of Pakistan's exports in world export
1985	2.738	1686.6	0.16
1990	5.6	3157.8	0.18
1995	8.2	4742.5	0.17
2000	9.2	6099.9	0.15
2005	16.1	9897.4	0.16
2006	16.9	11263.9	0.15

Source: calculated by author, data source UN Comtrade data 2008.

Table 2 Trade Intensity of Pakistan with selected countries

Country	1990	1995	2000	2005	2006
Bangladesh	16.9	16.5	12.3		
Belgium			0.7	0.7	0.6
Canada	0.5	0.5	0.5	0.4	0.4
China, Hong Kong SAR	1.9	1.8	1.7	1.2	1.3
France	0.5	0.6	0.6	0.5	0.4
Germany		0.7	0.7	0.6	0.5
India	1.2	0.6	0.8	1.4	1.2
Iran			0.8	2.8	2.9
Italy	0.8	0.7	0.6	0.9	0.9
Japan	1.1	1.0	0.4	0.2	0.2
Rep. of Korea	1.3	1.2	1.1	0.5	0.4
Saudi Arabia	3.8	4.8	5.4	3.7	2.9
Spain	0.6	0.7	0.7	0.8	1.0
Sri Lanka	14.8			11.4	
Turkey	2.2	2.2	1.2	1.6	1.6
UAE	9.0		14.0	9.6	
UK	1.0	1.2	1.2	1.1	1.0
USA	0.8	0.9	1.2	1.4	1.5

Source: Calculated by author.

Export Diversification (or Concentration) Index:

Export diversification index is calculated as:

$$DX_j = \left(sum \left| h_{ij} - h_i \right| \right) / 2$$

Where

h_{ij} = is the share of commodity "i" in the total exports of country "j".

h_i = is the share of commodity "i" in the total exports of world.

The maximum value of index is the total number of individual commodities and its minimum theoretical value is zero, for a country with no exports. The lower the index, the less concentrated are a county's exports.

Table 3 RCA Profile of Top 30 Products (1990-2006)

S. No.	Code	1990	Code	1995	Code	2000	Code	2005	Code	2006
1	6513	105.3	6513	119.4	2633	103.0	6113	822.9	6113	586.7
2	6592	91.0	2633	92.8	6592	98.1	6121	146.7	6121	281.9
3	2633	79.7	2235	75.9	6513	90.5	6521	109.8	6521	120.3
4	6116	49.6	6521	74.0	8991	82.4	6592	106.4	6592	104.9
5	6521	47.8	6592	66.9	6584	77.4	6584	91.5	8464	104.2
6	8442	46.4	6116	51.2	6521	75.8	2633	83.7	6584	95.8
7	422	43.6	8991	48.9	422	62.5	6513	79.3	2633	95.2
8	6113	43.1	422	47.1	2632	57.3	422	75.9	6513	90.7
9	6584	40.7	6584	43.6	8481	45.5	2640	73.5	422	80.6
10	8991	38.1	8442	34.7	6116	42.8	6115	65.7	6115	79.5
11	2631	37.0	8481	34.0	6589	34.8	6593	46.5	2640	75.1
12	2225	35.1	6113	29.4	8442	33.6	6545	46.4	6589	48.4
13	6582	34.6	6589	28.7	6113	31.2	8481	43.2	8481	48.4
14	6589	32.4	2225	23.2	6582	25.3	6589	39.4	6545	43.9
15	2235	31.7	6582	22.1	6593	25.1	8991	38.4	2235	41.5
16	8481	25.5	2685	21.9	6522	23.3	6522	35.2	6593	38.5
17	2238	17.7	8472	21.5	6531	21.1	2235	33.8	6522	35.9
18	6531	17.6	6531	18.6	2631	17.9	8464	33.3	2634	30.1
19	6115	16.5	6522	18.6	8462	17.8	2634	19.7	8991	24.4
20	6522	15.4	8462	14.2	2685	12.5	8462	18.1	8472	20.9
21	8947	13.4	2631	12.6	8947	12.5	8472	16.3	6582	20.1
22	2632	11.5	2632	11.6	8422	12.2	6582	16.0	8462	19.2
23	6581	11.1	8947	11.5	8472	12.1	8423	15.2	6534	17.5
24	2685	10.8	6581	10.4	6516	11.8	8471	13.7	8423	16.7
25	6121	10.1	6115	9.8	8423	10.8	2667	13.4	2686	13.4
26	6114	10.1	6552	9.8	2239	10.2	8432	11.4	8947	10.9
27	8462	9.9	8441	7.8	6581	9.9	6129	11.3	6643	10.5
28	8472	9.3	2238	7.3	8459	9.0	8947	10.6	6612	9.4
29	8452	9.2	6577	6.9	8471	8.6	8442	10.1	2225	9.4
30	8432	9.1	8459	6.9	6583	8.3	8424	9.7	8424	9.4

Source: Calculated by author, data source UN comtrade database 2008.

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