Role of Textile Sector in Domestic Resources Development
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Abstract
Exports play a pivotal role in economic affairs of Pakistan by providing benefits at both macro and micro economic level. The textile industry being the backbone of the Pakistan’s economy is participating significantly in the export sector of Pakistan. The aim of this study is to review the export performance of textile industry and to estimate role of textile in total exports of Pakistan by using the time series data for the period of 1972-2006. The study uses the co integration regression (OLS Principle) in estimation process.

It is observed from export review of textile industry that progress made by textile industry is accorded to the natural advantage of the industry in the form of raw material base especially cotton. Despite of having inbuilt potential the industry failed to develop in highly value-added products. Due to which demand for our textile products are declining day by day in the new era of WTO. The fluctuation in exports of the textile industry occurred mainly due to fluctuation in cotton production, incompatible export policies, and international market situations. The estimated results indicate the significant and positive impact of textile exports on total exports of Pakistan. The gross domestic product shows positive association with respect to total exports. A negative impact of exchange rate volatility is observed on total exports. The cotton production and consumption of raw material indicate positive and highly significant relationships with total exports of Pakistan as per its objectives.

Key words: Textile Sector, Trade, Pakistan, Cotton Industry

INTRODUCTION
Textile is the principle industry of Pakistan. It is accorded as the backbone of Pakistan’s economy as it is the remarkable source of exports earnings for Pakistan. The share of textile industry in the economy along with its contribution to exports, employment, and foreign exchange earnings, investment, revenue generation and value added makes it the single largest determinant of the economic growth of the country. Textile industry is the mainstay in the history of Pakistan’s exports trade so lies at the heart of its economy. It helps the country to increase foreign exchange reserves by making huge contribution in exports. It provides employment and creates backward and forward linkages; and ultimately leads to higher standard of living (Ali, 2000). The major concentration of the industry is in the Karachi, Hyderabad, Multan, Lahore, Gujranwala and Faisalabad (Fibre Fashion, 2007). The industry consists of large-scale organized sector and a highly fragmented cottage / small-scale sector. The organized sector comprises integrated textile mills i.e. spinning units with shuttle-less looms. The downstream industry (Weaving, Finishing, Garments, Towels & Hosiery), with great export potential, is mostly in the unorganized sector (Pakistan Board of Investment, 2010). According to 2007 statistics, the textile industry of Pakistan has a total established spinning capacity of 1550 million kgs of yarn, weaving capacity of 4368 million square meters of fabric and finishing capacity of 4000 million square meters. The industry has a production capacity of 670 million units of garments, 400 million units of knitwear and 53 million kgs of towel. The industry has 1221 units engaged in ginning and 442 units engaged in spinning. There are around 124 large units that undertake weaving and 425 small units. There are around 20600 power looms in operation in the industry. The industry also houses around 10 large finishing units and 625 small units. Pakistan’s textile industry has about 50 large and 2500 small garment-manufacturing units. Moreover, it

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also houses around 600 knitwear-producing units and 400 towel-producing units (Batool, 2007). The availability of cotton, the basic raw material for textile industry has played a pivotal role in the growth of textile industry in Pakistan (Economic survey of Pakistan, 2005-06). The objective of this research is to review the export performance of Pakistan’s textile industry briefly and to estimate the role of textile in total exports of Pakistan for the period 1972 to 2006. The further plan of the paper as fellows. The section deals with review of literature and; third with methodology and data. The fourth section presents brief review of export performance of textile industry of Pakistan. The fifth section contains econometric results and sixth section provides conclusion and suggestions.

REVIEW OF LITERATURE
This section presents a brief review of literature on the existing work related to either textile exports or total exports. Khan (1994) studied the impact of Uruguay Round on world economy. The study concluded that the new agreement could not be accorded very helpful for the developing countries with respect to their major export items such as textiles and clothing, which are covered under the multifibre arrangements (MFA). Therefore, the developing countries like Pakistan should produce high quality goods for export instead of manufacturing shoddy goods for domestic market. Tariq and Najeeb (1995) determined the causes of export earning instability in Pakistan using time series data from the period 1969-70 to 1990-91. The exponential trend-line used for measurement of export instability. The empirical results showed strong relationship between instability and degree of commodity concentration. The primary products ratio and raw material ratio were not related to instability. Quantity fluctuations were only weakly related to instability. They recommended diversification of exports for Pakistan to a great deal. Malik (2000) tested the small country hypothesis for demand for textile and clothing exports of Pakistan by co-integration regression procedure. Annual data for the period 1973-1996 was used. It was concluded that product diversification and its quality as well as lack of qualified labor force are big constraints for textile and clothing exports of Pakistan compared to the international demand constraints imposed by the DCs or the changing world environment. Ayub (2002) examined the changing patterns in the world textile trade. The objective of this study was to forecast the future trade patterns and to identify the determinants of exports of textile and clothing. Findings showed the financial liquidity, endogenous production of cotton and the magnitude of imported raw material and intermediate goods as the root-causes of export of textile and clothing products. While, GDP and exports of textile and clothing products proved as good predictors of import of textile and clothing products. Martin (2004) provided a preliminary analysis for Pakistan of the consequences of abolishing the system of quotas installed under the Multi-Fibre Arrangement (MFA) and currently being dismantled under the Agreement on Textiles and Clothing (ATC). The study suggested the need to take immediate actions to increase the productivity of the textile and clothing sector. An improvement in the overall investment climate – the provision and cost of infrastructures and power, the situation of law and order, the regulatory burden and rationalization of the tariff regime-- would benefit the economy at large as well as the textile and garment sector. Ananthakrishnan and Jain-Chandra (2005) analyzed the impact of the elimination of textile and clothing (T&C) quotas on India by using Global Trade Analysis Project (GTAP). Their simulations suggested that while Indian exports of T&C would continue to expand in the presence of the safeguards on China, but they would be affected adversely after the abolition of these safeguards. They argued that India could emerge much stronger and expand its trade in T&C at a much faster pace, if some of the key domestic structural weaknesses are overcome. Beena (2006) analyzed the sustainability of export performance of Textile and Clothing (T&C) in South Asian countries, particularly in the context of universal trade liberalization for 1985-2003 periods. It was concluded that the export shares of T&C in world trade for all South Asian countries, excepting Pakistan, have increased consistently during 1985-2003. The export growth of South Asian countries in T&C sector during 1985-2003 was quite high as compared to their overall trade growth at the global level. However, their growth as compared to pre-1995 period was much lower in the post-1995 period.
METHODOLOGY AND DATA
The study used ordinary least square (OLS) technique to examine the export performance of Pakistan’s textile in total exports over the period from 1972-2006. The OLS method was adopted because this method is used extensively in regression analysis primarily because it is appealing for its sudden understanding and mathematically a much simpler technique. Before applying the OLS, all-time series variables were checked for stationarity by using correlogram test. Annual time series data from 1972 to 2006 was collected for different variables i.e. total exports, textile exports, cotton production, country’s GDP at market prices, consumption of raw material, exchange rate, and GDP deflator. Secondary data was collected from different sources like Economic Surveys, All Pakistan Textile Mills Association (APTMA) and Federal Bureau of Statistics, State Bank of Pakistan and other internet resources. The total export was assumed to be a function of textile export, gross domestic product (GDP) of country, exchange rate, cotton production, and consumption of raw material. Following are the econometric specifications of the estimating equation.

\[ TE_t = \alpha + \alpha_1 TExE_t + \alpha_2 GDP_t + \alpha_3 ER_t + \alpha_4 CP_t + \alpha_5 CRM + \alpha_it \]

Where

- \( TE_t \) = Real value of total exports of Pakistan in million rupees.
- \( TExE_t \) = Real value of textile exports of Pakistan in million rupees.
- \( GDP_t \) = Real value of gross domestic product of Pakistan measured at current market prices.
- \( ER_t \) = Exchange rate in terms of rupee per dollar.
- \( CP_t \) = Domestic production of cotton in 000’ bales.
- \( CRM \) = Consumption of raw material i.e. cotton and fibre in 000’ kgs.
- \( \alpha_{it} \) = Stochastic error term assumed to be independently and normally distributed with zero mean and constant variance.

\( \alpha \) is the intercept and \( \alpha \)'s are known as partial regression or partial slope coefficients in the model.

GDP deflator is used to calculate the real values of the variables by the relation:

\[ \text{Real value} = \frac{\text{Nominal value}}{GDP 	ext{ deflator}} \]

Theoretical Considerations
On a priori basis, it is expected that an increase in textile exports (TExE_t) be followed by an increase in total exports (TE_t) and vice versa. Gross domestic product (GDP) denotes the market value of finally produced goods and services in a country. A direct relationship is expected between total exports (TE_t) and Gross Domestic Product (GDP_t), a reflection of robustness of the economy. Exchange rate (ER) is a vital macroeconomic variable and backbone of trade. The exchange rate plays a crucial role in explaining the variations in net exports especially in a country where exchange rates are volatile (Kamal, 2005). The theory says that higher exchange rate volatility will reduce trade by creating uncertainty about future profit from export trade (Mustafa and Nishat, 2004). Thus; a negative sign is anticipated between the exchange rate and real exports. The cotton production (CP_t) is used as a domestic production of raw material., the expected sign is positive as higher cotton production results in higher exportable surplus, ceteris paribus. Consumption of Raw material like cotton and fibre has an important role in manufactured products. So a direct relationship is expected between total exports and consumption of raw material (CRM).

REVIEW OF EXPORT PERFORMANCE OF PAKISTAN’S TEXTILE (1976-2010)
In this section, an effort is made to analyze the performance of textile exports from 1976 to 2010 period. The share of textile exports in total exports declined substantially in the 1970s due to the crises of East Pakistan in the country. This also affected the overall exports performance of the country. The situation gradually improves until 1980s. The number of textile mills in the country increased from 131 in 1976-77 to 210 in 1985-86, to 307 in 1995-96 and to 445 in 2005-06, which has now increased to 458 in 2009-10 (Government of Pakistan, 2010). Setback in the seventies occurred as a result of

- Multifibre arrangement(MFA)-an external impediment to value-added growth
- Nationalization of exports-a domestic disruption of cotton value chain in terms of quality deterioration and low demand pull

Because of these reasons, the industry was pushed towards targeting low value products on domestic cotton, low costs and low investments (Khan, 2003). Beyond 1980, the textile exports showed a very
fluctuating performance because the composition and volume of world trade has witnessed significant changes during the past two decades. Whereas, Pakistan is narrow low value-added export base has failed to create a solid foundation for an export-led growth. The dominance of the textiles and clothing sector is consistent with Pakistan's existing natural and human factor endowments and Pakistan has failed to move from low value-added to technology intensive high-value added manufacturing (Mahmood, 2005).

In late eighties and early nineties, a negative value addition was taking place as the benefit of subsidized cotton lint was being passed on to Japanese, Korean and Hong Kong yarn purchasers (Khan, 2003). Due to the highly fluctuating performance, a long run description of shifts and changes in textile exports would have surely missed a great deal of short-term variations. Therefore, to overcome this weakness, time series data on textile exports was subdivided in to four phases.

- First phase (1976-1980)
- Second phase (1980-1990)
- Third phase (1990-2000)
- Fourth phase (2000-2010)

Textile Exports during First Phase (1976-1980)
Table 4.2 shows the performance of textile exports (value in real terms) for the period 1976-1980. The average textile exports during this period were stood at Rs 40049.38 million. The percentage share of textile exports kept on oscillating between 27.41 to 42.91 percent. On average basis, this share was 36.16 percent during this phase. The textile sector of Pakistan depends upon agriculture for supply of raw material; therefore, whatever happens to cotton crop is likely to affect the performance of textile sector (Economic survey of Pakistan, 2005-06).

<table>
<thead>
<tr>
<th>Year</th>
<th>Textile Exports</th>
<th>Textile as % age of Total Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976-77</td>
<td>34725</td>
<td>27.41072</td>
</tr>
<tr>
<td>1973-74</td>
<td>56431</td>
<td>43.26237</td>
</tr>
<tr>
<td>1974-75</td>
<td>38477</td>
<td>36.09678</td>
</tr>
<tr>
<td>1975-76</td>
<td>31793</td>
<td>33.25384</td>
</tr>
<tr>
<td>1976-77</td>
<td>32627</td>
<td>38.04632</td>
</tr>
<tr>
<td>1977-78</td>
<td>31050</td>
<td>34.85357</td>
</tr>
<tr>
<td>1978-79</td>
<td>36719</td>
<td>34.45173</td>
</tr>
<tr>
<td>1979-80</td>
<td>58573</td>
<td>41.9094</td>
</tr>
</tbody>
</table>

*Real Value = (Nominal Value/GDP Deflator)*100

Source:
2. Textile as % age of Total Exports=(Textile Exports/Total Exports)*100

The seventies was an unstable period for Pakistan’s cotton production and industry. It appeared in early seventies that Pakistan’s cotton industry was ready for fast growth on domestic supplies. However, in 1974, the closing down of the hedge markets in Karachi Cotton Exchange and nationalization of cotton exports (through monopoly of the newly created Cotton Export Corporation, CEC) caused a setback to the industry in terms of investor confidence and quality supplies. During the year, 1976 to 1980 cotton production fell in response to lower prices caused by imposition of export duty on cotton and idle spindle capacity of domestic spinning, which was recovering from the uncertainty created by large-scale nationalization of many industries in the country. The virtual monopoly of CEC on domestic markets (being the largest buyer of lint cotton) was accompanied by deterioration of lint standards that discouraged spinners from investing in technology and moving towards value addition (Khan, 2003).
After 1977, a liberal trade regime was adopted. The measures like export rebates, concessionary credit for exporters helped in improving situation of exports. This upward trend in export performance reached its peak level in 1980, mainly due to unprecedented performance of cotton crop in 1979 to 1980 (Zaidi, 1999).

**Textile Exports during Second Phase (1980-1990)**

Table 4.3 describes the performance of textile exports (in real value terms) during the decade of 1980-90. During this phase the oscillating trend of performance continued. The average value of textile exports during this phase was Rs 74903.3 million, which was higher than the average value for the first phase. The average percentage share of textile exports in the total exports remained 37.46 percent, which was slightly higher than the average share for the first phase. The percentage share declined most of the time during whole period.

The highest share of textile exports in total exports occurred in the year 1980-81, which was 48.73 percent, which was the result of bumper crops of cotton.

In 1982, Pakistani rupee was delinked from the dollar and a flexible exchange rate system was adopted. The rupee was devalued when the currency was unhitched from its link to US dollar (The Chinese University of Hong Kong, 2000). However, the demand for Pakistan’s major exports (cotton and cotton-based textiles and garments) was relatively price-inelastic; therefore, a depreciation of the rupee did not lead to a rise in export receipts (Majid, 2000). And a decline was observed in the textile exports in 1982-83. The fluctuations were observed until 1984-85 in textile exports.

<table>
<thead>
<tr>
<th>Year</th>
<th>Textile Exports</th>
<th>Textile as % age of Total Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980-81</td>
<td>46850</td>
<td>29.61722</td>
</tr>
<tr>
<td>1981-82</td>
<td>62383</td>
<td>48.72872</td>
</tr>
<tr>
<td>1982-83</td>
<td>49060</td>
<td>31.96404</td>
</tr>
<tr>
<td>1983-84</td>
<td>73099</td>
<td>46.61807</td>
</tr>
<tr>
<td>1984-85</td>
<td>54301</td>
<td>37.07211</td>
</tr>
<tr>
<td>1985-86</td>
<td>57179</td>
<td>31.22283</td>
</tr>
<tr>
<td>1986-87</td>
<td>75302</td>
<td>33.29016</td>
</tr>
<tr>
<td>1987-88</td>
<td>110424</td>
<td>41.14618</td>
</tr>
<tr>
<td>1988-89</td>
<td>101292</td>
<td>35.98704</td>
</tr>
<tr>
<td>1989-90</td>
<td>119143</td>
<td>38.9313</td>
</tr>
</tbody>
</table>

*Real Value = (Nominal Value/GDP Deflator)*100

**Source:**

2. Textile as % age of Total Exports = (Textile Exports/Total Exports)*100

From the mid-eighties onwards, due to the strong growth of domestic cotton production and subsidized lint prices (because of 28 to 35 percent duty on export of raw cotton), growth was triggered off in the spinning industry as installed spindle capacity rose sharply. This was a golden period for spinning industry as fortunes were made on cheap converted to low count, low quality yarn and capturing Asian markets (Khan, 2003).

From 1984-85 to 1987-88 the textile exports showed an increasing trend in terms of real value but declined was observed in 1988-89. The textile exports showed a maximum real value of Rs 119143 million (Table 4.3) in the year 1989-90, due to increase in domestic consumption of cotton. The domestic cotton consumption increased due to modernization of textile and various concessions provided by the government to textile industry in the budget of 1989-90 (Mahmood and Akhtar, 1996).

**Textile Exports during Third Phase (1990-2000)**

Table 4.4 shows the export performance for the period 1990-2000. The average textile exports during this phase remained at Rs 210463.5 million (in real terms) which was much higher than the average figure in the second phase. During this period the textile exports real value reached to the highest point of Rs 255577 million for the year 1996-97 and the highest percentage share of 54.55 percent textile exports.
occurred during this year (Table 4.4). The average percentage share of textile exports in total exports was 47.99 percent, which was higher than the previous two periods. In early nineties Pakistan’s textile sector had recovered from the shocks of the seventies and was ready to move towards value added products for global competition. The following two factors were important in this regard:

- A steady growth of 10.5 percent per annum in cotton production over the past decade
- New cotton varieties with longer staple lengths and higher GOTs (Ginning out Turn percentage)

Both the factors infused great optimism across the cotton value chain to all stakeholders that the nineties would see acceleration in cotton economy of the country. Large investments made in all processing sectors that increased industrial capacity to well beyond domestic production, in anticipation of a continuous growth in domestic cotton. (Khan, 2003)

<table>
<thead>
<tr>
<th>Year</th>
<th>Textile Exports</th>
<th>Textile as % age of Total Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-91</td>
<td>226199</td>
<td>75302</td>
</tr>
<tr>
<td>1991-92</td>
<td>268370</td>
<td>110424</td>
</tr>
<tr>
<td>1992-93</td>
<td>281468</td>
<td>101292</td>
</tr>
<tr>
<td>1993-94</td>
<td>306034</td>
<td>119143</td>
</tr>
<tr>
<td>1994-95</td>
<td>373734</td>
<td>156232</td>
</tr>
<tr>
<td>1995-96</td>
<td>410047</td>
<td>181860</td>
</tr>
<tr>
<td>1996-97</td>
<td>384676</td>
<td>195671</td>
</tr>
<tr>
<td>1997-98</td>
<td>410097</td>
<td>196653</td>
</tr>
<tr>
<td>1998-99</td>
<td>445658</td>
<td>216778</td>
</tr>
<tr>
<td>1999-00</td>
<td>459600</td>
<td>209950</td>
</tr>
</tbody>
</table>

*Real Value = (Nominal Value/GDP Deflator)*100

Source:

2. Textile as % age of Total Exports= (Textile Exports/Total Exports)*100

Because the cotton production touched a record figure of 12.822 million bales which was mostly used for the requirement of local spinning industry (TCO, 1996). Different trade liberalization, deregulation measures started under the Structural Adjustment Programme (SAP) were effective in this context. Pakistan also improved her distribution of exports by concentrating into relatively faster growing markets of East Asian Economies like Hong Kong, Korea, Singapore, and Thailand (Mahmood and Akhtar, 1996). Although exports grew in the period 1992 to 1995 but remained stagnant. The increase in the prices of raw cotton domestically and inability of the industry to compete internationally, made the fundamental weaknesses of the industry quite apparent. (TCO, 1996). It was the result of the adverse consequences of the Multi-Fibre Arrangements on the spinning industry. It stalled the modernization of the formal sector, as the government provided incentives for expanding low-cost power looms at the cost of organized mill sector, to reap the advantages of low-costs. Mill production declined and caused closure of the huge installed capacity. The production of organized mill sector shrunk from 717,411 sq. meters in 1969-70 to 314,914 sq. meters in 1993-94. In 1969-70 out of 38000 looms, 30000 were operative. In 1993-94 the installed capacity had decreased to 14000 and only 6000 were operative (Khan, 2003). A severe depression occurred in developed and East Asian economies in 1997, which inhibited the growth of the textile exports. The sluggish demand growth was the chief reason of the downward trend shown by the textile exports performance in 1997-98. This down ward trend continued to the end of decade. The exports remained almost stagnant due to the economic sanctions imposed on Pakistan after Atomic explosions in 1998. Other factors that led to the poor export performance in this period were:

- Falling unit prices of a wide range of exports, including commodity exports and low value cotton manufactured goods
- 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
All these affected the larger export centers. It is quite clear that Pakistan’s export competitiveness has been affected by these exogenous and endogenous factors resulting in stagnating exports (Akbar and Naqvi, 2001). In 1999, government of Pakistan designed a comprehensive policy framework for the whole textile value chain from cotton growing to export of high-end garments. The outcome, Textile Vision, laid out a road map for meeting the post ATC global situation, Which adopted by government as the long term policy guideline. The major thrust of the new strategy was to shift towards value addition (Khan, 2003).

Textile Exports during Fourth Phase (2000-2006)
Table 4.5 describes the growth of textile exports during the phase 2000-06. The average value of textile exports (in real terms) in this period was Rs 420491.5 million that was much higher from the previous periods. The average share of textile exports in total exports was 63.38 percent, which was also higher from the previous three phases.

<table>
<thead>
<tr>
<th>Year</th>
<th>Textile Exports</th>
<th>Textile as %age of Total Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-01</td>
<td>255577</td>
<td>54.5544</td>
</tr>
<tr>
<td>2001-02</td>
<td>238009</td>
<td>50.77049</td>
</tr>
<tr>
<td>2002-03</td>
<td>231453</td>
<td>50.28799</td>
</tr>
<tr>
<td>2003-04</td>
<td>222452</td>
<td>45.00899</td>
</tr>
<tr>
<td>2004-05</td>
<td>349764</td>
<td>60.16586</td>
</tr>
<tr>
<td>2005-06</td>
<td>368390</td>
<td>65.67287</td>
</tr>
<tr>
<td>2006-07</td>
<td>425720</td>
<td>66.88368</td>
</tr>
<tr>
<td>2007-08</td>
<td>444176</td>
<td>67.00518</td>
</tr>
<tr>
<td>2008-09</td>
<td>459226</td>
<td>59.25787</td>
</tr>
<tr>
<td>2009-10</td>
<td>475673</td>
<td>61.28325</td>
</tr>
</tbody>
</table>

*Real Value = (Nominal Value/GDP Deflator)*100

Source:
2. Textile as %age of Total Exports=(Textile Exports/Total Exports)*100

In spite of the drastic changes occurred in the production, the textile sector remained the backbone of the economy and contributed around 60 percent to exports earning in the year 2000-01(Economic survey of Pakistan, 2001-02). After suffering stagnation in the last five years, textile exports started improving in the year 2001-02. The value added products performed well in export markets in spite of lower demand and depressed prices in the international market (Economic survey of Pakistan, 2001-02). The share of textile improved from 61.17 percent in the last year to 65.67 percent (Table 4.5) in 2001-02. In the year 2002-03, despite negative impact of nine-eleven (2001) on Pakistan’s trade and global recession of the economy the growth of textile exports provided sustenance to prevalent optimism. This was the result of revival of strong growth of textile exports over the past two years. (Khan, 2003). The industry though followed “Low Road Scenario” but was moving in the right direction and preparing itself for the 2005 Scenario when a highly competitive environment would develop (Ahmad, 2004). Textile exports showed a minor increase (in real value terms) in 2004-05 and its share in total exports declined to 59.26 percent because of diversification of exports. The Pakistan retained the position of one of the largest textile exporters in the world. The increasing trend continued in the year 2005-06 and the textile exports share in total exports was above sixty percent. Pakistan’s textiles and clothing sector remained at the lower end of the value chain. The performance of textile exports in the year 2006 was bad as compared to 2005. Since the beginning of 2005 the MFA was abolished and Pakistan exported its textile product under free and liberalized environment. In this free trade era, Pakistan has to face a twin menace i.e.

- An open price war in the most affluent markets - the US and the EU, has put Pakistan under tremendous pressure by China, India, and Bangladesh.
In the domestic market, cheap clothing, apparels, and home textiles from China and Thailand are attracting a large number of buyers (Ghausi, 2006). Although textile sector is facilitated by a natural advantage in the form of a raw material, base for instance cotton and cheap labor. Despite having natural advantages these days, due to intense competition in export market and rising interest rates, profitability of the textile remained under pressure. Not only overall profitability was going down but also the plunge was seen in composite sector, spinning sector as well as in value added goods. Due to increasing competition in the region, exports of textile goods and specially the value added ones went on decline (Zaidi, 2006).

**ECONOMETRIC ANALYSIS**

Before applying the OLS, all-time series variables were checked for stationarity by using correlogram test. The correlogram of all the time series are found non-stationary at levels; however, they are stationary at first difference i.e. integrated of the same order 1 (1) thus fulfilling the criteria for estimating the OLS regression. The correlogram results are shown below.

![Fig. 5.1: Correlogram of Total Exports at First Difference](source: EViews product based on data collected by researcher)

![Fig. 5.2: Correlogram of Textile Exports at First Difference](source: EViews product based on data collected by researcher)

![Fig. 5.3: Correlogram of GDP at First Difference](source: EViews product based on data collected by researcher)
The econometric specification showed the following results:

\[ TE_t = \alpha + 0.47 \alpha \times \text{TEXE}_t + 0.03 \times \text{GDP} + (-1356.29) \times \text{ER}_t + 1106.06 \times \text{CP} + 0.13 \times \text{CRM}_t + (-14727.5) \times i_t \]

S.E. = (9673.4) + (0.101) + (0.013) + (564.1832) + (1742190) + (0.019223)

\[ t = (-1.522) (4.672)* (1.999)** (-2.403993)** (6.348053)** (6.534165)** \]

\[ R^2 = 0.996515 \quad \text{Adjusted } R^2 = 0.995892 \quad \text{F-statistic} = 1601.08 \quad \text{Prob (F-statistic)} = 0.000 \]

Where

* denotes 1 percent level of significance
** denotes 5 percent level of significance
*** denotes 10 percent level of significance
In equation (4.1), the figures in the first set of parentheses are the estimated standard errors of the regression coefficients. The figures in the second set are the estimated t values under the null hypothesis that the relative population coefficient has a value of zero. All the variables carried the signs according to economic theory.

The estimated results have shown that as expected textile export has a significant impact on total exports of Pakistan. The calculated value of textile coefficient is 0.47 and it is significant at 1 percent. There is a direct relationship between total exports and textile exports as a one-unit increase in textile exports tended to increase the value of total exports by a proportion of 0.47. The gross domestic product variable is significant at 10 percent. This variable has a coefficient value of 0.03 almost. This means a one-unit rise in country’s gross domestic product has raised the total export to a proportion of almost 0.03. Therefore, increase in the robustness of domestic economy has positively influenced the total exports. Khan and Saqib (1993) confirmed this result and found a positive and association between real exports and real gross domestic product of Pakistan. The exchange rate has a significant negative impact on total exports of Pakistan. The calculated value of exchange rate coefficient is -1356.29 and it is significant at 5 percent level of significance. One unit depreciation in exchange rate tended to an increase of 1356.29 in the value of total exports. Akhtar and Hilton (1984) and Chowdhury (1993) confirmed these results. Cotton production is significant at 1 percent level of significance. A one-unit cotton production caused an increase of 11.06 proportions in total exports. Consumption of raw material is also highly significant i.e. at 1 percent level of significance. A one-unit consumption of raw material is accompanied by an almost 0.13 proportions increase in total exports. The value of intercept for above specification was -14727.50. The value of R² is 0.996 and it showed that 99.6 percent variation in total exports is explained by the textile exports, GDP, exchange rate, cotton production, and consumption of raw material. This value of R² indicated that all these explanatory variables played an important role in export performance of Pakistan. The F value for the above specification is 1601.089. The probability of obtaining that high F value is zero, leading to the rejection of hypothesis that all the regressors have no effect on total exports and it is concluded that the model is significantly fitted. Although R² is high in the model, but all the t ratios are statistically significant and the signs of the coefficients make economic sense. Therefore, the problem of multicollinearity was ignored. Similarly, the value of DW statistic is 2.34, whereas the DWL is 1.144 and DWU is 1.808. As the DW> DWL and DW > DWU so there is no evidence of positive first order serial correlation (Gujrati, 2003, p-971). The Park test was used to test the presence of heteroscedasticity that showed the following results.

- \( \ln \hat{u}_i^2 = 10.14187 + 0.860034 \ln CP \)
  - S.E = (5.692518) (0.645397)
  - t = (1.781614) (1.332566)

- \( \ln \hat{u}_i^2 = 10.08877 + 0.654098 \ln TEXE \)
  - S.E = (4.262500) (0.364547)
  - t = (2.366868) (1.794277) ***

- \( \ln \hat{u}_i^2 = 0.851355 + 1.148887 \ln GDP \)
  - S.E = (9.000358) (0.612794)
  - t = (0.094591) (1.874834) ***

- \( \ln \hat{u}_i^2 = 15.21382 + 0.812551 \ln ER \)
  - S.E = (1.488868) (0.472012)
  - t = (10.21839) (1.721464) ***

- \( \ln \hat{u}_i^2 = 6.458798 + 0.817908 \ln CRM \)
  - S.E = (6.411351) (0.465282)
  - t = (1.007401) (1.757877) ***

Where *** denotes 10 percent level of significance

All the variables except cotton production showed the positive indication of problem of heteroscedasticity in the data. In order to reduce the problem of heteroscedasticity the log transformation of the data was used. The log specification indicated the following results.
The F value for the above specification was 731.4695. The probability of obtaining that high F value is expressed that all these explanatory variables play an important role in export performance of Pakistan. The value of R² was 0.996 and it showed that 99.6 percent variation in total exports is explained by the textile exports, GDP, exchange rate, cotton production, and consumption of raw material. The value of intercept for our log transformed model was -2.275966. The value of R² was 0.996 and it showed that 99.6 percent variation in total exports is explained by the textile exports, GDP, exchange rate, cotton production, and consumption of raw material. This value of textile coefficient is 0.25 almost and it is significant at 5 percent level of significance. A direct relationship is observed between total exports and textile exports as a one-percentage point increase in textile exports tended to increase the value of total exports by 25 percent. Mahmood (2005) and Beena (2006) also observed the textile sector exports as big determinant of total exports of Pakistan. The exception in the above specification is that the elasticity of textile exports with respect to gross domestic product which although have correct signs, but the coefficients is not significant even at 10 percent. The GDP variable has a coefficient value of 0.27 almost indicating that one percent improvement in country’s gross domestic product has raised the total export to a proportion of almost 27 percent. There is no coincidence that nations ranking high in gross domestic products (GDP) which tells us the value of goods and services produced in an economy in a given period are also high-ranking exporters (Ali, 2000). The insignificant impact of real GDP on real value of total exports may be because in Pakistan mostly the produced goods and services do not match with the international standard; and therefore export value of these lower quality products remain stagnant.

The exchange rate is also not significant even at 10 percent; however, it has sign according to economic theory. The exchange rate as expected seemed to play a negative role for exports. The coefficient value of -0.16 showed that there is an opposite relationship between total exports and exchange rate as one percent depreciation in exchange rate tended to an increase of 16 percent in the value of total exports. According to Kemal (2005), in case of Pakistan the insignificant impact of exchange rate on exports is possible because Pakistan is not the country where exchange rate instability is one of the major problems that affect the decision making of exporters. This result of exchange rate is in line with Hooper and Kohlhagen (1978).

Cotton production is significant at 1 percent level of significance. A one percent cotton production caused an increase of 27 percent in total exports. This showed that as cotton production increased the total exports boost up to a greater extent. Consumption of raw material is also highly significant i.e. at 1 percent level of significance. A one percent consumption of raw material is accompanied by an almost 45 percent increase in total exports. The rationale for the stronger impact of cotton production and consumption of raw material towards exports lies in fact that Pakistan’s major exporting sector (textile) largely use raw materials such as cotton and fiber etc as an input in producing final goods (Badar, 2006). The value of intercept for our log transformed model was -2.275966. The value of R² was 0.996 and it showed that 99.6 percent variation in total exports is explained by the textile exports, GDP, exchange rate, cotton production, and consumption of raw material. This value of R² expressed that all these explanatory variables play an important role in export performance of Pakistan. The F value for the above specification was 731.4695. The probability of obtaining that high F value is zero, leading to the rejection of hypothesis that all the repressors have no effect on total exports and it is concluded that the model is significantly fitted. Although the value of R² is high, in the model, but more than 50 percent t ratios are statistically significant and the signs of the coefficients make economic sense, so the problem of multicollinearity may be ignored. Similarly, the value of DW statistic is 2.589, whereas the DWL is 1.144 and DWU is 1.808. As DW > DWL and DW > DWU so the hypothesis of no autocorrelation is accepted (Gujrati, 2003, p-971). Moreover, the log transformation of the data was used to reduce the problem of heteroscedasticity.

\[
\text{lnTE} = -2.275966 + 0.247574 \text{lnTEXE} + 0.267131 \text{lnGDP} + 0.159803 \text{lnER} + 0.256917 \text{lnCP} + 0.449679 \text{lnCRM}
\]
CONCLUSION AND SUGGESTIONS

The analysis (section 4) clearly shows that the share of textile exports has been increasing over the years. The percentage share of textile exports value (in the real terms) has increased from 27.41 percent in the 1972-73 to 61.28 percent in 2005-06. In Pakistan the textile, industry has a backward linkage with agriculture sector. Therefore, the fluctuation in textile exports is attributed to the highly fluctuating domestic cotton production, inconsistent export policies, currency devaluations, export duties, competitiveness of exports and situation in international markets. It is revealed by this study that our textile sector is still depended upon the low value added products. Due to this reason, demand for our textile products is declining day by day in the newly competitive environment where all the restrictions are abolished. Our textile industry is facing severe challenges in this new era of free textile trade.

The overall results suggested that the internal factors like domestic production and domestic consumption played more important role in explaining variations in exports of Pakistan as compared to external factors like exchange rate. In the light of above observations, following are the likely suggestions to improve the situation of exports as a natural consequence of this study.

1. As a positive and significant relationship has been found between real total exports and real textile exports. Therefore, it is suggested that textile exports should be enhanced to pick up total exports. Following steps may be adopted to improve the operative environment in Pakistan.
   i. Enhancement of infrastructure facilities and large investment in machinery and equipment and technological development are pre-requisites for the purpose.
   ii. The industry may be upgraded in both manufacturing and marketing.
   iii. The research & development and technical innovation should be the key focus of the industry.

2. There exists close ties between real exports and real gross domestic product (market value of finally produced goods and services). Therefore, more and more goods and services should be produced to boost up exports. The maintenance of quality standards to get favorable prices in the international market is especially recommended in the arena of NIEO and WTO.

3. The exchange rate volatility shows a negative association with total exports, though its impact is insignificant. Exports can be increased by managing the exchange rate effectively. So an appropriate exchange rate policy pertaining to stability may be adopted to improve exports situation.

4. Cotton production has a positive and highly significant impact on exports. So there is a dire need to improve our domestic production of cotton on continuous basis by adopting new technologies, Breeding high yielding varieties and making proper production policy.

As a direct and highly significant relationship is found between consumption of raw material and total exports. A permanent supply of raw material is suggested to maintain the smooth consumption of raw material in the industrial sector to improve the supply chain management. This in turn helps to increase and up to date exports products.

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