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THE IMPACT OF TARIFFS ON PRODUCTIVITY OF PAKISTAN'S TEXTILE INDUSTRY

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ABSTRACT

Trade liberalization by reducing tariff barriers has enhanced industrial productivity as well as raised global economy. But open trade impact was different on developed as compare to developing countries. In this study impact of trade barriers in terms of tariff peaks, tariff escalation and tariff rate quota, by the developed countries, on export performance of the textile industry of Pakistan were empirically evaluated. A model was formulated which represented tariff peaks, tariff escalation, tariff rate quota and export performance as variables.

This research study is a comprehensive attempt to expose the true affect of trade liberalizations under WTO regime on the export performance of textile industry of Pakistan. It fills gap in the literature by contributing on ground research facts and figure from Pakistan. Provide an understanding of the impact of trade barriers on the industrial productivity.

KEYWORDS: Industry Productivity, Tariff Escalation, Tariff Peaks, Tariff Rate Quota, Trade Liberalization

INTRODUCTION

After gaining independence in 1947, Pakistan, like different Asian neighbors, adopted an inward focused import-substitution growth strategy. It led to productive inefficiencies and created an anti-export bias. On this Pakistan introduced reforms towards a free market economy and export-led industrialization. Tariff is the major barrier against free market or open trade. To achieve market access tariff has to decrease in each importing and exporting country on reciprocal bases. The average tariff in developed countries has reduced to around 5 percent. This is deceiving in a way that labor intensive export of developing countries faces trade barriers like Tariff peaks, tariff escalation, and tariff rate quota in those developed markets.

Trade liberalization is considered as catalyst which stimulates economic activity in a progressive economy and open ways for market based economy to flourish and prosper. In poor countries trade liberalization or tariff reduction tend to enhance the economy and boost poverty reduction (Dollar and Kraay, 2001; WORLD BANK, 1987). Contrary to that, some studies indicate that there was not enough evidence to support relations between economic growth and trade liberalization (Grossman and Helpman, 1991; Rodriguez and Rodrik, 2000). Yanikkaya (2002) studied the relationship between import duties and economic growth of eighty developing and developed countries and found that the tariff and non tariff trade barriers were beneficial for the economical growth.

The conviction that an outward oriented commerce and trade policy is better than an inward-looking or shelter view has been enthusiastically argued in the economic enhancement literature (Krueger, 1978; Dollar, 1992; Sachs and Warner, 1995). Whereas the belief that export production is favorable for economic development is well established but the way to export production has been challenged in the trade and industry literature. The experience of East Asian countries has revealed that the route to export production might certainly be via import substitution (Amsden, 1989; Wade, 1990;

Ocampo and Taylor 1998). The main strength of Pakistan's economy is textile industry; it consists of about 60% of export income, and 46% of merchandise income. In early Nineties, study shows that Pakistan's industrial policy was fore-fronted by broad tariff reductions (Levy and Nolan 1992). During 1990-2005 under WTO obligations Pakistan went through trade liberalization process. The economic liberalizations were largely as a compulsion in the conditionality forced by the IMF and also World Bank during Structural Adjustment Program (Kardar, 1997).In spite of economic and trade liberalization in 90's, the social and economical sector did not flourish. The services and agriculture is the major source of economy. The contribution of production, construction, retail trade services and wholesale in Pakistan's GDP had gone down gradually (Weisbort and Baker, 2002). From 1995 there was an increase in unemployment from 5.4% to 7.8%. In 1995 per capita income was \$ 510 which was decreased to \$ 425 in 2001 (Pakistan Development Policy Review, 2002). The high growth rate of population, increase in unemployment and slow progress rate in economic development was the major contributor of Pakistan high poverty rate and it was at its maximum in 1990s (Economic Survey, 2000-01).

Pakistan's export of textile consists of 70% of total Pakistan's export which has to face market access challenge under discrimination factor of developing countries tariff structure. For developing countries export the major hindrance of market access are non tariff measures (NTM) which include tariff peaks, tariff escalation, and tariff rate quotas, these are permitted in WTO. Pakistan has gradually shifted its export combination from raw to finished products (Economic Survey of Pakistan, 2001). But in case of textile, Pakistan is not capable of appreciably transfer its products from primary goods to finished commodities. Pakistan have high cost of energy, therefore the production cost increased, hence it is now very difficult for local industry to compete with the surge of low cost imported goods (IPRSP, 2001).

Research Question

The research question developed on the bases of arguments in previous section is as follows:

At what extent trade liberalization have impacted on export performance and productivity of textile industry of Pakistan by reduction of tariff a trade barrier during the period 1990 to 2005? In this study author has formulated a mathematical research model to represent association of tariff barriers with the export performance as productivity of the textile industry of Pakistan.

The productivity of textile industrial firms operating in Pakistan has been determined by the associations of variables of the research model. Primary data has been collected by means of a structured questionnaire. Top 50 export oriented textile firms in Pakistan were selected from the data of Federal Board of Revenue (FBR). Author have approached and sent questionnaires to all of these firms. The mathematical model of the study has been tested by the application of multiple regression analyses. The model test results have shown that under WTO regime, trade liberalization through reduction of tariff barriers during the period 1990 to 2005 have negatively impacted on the export performance of textile industry of Pakistan.

PURPOSE OF THE STUDY

The purpose of the study was to evaluate empirically the impact of tariff peaks, tariff escalation and tariff rate quota on the export performance and productivity of textile Industry of Pakistan.

BENEFIT OF THE STUDY

This study is beneficial for the policy makers of the Government of Pakistan, textile firms operating in Pakistan, research scholars, research organizations, universities as well as foreign research organizations who want to enhance their understanding regarding affects of trade liberalizations on the textile industry of Pakistan.

LITERATURE REVIEW

The literature review is based on theoretical and empirical studies compiled to explain variables of the study, which are as follows;

Tariff Peak – Input Variable-I

Tariff that is 3 times higher than average tariff is termed as tariff peak of that sector or ad valorem tariffs of 15% and higher than that, in industrialized countries, are normally referred to as tariff peaks (UNCTAD, 2000).

The average tariffs of almost all of the countries have significantly reduced because of GATT rounds and national tariff reforms. This has caused a widespread belief that tariffs are no longer hindrance to market access. However, this can be incorrect. It is possible that a country which has low average tariff can have high tariff on a particular sector.

There are fairly one thousand tariff peaks in the schedules of the US and EU. Japan and EU have more tariff peaks in agriculture sector as compare to manufacturing sector. The average of these peak rates are 4 times the average of the national tariff.

Impact on Textiles and Clothing

Large proportions of clothing and textile imports are subject to high tariffs in the US, European Union and Canada. Tariff peaks are typically in the limit of 12 to 30 % in extreme cases, though for essential merchandise their tariff peaks reach 350 to 900 %. Where as, there are variety of textile merchandise whose MFN (Most Favored Nation) or GSP (Generalized System of Preference) rates have reduced to zero. This merchandise is of major importance for developing country exports. It is to be noted that GSP gives a country an exemption from MFN. As under WTO rules and MFN principles, all the countries are to decrease the tariff on equal proportion. But GSP give the leverage to developing countries that they can decrease tariff at less rate as compare to developed countries.

Imports in Quad Countries

The major export marketplace for developing countries like Pakistan is Quad countries (Canada, EU, Japan and US). The average tariff of MFN has reduced to five percent in Quad countries. In spite of preferential tariffs throughPTA, FTA, and RTA, developed countries have imposed over one hundred percent tariffs for a few specific commodities. The products on which developing countries have competitive edge are specially targeted by the developed countries and therefore imposed tariff peaks on such products.

There are number of cases where developed countries have imposed trade restriction by imposing tariff peaks on the sensitive goods. These sensitive goods are excluded from the preferential list of imports, these preferential facility are provided to the under developed countries. (Michalopoulos, 1999; Hallaert, 2000). There is around 40% average tariff peaks found in EU merchandise which is highest among all these countries. It is estimated that Tariff peak in quad countries is 4.5% greater than the average un-weighted tariff. The un-weighted tariff is 6% and peak average tariff is 28%.

Tariff Escalation - Input Variable-II

Common situation where the import duties on components or raw materials are lowest and move progressively higher on semi-finished goods upwards to the finished goods is known as tariff escalation (Investorwords, 2010). It is often used for facilitation to domestic manufacturing industries. Because of this they can compete with exporters although not always fairly. The developing countries efforts for boosting their industry are being affected by the Tariff escalation.

Measuring Tariff Escalation

There are 2 ways of measuring tariff escalation, Effective Rate of Protection (ERP) and Tariff Wedge which is also known as nominal tariff escalation. ERP concept was given by Balassa (1965), Johnson (1965), Gordon (1966). Value addition on the processed product is used for the calculation of ERP. The ERP could be most reliable indicator however it is difficult to calculate because it needs knowledge on tariffs in addition to costs, inputs and technical coefficients that are typically not accessible. The "nominal tariff escalation" or Tariff Wedge is calculated as difference between tariff on the raw or basic stage of product and the tariff on the final or finished product. If both nominal and effective rate of protection are positive then it indicate the existence of tariff escalation. The ERP is a dependable indicator for the assessment of tariff escalation or value of protection in the downstream production process. The final commodity value is used to calculate the nominal tariff. Since it indicate the enhanced cost therefore it is more important for consumers.

Tariff Rate Quota – Input Variable-III

A two-tiered tariff where the tariff rate charged depends on the quantity of imports. A lower (in-quota) tariff is charged on imports in the quota volume. The greater (over-quota) tariff is charged on imports exceeding the quota volume. (Definition by WTO).

Tariff Rate Quota as a Tool

It is a trade policy tool that is employed to safeguard domestic product from competitive imports. A tariff rate quota (TRQ) is a combination of 2 policy instruments that a nation could have used to impose restriction on imports: these instruments are quota and tariff. Here in TRQ, quota part combined with preferred quantity of protection against imports of a particular tariff level.

It's a 2 side attack against imports i.e. limitation on imports by amount and tariff. In quota tariff is very low and out of quota it is very high. Legally it is allowed to import beyond in-quota limit but practically it is not viable. The quota tradability and its effects on asset price has been analyzed by Burrell, (1989), Dawson, (1991), Boots, (1999) and Colman, (2000), among others

Industrial Productivity and Export Performance

Export performance is an indication of better competitiveness in international markets. A country's utmost desire for open trade is to increase its exports. The enhanced international competitiveness may be evident in enhanced export quantity; it may also be seen in enhanced export of value added goods.

The export of value added goods carries more importance as compare to export volume. It is because enhancement in value added goods means that industry is shifting towards more high-tech products which in turn will earn greater revenue, and this shows grater competitiveness in international market. Research indicates that enhanced competitiveness will directly effect on the industrial production.

It is to be evaluated that whether open trade has in fact became a cause of enhancement of competiveness of export products in 1990s. In 2001 the world export of Pakistan Textile products was 4.4 billion dollars, which were 4.5 billion dollars in 1997. However, the revenue was enhanced from 1.9 billion dollars to 2.1 billion dollars in same period.

RESEARCH MODEL

The research model of the study is comprised of four variables which are represented in the model presented below:
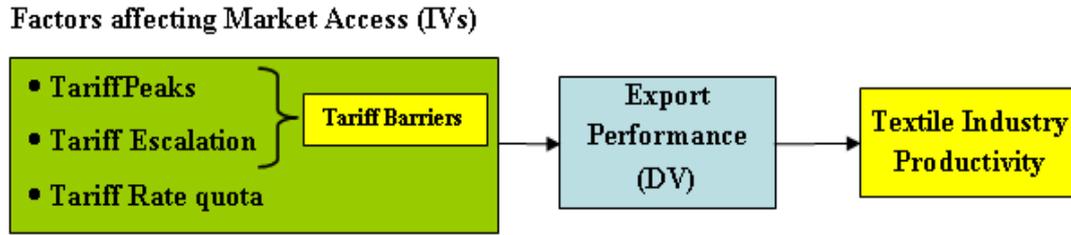
Figure 1: Research Model of the Study

Mathematical Model of the Study

The mathematical model of the study is as follows:

$$EP_{TexIn, t} = \alpha_0 + \beta_1 TPs_{TexIn, t} + \beta_2 TE_{TexIn, t} + \beta_2 TRQ_{TexIn, t} + \varepsilon_{TexIn, t}$$

Where, symbolic expressions in above mathematical model have the following meanings:

$EP_{TexIn, t}$ = Export Performance of the textile industry in the time 't'

$TPs_{TexIn, t}$ = Tariff Peaks related to the textile industry in the time 't'

$TE_{TexIn, t}$ = Tariff Escalation related to the textile industry in the time 't'

$TRQ_{TexIn, t}$ = Tarrif Rate Quota related to the textile industry in the time 't'

α_0 = Model Constant

$\beta_1, \beta_2, \beta_3$ = These are coefficients of the variables included in the model

$\varepsilon_{TexIn, t}$ = Model error term

This mathematical model is formulated by the author to evaluate the impact of independent variables on the dependent variable in the textile industry of Pakistan. This model has been tested by the author by applying multiple regression analyses on the collected data by using SPSS -15.

Hypothesis of the Study

The hypothesis formulated on the basis of extensive literature review is as follows:

Hypothesis: Pakistan's policy of tariff/trade liberalization during period 1990 to 2005 has contributed to improve competitiveness of Pakistan's textile industry.

Null Hypothesis: Pakistan's policy of tariff/trade liberalization during period 1990 to 2005 has not contributed to improve the competitiveness of Pakistan's textile industry.

METHODOLOGY

The methodology of the study is comprised of sampling, instrumentation and procedure adopted for the study.

Sample

Top 50 firms those are operational since 1990, were selected from FBR data for this study. Out of 50 textile firms 15 firms have responded with completely filled questionnaires which have been used for statistical analyses. So, the response rate of the study equaled 30%. The primary data collection activity was completed in six months.

Instrumentation

Author has developed a questionnaire that comprise of questions which have been adopted from the research studies of PricewaterhouseCoopers (2001), and MAIA and IFM (2004).

Questionnaire has two parts. First part asked respondents questions about demographics of the firm and second part asked respondents questions about the variables of the study. The reliability of the instrument has been checked by applying Cronbach's alpha which resulted in a score of .856 and validity of the instrument has been assessed by applying factor analyses which showed values of all the items of the instrument greater than the 0.50 cutoff values.

RESULTS AND DISCUSSIONS

Descriptive Statistics

The descriptive statistics relating responded textile firms shows that, the nature of business of 100% firms is manufacturing of textile products, 73.3% indicated spinning and 26.7% indicated composite as their business sector in textile industry. 46.7% of responded firms are medium sized whereas 53.3% are large sized textile firms. All of the responded firms indicated textile as their main (core) business activity. 80% of responded textile firms identified that they hold market share between 0 to 20% whereas 20% responded textile firms hold market share between 21 to 40% in the textile industry of Pakistan.

Multiple Regression Analyses

Author has applied multiple regression analyses on the collected data which generated results as shown in table 1 below:

Table 1: Results of Multiple Regression Analysis

(Arrangement: Beta Coefficients, Standard Error in Parenthesis, t-Value in Brackets and p-Value in Italics. Also, Values of R, R-Square and F Statistics of the Research Model are Presented below)						
Constant	**Tariff Barriers (Combined Affect of Tariff Peaks & Tariff Escalation)**	**Tariff Rate Quota**	**Model Strength and ANOVA Results**			
			R	**R-Square**	**F-Stats**	
					F Value	**Sig.**
1.321	.010	.127	.437	.191	1.415	.281
(.397)	(.105)	(.078)				
[3.330]	[.097]	[1.634]				
.006	.924	128				
Result of Hypothesis Testing: H-1 is Rejected & Null hypothesis is Accepted						
Constant: "Export Performance" (Dependent variable)						
IV-1: Tariff Barriers that includes two factors which are:						
(a) Tariff peaks						
(b) Tariff escalation						
IV-2: Tariff rate quota						

Table 1 shows that tariff peaks and tariff escalation as parts of tariff barriers, and tariff rate quota have been taken as two independent variables and export performance has been taken as single dependent variable. Beta coefficients (β=.010) and (β=.127) are positive but not significant because p-values for independent variables are greater than 5% confidence level (p>0.05). Value of standard error (error=.105) for tariff barriers is higher as compared to standard error value (error=.078) for tariff rate quota which confirms decreased level of predictability of tariff peaks and tariff escalation as part of tariff barriers against the predictability of tariff rate quota used as independent variables in the study. The t-value (t=1.634) for tariff rate quota is significantly higher than (t=.097) for tariff barriers confirms higher level of association

between tariff rate quota and export performance of textile firms taken as sample. Greater p-values have rejected the hypothesis of the study and establish that Pakistan's policy of tariff/trade liberalization during period 1990 to 2005 has not contributed to improve the competitiveness of Pakistan's textile industry. This statement is also endorsed by the low value of R-square which explained only 19.1% variance in the dependent variable being created by the independent variables of the study. Also, F statistics (F=1.415) is not significant (p>0.05). Regression results shows that there is a weak set of relationship between tariff peaks and tariff escalation as parts of tariff barriers and tariff rate quota with export performance variable.

DISCUSSIONS

The negative impact of trade liberalization on export performance of textile industry of Pakistan is in line with the study of Mark Weisbrot and Dean Baker (2002). The tariff peaks, tariff escalation, andtariff rate quota imposed by developed markets against the textile export of Pakistan has badly affected the export of this sector. It is a fact that WTO is increasingly placing limitations on the use of conventional policy instruments to support industrialization. Thismeans that developing countries need to adopt a wider interpretation of industrial policy and the instruments to be used in supporting industrial development. In general, government policies should be directed at issues relating to efficiency in production, distortions in factor markets and institutional development. It should be remembered that both theory and empirical evidence suggest that where deficient markets give distorted signals, intervention may be necessary to restore efficiency. The desired or appropriate level of openness may not entail completely free markets for trade and investment. In the light of market and institutional failures facing the acquisition of new technologies, the role of government in promoting the appropriate trade and industrial policy should not be underestimated.

CONCLUSIONS

The study has established negative impact of trade barriers which are tariff peaks, tariff escalation and tariff rate quota on the export performance of the textile industry of Pakistan. So, as a consequence productivity of textile industry has declined. Thus, Pakistan's policy of tariff/trade liberalization during period 1990 to 2005 has not contributed to improve the competitiveness of Pakistan's textile industry.

REFERENCES

1. Amsden, A. H. (1989). Asia's next giant, *New York*: OUP.

2. Balassa, B. (1965). Tariff Protection in Industrial Countries, *Journal of Political Economy* (73), pp. 573-594.

3. Boots, M. (1999). Micro-economic Analysis of Alternatives Policies for Dutch Dairy Farming, Wageningen: Mansholt Institute (PhD Thesis), *University of Wageningen*, 163.

4. Burrell, A.M. (1989). 0LON_4XRWDV_LQ_WKH_(XURSHDQ_&RPPXQLW\, *Oxford*, CAB International.

5. Colman, D. (2000). Inefficiencies in the UK milk quota system, *Food Policy*, 25, pp. 1-16. IN, 2002 Phasing out milk quotas in the EU. Manchester: Centre for Agricultural, Food and Resource Economics, School of Economic Studies, University of Manchester, 181.

6. Dawson, P.J. (1991). The Simple Analytics of Agricultural Production Quotas, *Oxford Agrarian Studies*, 19, pp. 127-130.

7. Dollar, D. (1992). Outward-oriented developing economies really do grow more rapidly: Evidence from 95 LDCs, 1976-85. *Economic development and cultural change*, pp. 523-544.

8. Dollar, D. and Kraay, A. (2001), "Trade, Growth and Poverty", Development Research Group, *World Bank,* Washington D.C.

9. Economic Survey (2000-01). Government of Pakistan.

10. Gordon M. S. (1966). Prosperity and Unemployment, New ... LVI, (May).

11. Grossman, G. M. and Helpman, E. (1991). Innovation and growth in the global economy. Cambridge, Ma. and London: *The MIT Press*. Interim Poverty Reduction Strategy Paper (PRSP) 2001, Retrieved from, www.finance.gov.pk

12. Hallaert, Jean-Jacques (2000), "Un bilan a mi-parcours du SPG Europeen: impact du volet industriel sur les pays en developpement d'Asie", *mimeo, Science Po (GEM)*, Paris.

13. Interim Poverty Reduction Strategy Paper (IPRSP) (2001). Retrieved from, www.finance.gov.pk

14. Investorword (2010). Definition of tariff, retrieved from, http://www.investorwords.com/4877/tariff.html

15. Johnson D. Gale (1965). Agriculture and foreign economic policy. *J. Farm Econ*, (46), pp. 915-929.

16. Kardar, Shahid (1997). Political Economy of Pakistan, Lahore: Progressive Publishers.

17. Krueger, A. O. (1978). Foreign trade regimes and economic development: Anatomy and consequences of exchange control regimes. New York: NBER.1998. Why trade liberalisation is good for growth. *The Economic Journal*, Vol. 108, pp. 1513-1522.

18. Levy, S. and Nolan, S. (1992). Trade and foreign investment policies under imperfect competition: Lessons for developing countries. *Journal of Development Economic*s, Vol. 37, No. 1, pp. 31-62.

19. MAIA and IFM. (2004). Final Report on, Market Access Analysis to identify and update the existing information on trade barriers in third countries affecting EU exports of textile and clothing, footwear and leather, *Brussels*, the 15th of December 2004.

20. Mark Weisbort and Dean Baker (2002), 'Relative Impact of Trade on Developing Countries', Centre for Economic Policy Research Briefing Pape*r*, Washington D.C, *at www.cepr.net*

21. Michalopoulos, Constantine (1999). Trade Policy and Market Access Issues for Developing Countries: implications for the Millennium Round, *Policy Research Working Paper #22 14*, The World Bank.

22. Ocampo, J. A. and Taylor, L. (1998). Trade Liberalisation in Developing Economies: Modest Benefits but Problems with Productivity Growth, Macro Prices and Income Distribution, *The Economic Journal*, Vol. 108, No. 450.

23. Pakistan Development Policy Review (2002). A New Dawn, *World Bank Report no.23916-PAK*, April 3.

24. Pricewaterhouse Coopers (2001). Final reporton Identification and analysis of trade barriers in Indonesia, Thailand, Malaysia and the Philippines,*World trade Management Services*, 1, Embankment Place, LONDON WC2N 6NN, United Kingdom, 25 September 2001.

25. Rodriguez, F. and Rodrik, D. (2000).Trade Policy and Economic Growth: A Skeptic's Guide to the Cross-National Evidence, in B. Berne and K. Rogoff (Eds) *NBER Macroeconomics Annual 2000*, MIT Press, Cambridge, Massachusetts, USA.

26. Sachs, J. D. and Warner, A. (1995). Economic reform and the process of global integration. *Brookings Papers on Economic Activity*, pp. 1-118.

27. UNCTAD (2000). A User's Manual for TRAINS, Trade Analysis and Information System.

28. Wade, R. (1990). Governing the market: Economic theory and the role of government in East Asian industrialisation. New Jersey: *Princeton University Press*.

29. Weisbrot, Mark and Baker, Dean (2002). The Relative Impact of Trade on Developing Countries, *Centre for Economic Policy Research Briefing Paper*, Washington D.C, June-2002. Retrieved from, www.cepr.net

30. World Bank. (1987). 1987 World Development Report. Oxford: World Bank.1991. 1991 World Development Report. Washington: World Bank.2002. *World Development Report*: Building institutions for markets.New York: Oxford University Press.

31. Yanikkaya, H. (2002), Trade openness and economic growth: a cross-country empirical investigation, *Journal of Development Economics*, 72, pp. 57-89.