IMPACT OF TRADE OPENNESS ON EXPORT PERFORMANCE: CASE STUDY OF PAKISTAN

By

Azhar Usman

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

for the degree of

MASTER OF PUPLIC POLICY in Economic Development

2014

IMPACT OF TRADE OPENNESS ON EXPORT PERFORMANCE: CASE STUDY OF PAKISTAN

By

Azhar Usman

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

for the degree of

MASTER OF PUPLIC POLICY in Economic Development

2014

Professor Jungho Yoo

IMPACT OF TRADE OPENNESS ON EXPORT PERFORMANCE: CASE STUDY OF PAKISTAN

By

Azhar Usman

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

for the degree of

MASTER OF PUBLIC POLICY in Economic Development

Committee in charge:

Professor Jungho YOO, Supervisor

Professor Siwook LEE

Professor Sherzod SHADIKHODJAEV

Approved as of May, 2014

ABSTRACT

IMPACT OF TRADE OPENNESS ON EXPORT PERFORMANCE: CASE STUDY OF PAKISTAN

By

Azhar Usman

Realizing the importance of trade in economic growth and development, the policy makers in Pakistan began to restructure trade policy from a protectionist regime to a more liberalized trade regime. The process of trade openness was initiated in late 1980s and gained momentum with the passage of time. This research is aiming to explore the impact of trade liberalization on Pakistani exports. In order to get real insight of the issue this research explores the impact of trade openness through decomposing exports into its subsectors i.e. manufacturing, services and primary sectors. The findings of this study show that trade openness have positive and significant effect on sectoral export performance of Pakistan. The findings also suggest that manufacturing sector exports are more responsive to the trade openness policies as compare to primary and service sectors. Additionally, can see that world demand is another significant determinant of export performance. Findings also suggest that real effective exchange rate is important factor behind the performance of manufacturing and services exports. As suggested by the findings of this research trade openness policies are crucial for sectoral export performance of Pakistan, particularly in the case of manufacturing exports, the policy makers must consider to opt more liberalized trade policies.

ACKNOWLEDGMENTS

I feel honor and great pleasure to express my gratitude to Professor Yoo Jungho, my principal research supervisor, for his keen interest and valuable guidance which enabled me to complete my work without any difficulty. His precious ideas and suggestions contributed immensely to the enhancement of this dissertation.

My deep and sincere indebtedness is to Professor Yong S. Lee for his special attention and support extended to me. He has been a constant source of inspiration and has always been there to help me wholeheartedly.

I also wish to express my sincere regards for entire faculty of KDI for their earnest guidance and encouragement.

I gratefully acknowledge all the library staff for providing the finest assistance, particularly Mr. Sung Jin Choi and Ms. JiHye Kim. I am also thankful to Mr. Byung Kwon Lee, Academic Program Coordinator, for providing his kind support and assistance.

Usman Azhar

PREFACE

This study is aiming to explore the impacts of trade liberalization on the export performance of Pakistan. We were keen to investigate this impact through comparative analysis of industries, but non-availability of data restricted the study to analyses the impact of trade openness on the sectoral export performance of Pakistan. This study provides a good insight of import substitution and export promotion trade regimes with reference to their potential costs and benefits. We tried to represent a brief overview of trade policies opted in Pakistan and attempted to investigate their impact on relevant economic variables, particularly related to export. By using the sophisticated econometric techniques we investigated the existence of long run relationship between trade openness and sectoral export performance of Pakistan. We also estimated three regression equations to gauge the sectoral specific impact trade openness.

Azhar, Usman

TABLE OF CONTENTS

LIST OF TABLES

IMPORTANT ABBREVIATIONS

ADB	Asian Development Bank
CBR	Central Board of Revenue
CV	Coefficient of variation
ES	Economic survey
EXm	Value of manufacturing exports
EXp	Value of Primary Exports
EXs	Value of services exports
FDI	Foreign direct investment
GDP	Gross domestic product
GOP	Government of Pakistan
PCI	Per capita income of trading partners
RER	Real effective exchange rate
TO	Trade openness
SYB	Statistical year book

I. INTRODUCTION

International trade is presumed to play important role in economic growth through efficient resources allocation. Transfer of technologies, transmission of innovative ideas and diffusion of managerial skills are the other positive benefits of international trade. Many studies recognize the positive and significant relationship between international trade and economic growth and attracted policy makers, particularly from developing countries, to increase the role of international trade in fostering the economic growth process. Trade liberalization has been a prominent component of policy advice to developing countries to enhance economic growth and development. Since, free trade encourages the production of those commodities in which countries possess comparative advantage. This can leads to enhance the productivity and increase in level of production resulting from allocation of resources.

Trade liberalization encourages competitive environment and contribute towards efficient allocation of resources. Due to the reduction in tariff and non tariff barriers, the firms can directly enjoy the benefits from relatively lower prices of goods. This can encourage domestic and foreign investment and eventually leading towards economic growth and development. In the recent years, we can locate a good contribution in economic literature dedicated to explore the relationship between trade openness and exports led economic growth. During the last two decade developing countries have open their boundaries for trade and have adopted export promotion strategies to achieve their growth objectives. The higher export growth benefits the domestic economy in terms of efficient allocation of resources, economies of scale and technological spillover. The proponents of openness of trade argue that the trade openness reduces anti-export bias and makes export more competitive in the international markets, mainly by reducing exchange rate distortions and export duties.

Many other positive effects of trade liberalization are also highlighted in literature e.g.

reducing the rent-seeking behavior and diffusion of technical information from the global markets. These advantages can be enjoyed through the access to new capital goods, availability of intermediate goods, and greater access to information leading towards the adaption of modern techniques (Romer, 1994; Grossman and Helpman, 1990).

In many developing countries the process of trade reforms were initiated in the late 1970s, and most of the countries switched to exports promotion trade strategy from import substitution strategy. Pakistan's trade policy has also gradually moved towards more liberalized trade regime as reflected by gradual reduction in tariff and non tariff barriers. In the late 1990s liberalization of trade gained momentum in Pakistan with the introduction trade related structural reforms. To extract the potential benefits of these liberalization policies, serious efforts were initiated to diversify the export base and to improve the export related infrastructure. Most of the nontariff restrictions on imports were gradually removed. However, the tariff restrictions in the form of customs duty were initially reduced from 75 per cent in 1996 to 35 percent in 2001 and 2002 we can observe another decrease of 15 percent. As far as the number of restricted items and negative list were also revised in 2003, only 60 items constituted the negative list of imports and 180 items remained on the restricted list due to health and safety concerns. These efforts of trade liberalization significantly affected the trade balance and Pakistan's trade deficit reduced from US$3.12 billion in 1995 to US$0.83 billion in 2003 (State Bank of Pakistan).

There are many studies which explain the impact of trade openness on export growth in developing countries. Some of such investigations confirm that the countries opted trade liberalization programs have improved their export performance (Thomas *et al*, 1991; Weiss, 1992; Joshi and Little; 1996; Helleiner, 1994; and Ahmed, 2000). Many studies invigilate the impact of trade openness on export performance. However in case of Pakistan, little attention has been dedicated to explore the impact of trade openness on sector specific export

performance. It could be an interesting idea to investigate the effect of trade openness varies across different sectoral levels of exports i.e. primary, services and manufacturing. The present study is intended to examine the impact of trade openness on export performance in the light of Pakistan experience during the period 1972-2012.

This study is comprised of V sections, after the section I of introduction, the section II represents brief review of trading regimes. Section III provides a historical analysis of trade policies adopted in Pakistan and investigates the impact of these policies on relevant economic variables, particularly on export performance of Pakistan. Section IV is representing the model specification, empirical analysis used in this study and the results of these empirical analyses. Findings and conclusion of the study are shown in section V.

II. OVERVIEW OF TRADE REGIMES

Export performance of the country mainly depends upon the adopted trade strategy, composition of exports, and exchange rate policies. Trade policies play important role in casting the shape of entire economy and its path of expansion. There are two alternatives guiding principles available for the policy makers of any economy, either to adopt imports substitution policy and protect the domestic economy by using various protections or to use exports promotion policy and liberalize trade by abolishing the restrictive regimes. The important query here is: which trade policy option can potentially contribute to expand exports and trigger the process of economic growth?

As pointed out by Krueger (1994, 1997) high tariff rates, overvalued exchange rate, adoption of multiple exchange rates, and quantitative restrictions on imports are the policy options of import substitution strategy. While on the other, the export promotion strategy does not create any bias between the productions for domestic or foreign consumption through trade and industrial policies. This strategy synchronizes domestic economy with the global economy and provides the venues to local and foreign firms on the basis of competitiveness. Sometimes, the policy makers recommend the combination of both strategies.

Nurkse (1961) and Prebisch (1950) provided the intellectual foundation to the notion that trade strategy of developing nations should be based on imports substitution. The important insight extended through this strategy is that closed market can extend nurturing ground to the industrialization process. Many developing countries opted to close their markets through tariff and non tariff barriers due to many reasons ranging from economic backwardness, inability to compete in international markets etc. (Krueger, 1997). One important justification for doing so is "infant" industry argument which maintains that during the provisional period when domestic costs in an industry are higher than the import price,

protective measures are desirable for financing the investment in human resources needed to compete with foreign producers (Baldwin, 2004). Another important reason extended in favor of adoption of import substitution trade regime is that income and price elasticities of demand were lower for primary commodities and this was causing deteriorating terms of trade. There was a common understanding that the exports from developing countries are incapable of competing with the trade barriers of developed nations (Bhagwati, 1988).

The Article XVIII of the General Agreement on Tariffs and Trade clearly defended the right of developing countries to protect their domestic industries through tariffs and quantitative restrictions (Krueger, 1 997). T he pa ce of t rade r eforms i n de veloping c ountries w ere considerably slowed down because of such relaxations and resulted in inefficient economic growth (Krueger, 1997a). The strategy of import substitution proved to be appropriate choice in case of few developing countries, as reflected by their economic performance. However, the effectiveness of this strategy raised many questions in order to maintain the pace of economic growth over prolonged period of time.

It well established fact in trade related literature that the import substitution strategy is often contributing in increasing the dependency on foreign exchange, instead of reducing it. The major factor behind such situation could be the disincentives extended for export growth (Krueger, 1994). The objective to reduce the costs of imported capital equipment and inputs through unrealistically overvalued exchange rate resulted in periodic balance of payments crisis. Since, the overvalued exchange rate adversely affects the exports competitiveness and resulting in lower export earnings. The cheaper access to imported cap ital resulted in the growth of capital intensive industries in country which is endowed with unskilled labor force. Another criticism on import substitution strategy is that higher tariff rates and quantitative restrictions encouraged smuggling, fake invoicing, and helped in creating black markets (Reza, 1994).

Alternatively, export promotion or outward oriented trade strategy is considered to have many potential benefits for the country. For instance, this strategy is based on incentives instead of controls therefore; there are very low chances for rent seeking as compare to import substitution strategy. The strategy of export promotion leads towards efficient resource allocation through bringing the domestic resource allocation closer to international opportunity cost. One important reason for price competitiveness is economies of scale and firms can achieve this objective by enlarging their markets through export-orientation. The volume of production is now not confined to the domestic market and there are other potential avenues available to exporting firms (Krueger, 1981). Since, export promotion strategy promotes competitive environment among domestic and foreign firms in international market therefore, this strategy is helpful in achieving higher levels of X-efficiency (Balassa, 1981). Another potential benefit of outward-oriented strategy over import substitution strategy is that use of modern technology is relatively higher in countries adopted exports promotion strategy. The firms engaged in exports are having higher chances to extract benefits from transfer of technology, technical knowledge, marketing and product design through their interaction with foreign firms (ADB, 1997).

Another channel through which export oriented trading regime influence the economic growth is that it extends a mechanism to fine tune macroeconomic variables according to international environment. For instance, exchange rate adjustment with reference to the terms of trade is relatively quicker under this regime as compare to import substitution strategy. It is well established fact that the economic performance of the countries adopted export promotion strategy is far better than other countries. A trade regime shift from import substitution to export promotion must leads towards efficient allocation of resources, raising income levels and eventually towards better living conditions.

III. OVERVIEW OF TRADE POLICIES AND EXPORTS PERFORMANCE OF PAKISTAN

After the independence in 1947 from British Rule, Pakistan established protectionist trade regime by emphasizing import substitutions as a way to spur the growth of industrialization. This protectionist trade policy continued for almost three decades, from the 1950s to 70s. Although the protectionist regime proved to be relatively effective in protecting fledging domestic industries, the lack of foreign competition permitted the Pakistani investors to invest in safe but less efficient industrial sectors such as, automobile manufacturing, electronics, and electrical appliances industries. Consequently, many industries in Pakistan became gradually inefficient and vulnerable to the import substitution regime. It became difficult for local products to compete imported products on the basis of price or quality. The ultimate outcome is that the industries continued to enjoy the government protection are now finding it difficult to survive and compete with foreign products even in local market.

In order to resolve balance of payments problem, Pakistan opted the import substitution strategy, introduced Export Bonus Scheme and multiple exchange rate system. These policies served to a limited extant and caused many distortions with negative effects on the economy. In 1977, another round of trade policy reforms were introduced leading towards more openness of economy; meanwhile the inflows of remittances and particularly due to foreign aid reduced the motivation to extract the benefits from trade liberalization policy. The serious efforts towards trade openness strategies have been initiated since 1988. Particularly from 1991, we can observe substantial decline in tariff and reduction in non-tariff barriers. These efforts were additionally supported by more liberalization of capital account and attracting the inflows of foreign direct investment to Pakistan.

The customs duty itself was lowered substantially from 80 per cent in 1996 to 30 per cent in 2001 and to 25 per cent in 2002.The average applied tariff rate fell from 42.7 per cent in

1996-97 to 20.4 per cent in 2001-02. During 1983-84 to 1993-94, 724 items were removed from the negative list. In 2002, only 57 items constituted the negative list of imports and 192 items remained on the restricted list due to health and safety concerns. Only an insignificant portion of total imports is subject to quantitative restrictions. All these efforts reflect decline in protection rates (Central Board of Revenue (CBR) Reports, various issues).

Tariff structure was rationalized further in the 1988-91 by the Government of Pakistan (GOP) after reducing the quantitative restrictions by the reduction in tariff rates and their dispersion. Tariffs were reduced on 1134 items and increased on 462 items. The maximum tariff was reduced from 225 percent to 100 percent.

Table 1 provides a comparative analysis of average tariff rates of the selected countries. We can see a declining trend in average tariff rates throughout the world. In case of Pakistan we can observe a declining trend in tariff rate but still it is relatively very high as compare to other countries. Pakistan gradually moved towards liberalization trade regime in the decade of 1990s, the average tariff rate decline from 50.2 % in 1991 to 11.9% in 2011.

Table 1: Average Tariff Rate, all Products (%) for Selected Countries

Country Name	1991	1995	2000	2005	2011
Australia	18.6	14.2	10.91	3.07	1.81
France	4.74	6.27	2.14	1.84	1.09
Hong Kong SAR, China	0	0	0	0	0
Pakistan	50.2	43.47	26.4	12.22	11.9
Singapore	0	0	0	0.03	0.03
United Kingdom	5.05	6.27	2.14	1.84	1.09
United States	3.97	2.95	1.8	1.58	1.58

Source: World Development Indicators, World Bank.

Table 2: Comparison of Pre and Post Trade Liberalization Periods

Indicator	1972-1988	1989-2005
Growth of Real Import *	3.6	5.7
Growth of Real Exports*	10.9	11.2
Variation in Exports to GDP Ratio**	0.2	0.3
Variation in Import to GDP Ratio**	-0.3	0.4
Variation in Trade to GDP Ratio**	0.2	0.5

*Annual Cumulative growth rate (percentage point per year)

**Annual Cumulative change (Percentage point per year)

Source: Author's estimation, based on Economic Survey of Pakistan (various editions).

Table 2 provides a comparative analysis of pre-trade liberalization period (1972-1988) and post trade liberalization period (1989-2005) for trade related variables. We can see that after following polices of trade liberalization, growth rate of real imports is 5.7 percent as compare to 3.6 percent pre-liberalization period. Variations in import to GDP ratio is 0.4 percent for the period of 1989-2005, while the same ratio was showing negative trend in pre-liberalization period. As far as the performance of real exports is concerned it increased by 11.2 percent after following the trade openness policies and the variations in exports to GDP ratio has also increased by 0.3 percent in the same period. The trade to GDP ratio has also shown an increasing trend of 0.5 percent per annum since 1989, which is considerably higher than the 1975-1988 ratio of 0.2 percent.

Major exports from Pakistan can be divided in three major sub heads namely primary commodities, manufacturing commodities, and services. Over the years visible changes can be observable in the sectoral composition of exports. The share of primary goods exports in 2006-07 is even less than one third of the 1980-81 level. The share of exports of services sector exports increased from 11 percent to 23 percent over the period of 1980-81 to 1990-91, but declined to 13 percent in 2006-07. Manufacturing exports show a consistently increasing trend, its share increases from 45 percent to 71 percent over the 20 years period and it further increased to 76 percent in 2006-07 (see Table 3).

Table 3: Share of Exports by Economic Classification (%).

Year	Primary E xports	Services E xports	Manufacturing E xports	Total
1980-81	42	13	45	100
1985-86	36	14	50	100
1990-91	18	23	59	100
1995-96	17	23	60	100
1999-00	14	21	65	100
2001-01	13	18	71	100
2005-06	12	14	74	100
2006-07	11	13	76	100

Source: Economic Survey of Pakistan (various issues)

Table 4 is representing the values of average export and coefficient of variation for all sectors of exports. Table shows that manufacturing sector has a highest average value but with a greatest coefficient of variation during 1965-70. We can observe that in post reforms period the manufacturing sector observed relatively consistent performance as compare to primary and services exports in post trade reforms periods. While the performance of primary exports and services exports show lackluster trends.

Table 4: Descriptive Analysis of Sectoral Exports (US$ Billions)

Years	Primary		Manufacturing		Services	
	Exports	C V	Exports	C V	Exports	C V
1965-1970	0.91	43.8	3.64	91.4	1.19	68.5
1971-1980	0.46	45.9	0.51	40.1	0.29	59.0
1981-1990	1.20	26.8	1.53	39.9	0.89	26.2
1991-2005	1.19	19.1	6.75	15.6	1.81	26.8
2006-2012	4.50	20.2	15.5	13.1	3.50	24.5

Note: CV stands for coefficient of variation.

Source: Author's calculations, based on Economic Survey of Pakistan (various editions)

IV. MODEL SPECIFICATIONS AND EMPIRICAL ANALYSIS

MODEL SPECIFICATIONS:

The principle of comparative advantage extends the logic of international trade among the nations and there are various factors which simultaneously determine the value, volume and direction of exports. These factors can be categorized as demand and supply side determinants of exports. As far as the demand side determinants are concerned they comprised of economic potential of trading nations, which is generally approximated through GDP per capita of trading partner, relative prices of exportable commodities, and foreign exchange rate, and trade polices variables etc. While the supply side factors are domestic production (GDP), foreign exchange rate, relative prices of exportable items, prevailing wages and availability of imported inputs.

In present study, we are intended to investigate the impact of trade openness on export performance of Pakistan. The analysis will be more meaningful in case of sectoral export performance i.e. by decomposing the merchandise exports into primary, manufacturing and services exports. As discussed earlier, there are various factors which simultaneously influence the export performance of any country. Therefore, we tried to include most of the important factors which can potentially influence the exports performance of Pakistan. To analyze the sectoral export performance, we are intended to use following model specifications for the study:

$$EXp_t = \alpha_1 + \alpha_2 RER_t + \alpha_3 PCI_t + \alpha_4 TO + \mu_{1t} \quad \text{---------- E(1)}$$

$$EXm_t = \beta_1 + \beta_2 RER_t + \beta_3 PCI_t + \beta_4 TO + \mu_{2t} \quad \text{----------E(2)}$$

$$EXs_t = \gamma_1 + \gamma_2 RER_t + \gamma_3 PCI_t + \gamma_4 TO + \mu_{3t} \quad \text{---------- E(3)}$$

Where:

EXp= Percentage of primary exports in total merchandize exports of Pakistan.

EXm= Percentage of manufacturing exports in total merchandize exports of Pakistan

EXs= Percentage of services exports in total merchandize exports of Pakistan

PCI= Per capita income of trading partners is an important determinant related to demand side on exports. Since, the major trading partner of Pakistan is United States of America therefore, we have used the GDP per capita (constant 2005 US$) for this purpose. Theoretically, we are expecting positive sign of coefficient for this variable in all three models. Theoretically, increase in income positively influences the demand for goods and services.

RER=Real effective exchange rate. Real effective exchange rate for Pakistani rupee is determined through the nominal exchange rate of Pakistani rupee against the weighted average of the currencies of its major trading partners in terms of US dollar divided by consumer price indexes (State Bank of Pakistan). Theoretically, the depreciation in exchange rate positively influence the exports, therefore, in all three models we are expecting negative sign the coefficient of real effective exchange rate.

TO =Trade share as percentage of GDP as a proxy of trade openness. This variable is generated by dividing the sum of exports and imports with GDP. We are expecting positive sign for the coefficient of trade openness in all three model specifications.

μ_{it}= Error term.

Table 5 is presenting the definition of each variable and data sources.

Table 5: Definitions of variables and Data sources.

Variable	Definition and Measure	Source
Exp	Primary exports (% of merchandise exports)	Economic Survey of Pakistan,
Exm	Manufactures exports (% of merchandise exports)	Economic Survey of Pakistan
Exs	Service exports (% of merchandise exports)	Economic Survey of Pakistan
PCI	GDP per capita (constant 2005 US$)	World Bank, World Development Indicators
RER	Nominal effective exchange rate divided by a price deflator.	State Bank of Pakistan
TO	Trade to GDP ratio.	Pakistan Statistical Year Book

We have used the data from 1972 to 2012 and the descriptive statistics of all the variables included in the study is presented in Tale 6.

Table 6: Descriptive Statistics of variables

Variables	Mean	Standard Deviation	Maximum Value	Minimum Value
Exp	6.97	6.38	20.47	1.21
EXm	75.12	10.38	85.99	48.19
EXs	16.01	5.76	30.71	7.20
PCI	6257.90	890.29	7732.09	4991.38
RER	132.74	43.11	237.10	97.08
TO	34.25	2.58	38.90	28.12

LONG RUN RELATIONSHIP BETWEEN TRADE OPENNESS AND SECTORAL EXPORT:

In order to explore the long run association between trade openness and sectoral export performance in case of Pakistan we use Johansan Cointegration test. Prior to examine the long run relationship between trade openness and sectoral export performance, it is essential to check the unit root of the variables. We are using Augmented Dickey Fuller (ADF) test to check the unit root of the series. In table 7, we can see that all the variables are non-

stationary at level except the variable of primary exports[1]. However, all the variables are stationary at first difference. The Johansen Cointegration test requires that all the variables must be stationary at the first difference.

Table 7: Test of the Unit Root Hypothesis

	Level		First Difference	
Variable	t-statistics	k	t-statistics	K
TO	-3.20	0	-7.17*	0
RER	-0.74	0	-7.55*	0
IPI	-1.87	0	-5.51*	0
Exm	-0.42	2	-5.49*	1
Exp	-5.14*	0	-8.09*	0
Exs	-2.83	1	-5.21*	0

Note: The optimal lags (k) for conducting the **ADF** test are determined through **Akaike information criteria (AIC).** * indicate significance at t 1% level.

In order to confirm the long run relationship between trade openness and manufacturing exports, we estimated the maximum trace statistic and the eigenvalue statistic as reported in Table 8.

The null hypothesis of no cointegration among variables is rejected on the basis of both statistics i.e. trace statistic and the eigenvalue statistic. We start analysis with null hypothesis of no cointegration (r=0) among the variables, the value of trace statistic is 54.13 which exceeds the 95 percent critical value of the λtrace statistic (critical value is 54.07). Therefore, we reject the null hypothesis (r=0) of no cointegration vector, in the favor of the alternative r≥1. As shown in Table 8, the other null hypotheses of r≤1, r≤2 and $r \leq 3$ cannot be rejected at 5% level of significance. We can see that null hypothesis of no cointegration among the variables is also rejected on the basis of maximum eigenvalue statistics. Both test statistics reveal that there is one cointegration vector. Thus, we conclude that there is existence of long run relationship between manufacturing exports and trade openness.

[1] The presence of an I (0) variable does not pose any issue for cointegration (Leon ,1987).

Table 8: Johansen's Test for Multiple Cointegration Vectors Co-Integration Test [EXm,PCI,RER,TO]

Null Hypothesis	Alternative Hypothesis	Test Statistics	95 % Critical Values
Trace Statistics			
$r = 0$	$r \geq 1$	54.13469	54.07904
$r \leq 1$	$r \geq 2$	21.29164	35.19275
$r \leq 2$	$r \geq 3$	11.96299	20.26184
$r \leq 3$	$r \geq 4$	3.483426	9.164546
Maximum Eigenvalue Statistics			
$r = 0$	$r = 1$	31.88158	28.58808
$r \leq 1$	$r = 2$	11.03523	22.29962
$r \leq 2$	$r = 3$	7.770764	15.89210
$r \leq 3$	$r = 4$	4.795988	9.164546

After estimating the long-run relationship between trade openness and manufacturing exports, we extended our analysis for the estimation of long run relationship between trade openness and primary exports in case of Pakistan.

The trace statistic and the maximum eigenvalue statistic are reported in table 9. On the basis of our empirical findings, we rejected the null hypothesis of no cointegration. For instance, the value of trace statistic is greater than the 95 per cent critical value. Therefore, we reject the null hypothesis (r=0) of no cointegration vector, in the favor of the alternative r≥1. However, the null hypothesis of r≤1, r≤2 and $r \leq 3$ cannot be rejected at 5 % level of significance. It is interesting to note that the null hypothesis of no cointegration among the variables is also rejected on the basis of maximum eigenvalue statistics. Both test statistics point out that there is one cointegration vector. We can conclude that there is long run relationship between primary sector exports and trade openness.

Table 9: Johansen's Test for Multiple Cointegration Vectors Co-Integration Test [EXp,PCI,RER,TO]

Null Hypothesis	Alternative Hypothesis	Test Statistics	95 % Critical Values
Trace Statistics			
r =0	*r ≥ 1*	55.48356	54.07904
r ≤ 1	*r ≥ 2*	23.60198	35.19275
r ≤ 2	*r ≥ 3*	12.56675	20.26184
r ≤ 3	*r ≥ 4*	4.795988	9.164546
Maximum Eigenvalue Statistics			
r = 0	*r = 1*	31.88158	28.58808
r ≤ 1	*r = 2*	11.03523	22.29962
r ≤ 2	*r = 3*	7.770764	15.89210
r ≤ 3	*r = 4*	4.795988	9.164546

Similar procedures are repeated to investigate the long run relationship between trade openness and service sector exports. We conclude that there is long run relationship between trade openness and services export, as shown in Table 10.

Table 10: Johansen's Test for Multiple Cointegration Vectors Co-Integration Test [EXs,PCI,RER,TO]

Null Hypothesis	Alternative Hypothesis	Test Statistics	95 % Critical Values
Trace Statistics			
r =0	r ≥ 1	70.85	54.07904
r ≤ 1	r ≥ 2	37.54	35.19275
r ≤ 2	r ≥ 3	18.46	20.26184
r ≤ 3	r ≥ 4	4.31	9.164546
Maximum Eigenvalue Statistics			
r = 0	r = 1	37.54	28.58808
r ≤ 1	r = 2	18.46	22.29962
r ≤ 2	r = 3	14.15	15.89210
r ≤ 3	r = 4	4.31	9.164546

On the basis of our empirical findings we can say that there is valid long run relationship between trade openness and sectoral export performance of Pakistan. These results suggest that trade openness policies affects the sectoral exports performance.

In order to explore the impact of trade openness on sectoral export performance, the following are model specifications:

$$LnEXp_t = \alpha_1 + \alpha_2 LnRER_t + \alpha_3 LnPCI_t + \alpha_4 LnTO + \mu_{1t} \quad \text{.....} \quad \textbf{E(4)}$$

$$LnEXm_t = \beta_1 + \beta_2 LnRER_t + \beta_3 LnPCI_t + \beta_4 LnTO + \mu_{2t} \quad \text{.....} \quad \textbf{E(5)}$$

$$LnEXs_t = \gamma_1 + \gamma_2 LnRER_t + \gamma_3 LnPCI_t + \gamma_4 LnTO + \mu_{3t} \quad \text{.....} \quad \textbf{E(6)}$$

The above equations are specified in log-linear form; therefore the relative coefficients are the elasicities of sectoral export with respect explanatory variables.

The table 11 represents the estimated sectoral export performance equations for Pakistan economy. The diagnostic test statistics reveal that there is no sign of mis specification, no autocorrelation, no issue of heteroscedasticity and no problem of normality. Since, all variables are measured in logarithms, the regression coefficients can be directly interpreted as elasticities. Our econometric estimates of export functions for Pakistan suggest that all the explanatory variables have expected sign.

In our model specifications, the overall results show that per capita income of trading partners and trade openness emerged as significant determinants of sectoral export performance namely, manufacturing, services and primary exports of Pakistan. However, real effective exchange rate is a significant determinant of manufacturing and services exports.

As far as the elasticities of the coefficients of variables are concerned, elasticity for primary, manufacturing and services exports with respect to real effective exchange rate are inelastic. The coefficients of real effective exchange rate (RER) are appeared to be significant in manufacturing and services exports. The results indicate that one percent depreciation in RER would increase the export manufacturing by 0.36 percentage points. Similarly, 1 percent decrease in RER would increase the quantity of export manufacture by 0.52 percent.

Similarly, 1 percent decrease in RER would increase the quantity of export primary goods by 0.85 percent. The elasticity of exports of primary, manufacture and services with respect to PCI index is also inelastic.

The coefficients of per capita income of trading partners are significant in all three equations. The results indicate that 1 percent increase in PCI would increase the quantity of export manufacture by 0.78 percent, 1 percent increase in PCI will increase the export of services by 0.45 percent. Similarly, 1 percent increase in PCI would increase the quantity of export primary by 0.33 percent.

According to our findings, trade openness positively and significantly affects the sectoral export performance of Pakistan.[2] Particularly, in the case of manufacturing exports the trade openness positively affects the manufacturing exports, increasing it by 1.38 percentage points, which is considerable. The elasticities of exports of primary and services sectors with respect to trade openness (TO) are inelastic.

[2] Research studies show that trade liberalization is significant and positively associated with aggregate export growth (Joshi and Little, 1996; Ahmed, 2000, Santos-Paulino, 2002).

Table 11: Estimated Regression Equations.

Explanatory Variables	Dependent Variables		
	Exp	***EXm***	***EXs***
	E(3)	*E(4)*	*E(5)*
Constant	2.1*	3.1	2.5**
RER	-0.85	-0.36**	-0.52**
PCI	0.33**	0.78*	0.45*
TO	0.36**	1.38*	0.52*
Diagnostic Tests			
Serial Correlation	0.81	0.24	0.31
Heteroscedasticity	0.74	0.65	0.14
Functional Form	0.55	0.13	0.47
Normality	0.32	0.44	0.36

***Note**: ** And * indicate significance at the, 5% and 1% levels, respectively*

V. FINDINGS AND CONCLUSION

In this study we have explored the impact of trade openness on sectoral export performance in case of Pakistan. Our empirical findings show that there is long run relationship between trade openness and all sectors of exports. The findings reveal that there is positive and significant impact of trade openness on all three sectors of exports. The significant and inelastic coefficients of primary and services exports indicate that their low responsiveness for trade liberalization in these sectors. The reason of low response of primary export to trade openness policies may be that the primary exports are mainly comprised of agricultural commodities and the agricultural sector of Pakistan is still using traditional methods of production and the process of diffusion of modern technology and innovative skills is relatively slow.

Like many other developing countries, Pakistan is endowed with low and semi-skilled human resources. As far the share of services sector in overall economic performance of Pakistan is concerned, it constitutes almost 56 percent of the GDP but the service sector export share in total exports is less than fifteen percent of the total exports. Pakistan has potential low cost comparative advantage in semiskilled knowledge-based services but unfortunately fail to attract the relevant export oriented foreign direct investment due to political disturbance and poor law and order conditions. For instance, with almost similar quality of human resources and conducive environment for investment, India attracts huge volume of export oriented services FDI investment and successfully channelizing it towards services exports. Another reason behind low performance in services sector export may be the international regulations and restrictions on the mobility of labor force.

The relatively higher value of coefficient of manufactured exports indicates the higher degree of response of this sector with respect to openness policy. Due to the lower tariff rates the industries have cheaper access to imported capital and the intensive use of this capital is one

of the important reasons behind the performance of manufacturing exports. We can observe that that there is visible increase in manufacturing exports after 1990s. The liberalized trade regime provided the avenue to manufactured exports in terms of lower prices of inputs and enables them to be more competitive in the global markets. Since, there are considerable efforts to move towards more openness and liberalized trade regime but still there is dire need to reduce tariff rates which are still relatively higher than other countries.

The empirical results further suggest that the world demand and real effective exchange rate are also important determinants of sectoral export performance of Pakistan. However significant and inelastic coefficient of RER on demand side points out towards an interesting policy implication that devaluation or depreciation are relatively less responsive factors to influence the export growth in Pakistan.

The significant and elastic coefficient of world demand shows the higher response of Pakistan's export is linked with the better economic performance of its trading partners. Since, Pakistani exports are concentrated in few commodities with access to limited international markets; therefore it is suggested to not only diversify our exports in terms of commodities but it is also essential to diversify export markets.

BIBLIOGRAPHY

Ahmad, Nasir Uddin. *Export Response to Trade Liberalization in Bangladesh: a Cointegration Analysis*: Applied Economics, 2000.

Baldwin, R. Key. *Challenges facing the WTO. In M. Moore (ed). Doha and Beyond: The future of Multilateral Trading System*: Cambridge University Press, Cambridge, 2004.

Balassa, B. and Associates. *Developing Strategies of Semi-Industrial Economies:* John Hopkins University Press, Baltimore, 1982.

Bhagwati, Jagdish. *Export-Promotion Trade Strategy: Issues and Evidence:* The World Bank Research Observer, 1988. 3:1. January. URL: http://www.nber.org/chapter/c1022

Grossman, Gene M. and Elhanan Helpman *Trade, Knowledge Spillovers, and Growth*: NBER Working Paper 3485. Cambridge M.A. NBER, 1990.

Helleiner, Gerald K., (Ed.). *Trade policy and Industrialization in Turbulent times:* Routledge, London and New York, 1994.

Joshi, Vijay and Ian Malcolm David Little. *India's Economic Reforms 1991-2001:* Oxford University Press, Oxford, 1996.

Krueger, Anne O. *Liberalization Attempts and Consequences. NBER papers:* Cambridge M.A, 1978. URL: http://www.nber.org/books/krue78-1

Krueger, Anne O. *Export-led Industrial Growth Reconsidered:* In W. Hog and L.B. Krause (eds) Trade and Growth of the Advanced Developing Countries in the Pacific Basin. Seoul. Korea Development Institute, 1981.

Krueger, Anne O. *The Political Economy of Rent-Seeking Society:* American Economic Review 1994, 64:3.

Krueger, Anne O. *Trade Policy and Economic Development: How we Learn*: American Economic Review 1997, 87:1.

Krueger, Anne O. *Factors Affecting Growth and Performance*: Asian Development Bank. 1997a

Leon, H. Demand for Money, Existence and Cointegrability: Economic Letters, 1987 Vol.24.

Nurkse, R. *Balanced and Unbalanced Growth*: In G. Haberler and R.M. Stern (eds). Equilibrium and Growth in World Economy, Economic Essays by Ranger Nurkse. Harvard Economic Studies 118, 1961.

Prebisch, R . *International Trade and Payments in an Area of Coexistence: Commercial Policy in Underdeveloped Countries*: American Economic Review, June1959, 49:2.

Reza, S ardel. *Policy Reforms for Promoting Trade in Developing Countries*: Asian Development Review, 1994, 12:2.

Romer, P aul . *New Goods, old theory, and Welfare Costs of Trade Restrictions*: Journal of Development Economics. 1994, 43.

Santos-Paulino, A . T rade *Liberalization and Export Performance in Selected Developing Countries*, Journal of Developing Studies ,2002,39, 140-164.

State Bank of Pakistan. State Bank Annual Report (Various editions).

Pakistan Statistical Year Book (Various editions). Pakistan Bureau of Statistics, Government of Pakistan.

Thomas, Vinod, John Nash, and Sebastian Edwards. *Best Practices in Trade Policy Reform:* Oxford University Press, Oxford, 1991.

World Development Indicators. World Bank, Washington D.C., United States of America.

World D evelopment R eport. *Financial System and Development, World Development Indicators*: The W orld Bank R esearch P ublications, N ew Y ork, O xford U niversity P ress, 1989.

Weise, J . *Export Response to Trade-reforms: Recent Mexican Experience*: Development Policy Review, 1992, 10(1).