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Factors Affecting the Demand Side of Exports: Pakistan Evidence

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Abstract
The aim of this article is to investigate different factors affecting the demand of Pakistani exports. Factors affecting the demand of exports include real effective exchange rate, nominal exchange rate, world production capability and world export price variable. The period of the study is from 1990 to 2010. Data is gathered from various sources including State Bank of Pakistan, Karachi Stock Exchange, Handbook of statistics on Pakistan Economy, Economic Survey of Pakistan and International Financial Statistics (IFS). Two Stage Least Square (2-SLS) Method was applied in the study. Results show that, export demand decreases with increase in Real Effective Exchange Rate. Insignificant relationship was found between the demand of Pakistani exports and export price variable and nominal exchange rate. The study also found positive and significant association between the demand of Pakistani export and World Income.
Keywords: Export Growth, Foreign Direct Investment, Two Stage Least Square
JEL Classifications: F13, F14, O1

1. Introduction

Exports play an important role in the economic development of developing or Less-developed countries. It is also one of the major sources of foreign exchange currency in a country, which ultimately covers the Balance of Payment deficit and as well as utilizes in the formation of domestic capital, which is subsequently used in the process of the export production. Trade deficit of the Pakistan has increased quite a lot in a last few years, whereas export revenue has shown notable progress but import bills surpassed the exports revenue, which leads to a large upswing in the Balance of Payment deficit. The exports of Pakistan have increased sharply from 7.5 billion US dollar in 1999 to 18 billion US dollar in 2008 and 22 billion dollar in 2010. Various factors are responsible for this performance of the exports; one of the factors is FDI, which has been growing constantly in Pakistan since nineties.

In the first half of nineties Pakistan started adopting a dynamic export promotion policies keeping in view of some major developing countries policies to improve the economy of Pakistan more efficiently whereas, earlier to this, import substitution policy continued as one of the prominent and important policy in Pakistan. Further, in 1990 government had abolished trade restrictions in sectors of insurance, agriculture, energy and telecommunication to encourage the FDI. But due to constant instability in the political atmosphere of Pakistan and unpredictability in the policies, level of FDI remained low in comparison with other developing countries of the region. However, FDI Stocks and Inflows have shown remarkable increase during the policies reforms period in Pakistan.

As the world is becoming more globalize, many counties trying to maximize their advantage from this development, because globalization is a key source for gaining the Capital through Foreign Direct Investment. Pakistan has been doing much to magnetize the Foreign Direct Investment to improve the Pakistani economy. Foreign Direct Investment can contribute in number of ways in Pakistan. FDI Inflows is also responsible for the Foreign Exchange inflows, establishment of the Industry in the country and one of major contributions of FDI is the technology transfer.

The main purpose of the study is to explain the diversity in the export performance of Pakistan by taking into account the foreign factors affecting the demand for Pakistani exports. Demand of exports is influenced by many factors. Primarily, geographic position of the country is very important, particularly country is surrounded by a fast growing economies is expected to get more benefit in comparison with other countries located outside the region. Further components include international market access and trade barriers, which have same implications for trade as geographical position does. Finally, the infrastructure of the country is also expected to plays a vital role.

1.1 Pakistan Export Performance

During the last one and half decade lot of measures have been taken by Government of Pakistan to liberalize its trade and export plays its part to regain the economic growth in Pakistan. Due to the favorable policies in respect of export promotion, Pakistani exports were increased from 6.7 billion US dollar in the early nineties to 9.1 billion US dollar in 2002. According to (World Bank, 2006) share of manufacturing goods in Pakistan's GDP was sixteen percent in 2002, whereas share of manufacturing goods in the total export of Pakistan exceeds from 3.6 billion US dollar to 5.3 billion US dollars in the above mentioned period. (Lorie & Iqbal, 2005) reported that growth rate of Real GDP of Pakistan had increased from 4% in nineties to six percent in 2003. In 1998 when Pakistan became an atomic Power, Pakistan faced a steep decline in three consecutive years from 1998 to 2000. After the incident of 9/11 in 2001, Pakistan witnessed a major economic growth till 2005. This is mainly due to the inflow of foreign exchange either in the form of real investment or financial investment. Exports of Pakistan are mainly denominated in different sectors largely they belong to apparel and textile sector.

(World Bank, 2006) reported that, Pakistani textile goods are largely exported in Hong Kong, China and Bangladesh. Leather goods are mainly exported to South Korea, Hong Kong and Italy. Fruits and vegetables are highly concentrated in United Arab Emirates, Japan, Srilanka and India. Fishery products and Fishes are mainly concentrated in USA, China, UK and Japan; exports of surgical instruments are mostly supplied to USA and Germany. (Lorie & Iqbal, 2005) reported that, it can be seen from the measures taken by government of Pakistan to improve the conditions for business in Pakistan. The share of FDI in the form of percentage to GDP has increased from 0.3 to 1 percent in 1999-2003 and 3 percent in 2003-2010. However, still we cannot claim that, we have done enough progress, when we compare progress of Pakistan with the other countries lie in South Asia (China, Thailand and India). Still we need to improve lot of our areas for smooth execution of business; particularly influence of government on many key commodities should be reduced, weak implementation of property right laws. Laws of labors are not encouraging for business community. Major issue, which is currently derailed all the sectors of Pakistan including the business, is corruption. The corruption is still growing in Pakistan, which should be eliminated for the better economic growth or for trade purposes.

1.2 FDI Inflows of Pakistan

Over the past two decades, FDI in Pakistan has increased dramatically due to its better investment policies and friendly business environment. FDI inflows of Pakistan can be explained in terms of direct investment and portfolio investment. Until 1991, FDI inflows were not significant due to its inconsistent economic policies. The FDI inflows increased from \$469.9 million in 1999-2000 to \$798 million 2002-03 showing 65 percent increase and stood \$3521 million in 2005-06. In 2006-07 FDI reached to \$5139 and in 2007-2008 FDI was \$5409 but dropped to \$2205 in 2009-10.

Table – 1
Foreign Direct Investment Flows
(Million Dollars)

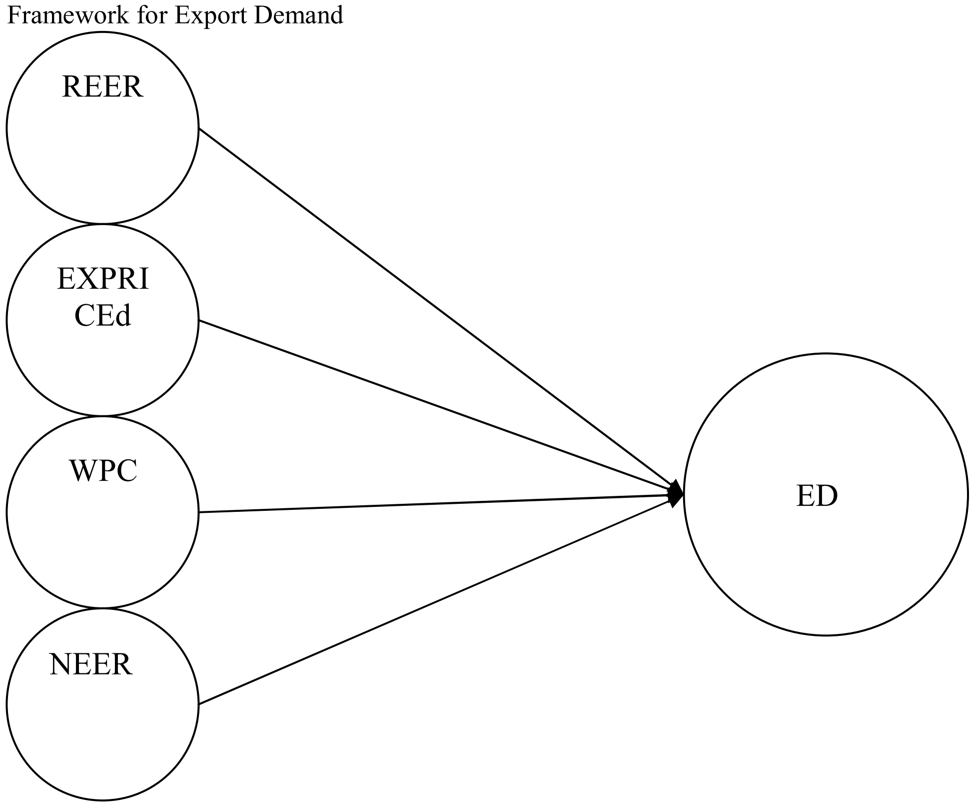
Year	FDI	FDI as % of GDP	FDI per Capita ($)	Year	FDI	FDI as % of GDP	FDI per Capita ($)
1949-50	1.2	0.04	0.03	1980-81	35.0	0.30	1.20
1950-51	1.7	0.05	0.05	1981-82	98.0	0.15	0.50
1951-52	4.1	0.12	0.11	1982-83	42.1	0.15	0.56
1952-53	5.9	0.18	0.16	1983-84	48.0	0.23	0.79
1953-54	6.8	0.20	0.17	1984-85	70.3	0.46	1.58
1954-55	7.3	0.21	0.18	1985-86	145.2	0.32	1.14
1955-56	1.8	0.09	0.04	1986-87	108.0	0.42	1.66
1956-57	4.5	0.15	0.11	1987-88	162.2	0.53	2.08
1957-58	5.9	0.18	0.14	1988-89	209.0	0.54	2.08
1958-59	2.2	0.07	0.05	1989-90	216.2	0.54	2.27
1959-60	3.0	0.08	0.07	1990-91	246.0	0.69	2.99
1960-61	5.0	0.12	0.11	1991-92	335.1	0.60	2.69
1961-62	2.3	0.05	0.05	1992-93	306.4	0.68	3.02
1962-63	-0.6	0.01	0.01	1993-94	354.1	0.73	3.66
1963-64	2.5	0.05	0.05	1994-95	442.4	1.74	8.85
1964-65	37.1	0.61	0.72	1995-96	1101.7	1.10	5.48
1965-66	3.9	0.06	0.07	1996-97	682.1	0.97	4.82
1966-67	49.5	0.66	0.90	1997-98	601.3	0.75	3.62
1967-68	-1.4	0.02	0.02	1998-99	472.3	0.77	3.52
1968-69	59.0	0.70	1.02	1999-00	469.9	0.55	2.37
1969-70	72.4	0.72	1.21	2000-01	322.5	0.82	3.48
1970-71	90.1	0.03	0.07	2001-02	484.7	1.17	5.59
1971-72	8.1	0.02	0.03	2002-03	798.0	0.98	5.22
1972-73	-0.5	0.13	0.18	2003-04	949.4	0.97	6.34
1973-74	-6.3	0.09	0.16	2004-05	1,524.0	1.39	9.99
1974-75	14.9	0.08	0.16	2005-06	3,521.0	2.94	22.66
1975-76	22.5	0.07	0.15	2006-07	5,139.6	3.78	32.50
1976-77	10.7	0.20	0.49	2007-08	5,410.2	3.41	33.61
1977-78	35.5	0.19	0.48	2008-09	3,719.9	2.42	22.72
1978-79	36.0	0.12	0.37	2009-10	2,205.7	1.33	13.22
1979-80	28.0	0.13	0.44				

Source: Statistics & DWH Department, SBP

2. Literature Review

(Warner & Kreinin, 1983) found that prices of exports and exchange rates in different countries played a vital role in the determination of the export performance of any country. They used two different periods (Flexible exchange rate period and fixed exchange rate period) to determine the performance of the same model in two different exchange rate regimes. He had applied the OLS technique to analyze the behavior of exports. He stated that prices of exports and exchange rates in different countries played a vital role in the determination of the export performance of any country. (Khan & Goldstein, 1978) applied the simultaneous equation model by using factors affecting the export demand side by taking the sample from eight different countries. They found the negative link between export demand and export price variable further, they had found significant link between world income and export demand. (Khan, 1974) using OLS methodology carried out the research study to explain the export performance of solitary countries by using the annual data and employing the model for demand of exports through foreign factors, which comprised the quantum of exports as dependent variable and World inflation and Income of world were taken as independent variable. He found that prices of exported items played a crucial part in the export growth in developing country. (Sharman, 2000) had carried out the research study on the export growth in India. He also explained the performance of Indian export growth by denominating the factors affecting the export growth in the form of export demand factors. He had applied 2-stage least square method and found negative and significant relationship between export demand and real effective exchange rate and Export price variable. Here it is important to note that, he found insignificant coefficient for World income, which is in contrast with several studies discussed in this review and many studies conducted in different countries. (Hasan & Khan, 1994) have carried out the research study in Pakistan on the same issue by taking external factors affecting the demand of exports by using 3-stage least square method. He found positive relationship between exports demand in Pakistan and found negative link with export price variable. On the other side, he had also found positively significant relationship between nominal exchange rate and exports demands in both cases. (Atique & Ahmad, 2003) had conducted the study to explain the export growth of Pakistan by dividing the exogenous and endogenous factors in the form of export demand functions and export supply functions. Using OLS methodology he found with respect to export demand function, that exports of Pakistan increased, when real effective exchange rate of Pakistan decreased. Increase in World Economic Activity would raise the exports of Pakistan. They further reported with respect to export supply equation that relative prices of exports were estimated as insignificant variable, whereas potential out put and impact of wage rate had found significant variable in relation with supply of exports in Pakistan. (Afzal, 2005) applied the Two Stage Least Square method to estimate the model for export demand and export supply of Pakistan. He came up with the results regarding export demand function, that export price variable and world income were found significant in the said study. On the other side, factors included for supply function of exports in Pakistan were found insignificant export price variable but coefficient of variable was found positive, production capability of Pakistani exports is inelastic in relation to relative prices of exports but on the other side it is highly elastic in relation to local production capability

2.1 Theoretical Framework for Export Demand



Where,
ED= export demand for Pakistan
NEER= Nominal Effective Exchange Rate.
REER= Real Effective Exchange Rate
EXPRICEd= Unit Value of Pakistani Exports / World Consumer Price Index.
WPC= World Production Capability as proxied by the aggregate GDP of the world

3. Methodology

In this research article the export performance of Pakistan is investigated with respect to factors, influencing the demand side of Pakistani exports. From prior literature it can be assumed that REER, world income and relative prices of exports should be included in the same model or equation to examine the export demand factors that affects the export performance of Pakistan. (Afzal, 2005) had employed the model by using two factors, one is relative prices of exports and other is real GDP. Following Afzal (2005) two Stage Least Square (2-SLS) Method was applied in the study.

ED= β0+ β1 WPC + β2 FDI+ β3 NEER + β4 EXPRICEd + β5 REER --------------- (1)

Where,

ED represents export demand,

WPS is world production capability,

FDI is foreign direct investment,

NEER is nominal effective exchange rate,

EXPRICEd is Unit Value of Pakistani Exports / World Consumer Price Index,

4. Discussion of Results

In table 2 Insignificant positive relationship was found between the demand of Pakistani export and relative prices for Pakistani export which means that demand for Pakistani export is not affected by the relative export prices. Similar result was found by (Anwer, 1985) who carried out the study on the same issue and did not get any significant link between export price variable and export demand. This result is in contrast with early studies carried out by (Afzal, 2005), whereby he found a negatively and significant link between the exports price variable and export demand. Further, (Warnernen & Keinin, 1983) also found that export price variable is one the major source that affects the export growth of the country. Significant and negative relationship is found between export demand and Real Effective exchange Rate, which means that, appreciation of the Pakistani Rupee, decreases the export demand or in other words increase in Real Effective exchange Rate of Pakistan decreases the demand of Pakistani exports. The result is similar to the study of (Joshi & Little, 1994) who also found negative relationship between exchange rate and exports demands.

Table 2: Results of Two-Stage Least Squares For Export Demand Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-116.5878	89.21202	-1.306862	0.2097
EXPRICEd	8.993696	20.69874	0.434505	0.6697
REER	-1.637216	0.775861	-2.110193	0.0509
WPC	301.2290	105.2462	2.862136	0.0113
NEER	2.524154	0.063119	0.362522	0.7172
MA(1)	0.927800	0.060121	15.43224	0.0000

R-squared	0.802477	Mean dependent var	117.3890
Adjusted R-squared	0.753096	S.D. dependent var	41.88672
S.E. of regression	20.81328	Sum squared resid	6931.080
F-statistic	16.25078	Durbin-Watson stat	1.511827
Prob(F-statistic)	0.000017		
Inverted MA Roots	-.93		

The result is also consistent with the findings of (Atique & Ahmed, 2003) in Pakistan in which, they reported that decrease in Real Effective exchange Rate increases the demand for exports in Pakistan. World Income is positively and significantly related to the export growth of Pakistan, which implies that with the increase in world income the export demand of Pakistan will increase. The findings are in line with the studies conducted by (Atique & Ahmad, 2003) and (Afzal, 2005) in which they reported that increase in World Economic Activity also increases the demand of Pakistani exports. Other studies carried out on the underlying issue in India by (Joshi & Little, 1994) found positive and significant relationship between World Income and demand for Indian exports. Furthermore the link between explanatory variable nominal exchange rate and export demand is insignificant.

Table 3: Correlation Matrix Demand Model

		REER	PEX/WCI	WY
REER	Pearson Correlation	1	.132	-.062
	Sig. (2-tailed)		.570	.789
	N	21	21	21
EXPRICs	Pearson Correlation	.132	1	.364
	Sig. (2-tailed)	.570		.104
	N	21	21	21
WPC	Pearson Correlation	-.062	.364	1
	Sig. (2-tailed)	.789	.104	
	N	21	21	21

Table 3 shows the correlation matrix of the explanatory variables included in the demand model; it is clear from the results that no multicollinearity is found between the explanatory variables because there is no serious correlation in any of the explanatory variables. According to Bremen and Kenny (1998) there will be multicollinearity between explanatory variables if the correlation between any two variables is greater than 0.80.

4. Conclusion

The purpose of this article is to investigate different factors affecting the demand of Pakistani exports. Factors affecting the demand of exports include real effective exchange rate, nominal exchange rate, world production capability, world export price variable. The period of the study is from 1990 to 2010. Data is gathered from various sources including State Bank of Pakistan, Karachi Stock Exchange, Handbook of statistics on Pakistan Economy, Economic Survey of Pakistan and International Financial Statistics (IFS). Two Stage Least Square (2-SLS) Method was applied in the study. Results show that, export demand decreases with increase in Real Effective Exchange Rate. Insignificant relationship was found between the demand of Pakistani exports and export price variable and nominal exchange rate. This study also explains the positive and significant correlation between the demand of Pakistani export and World Income.

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