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CURRENCY DEVALUATION AND ITS IMPACT ON EXPORT GROWTH: THE CASE OF PAKISTAN

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Abstract

In this study we have intended to examine the impact of the volatility of Pak Rupee on Pakistan's exports during the period of 1993-2006. Our dependent variable was exports while independent variables include exchange rate volatility, inflation, budget deficit, trade balance and currency devaluation. Multiple Regression analysis was used to analyze data. The results show that there is a negative relationship between exchange rate volatility, inflation, budget deficit and exports. However, there is positive relationship between devaluation and trade balance and exports. We suggest to control inflation, budget deficit and keep exchange rate stable.

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1.Introduction
1.1. Background of study

Many developing economies are facing significant reduction in their foreign exchange reserves due to growing volume of imports and declining productivity, resulting in negative balance of payment and trade deficit. The twin deficits force the developing countries to borrow loans from IMF and World Bank and accept their harsh conditional ties. In Pakistan, such economic issues have been worsened due to political instability, fiscal deficit, frequent policy changes in monetary and fiscal, political interference and poor governance (Nawaz & Ghani, 2018). Pakistan's economy remained dependent on the agriculture products because of weak infrastructural capability and narrow industrial base. Some efforts were made to develop the required industrial base for the industries and economic development. The initiatives towards exports policies like reduction in nontariff and tariffs measures enhanced Pakistan's export pattern. Analyzing the export patterns, various export products are changing internationally owing to technological enhancements and liberalization. Such adjustments changed the level of productivity and comparative advantage in various commodities (Irshad & Xin, 2017). Developing economies like Pakistan could enlarge their economic development by focusing on exports and supports the firms to perform well toward achieving the economies of scale. Exports are used as the most prominent channel of transferring the technology to other economies (Pack, 1993). At present, Pakistan has been facing strong competition from other developing countries. After globalization   India, Thailand, Bangladesh, China, Malaysia and South Korea relatively performed well in international market and increased their share. Pakistan has some external sectors like

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textile & clothing which possess the potential to get lead in both developed and underdeveloped markets and to achieve high productivity level. Evaluating the export competitiveness, there could be several factors helping in measuring the export competency of an economy, which could be denoted as terms of trade, real exchange rate, world income, trade policies, geographic concentration, etc. However, instability in exchange rate mainly affect international trade. This increase in cost of production also trigger inflation rate The stability in the exchange rate is one of the main issue macroeconomics. Whenever Pakistani rupee devalues it generated hike in domestic prices, which affects export sector because their cost of production increases. In this way this sector could not reap benefit from currency devaluation because the exporting goods do not attract foreign buyers due to higher prices. The underlying objective of devaluing currency is lost. Moreover, the prices of importing goods are increased, worsening trade balance. (Awan, 2015).

1.2 Main Research Problem

The main research problem of this study is to analyze currency devaluation and its impacts on export growth in Pakistan. This study is conducted to explore positive and negative effects of currency devaluation on exports. Pakistan has devalued its currency many times under the advice of IMF in order to get competitiveness in international market but its exports have been stagnant since long and desired objectives could not have achieved. The issue of stagnancy of exports in spite of repeated devaluation needs in depth research and we have intended to explore the causes of Pakistan's low exports and the impact of repeated currency devaluation in this research paper.

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1.3 Objectives of Study

The objectives of this study are given below: -

● To study the impact of currency devaluation on export sector of Pakistan.

● To analyze relationship between currency devaluation an exports in Pakistan.

● To study the impact of inflation rate on Pakistan's exports.

●To study the impact of budget deficit on Pakistan's exports.

    • To examine the impact of interest rate on exports sector of Pakistan.

1.4 Scope of study

The scope of this research study is very wide because its results can be generalized to all developing countries which are working under the dictation of IMF and continuously devaluing its currency to improve its competitiveness. Though its results are specific to Pakistan but they can be generalized because the developing countries are facing the same economic problems such as high inflation rate, devaluation of currency, budget deficit, trade deficit and exchange rate volatility.

2. Analysis of relevant literature

Nawaz and Ghani (2018) evaluated the expansionary influence of currency devaluation on aggregate demand and output of Pakistan. They contended that short-run estimation might lead to valuable increment in the level of output due to devaluation of currency. They stated that Government might intervene in the market to reduce the output in short run and focus on long-run growth. They argued that those terms of trade, which were favorable in the short-run, were found to be negatively associated with output in long-run. This makes the theory of currency devaluation and output for increasing

exports ambiguous. Shahbaz et all (2012) also discussed currency devaluation and exports issues in Pakistan by focusing on energy sector. They concluded that currency devaluation affected Pakistan's exports negatively and it also reduced energy demand. Moreover, this devaluation enhanced trade imbalance due to expensive imports and cheaper exports. However, this impact of currency devaluation was remained ambiguous towards economic growth. Aftab et al (2012) discussed currency instability and its influence on the exports of Pakistan. They found that instability in exchange rate implied negative impact on Pakistan's sectoral exports excluding transport, arms and equipment, aircraft, animal oils and waxes. The negative coefficient sign was also determined for relative price, which showed relationship of relative prices and exports of many sectors. The negative relationship depicted that increase in relative prices decreased demand for exports. Ratha (2010) analyzed Indian trade and found that currency depreciation corrected trade balance and increases exports. The devaluation of Indian rupee attracted international buyers towards India as they wanted to buy cheap products and in that way exports were increased rapidly. In short, the devaluation of currency in India had positive impact on exports. Aliyu, (2009 PP:01) carried out a study on Exchange Rate Volatility and Export Trade in Nigeria. She investigated the impact of exchange rate volatility on non-oil export flows in Nigeria quantitatively. Her empirical results showed presence of unit root at level, however, the null hypothesis of non-stationary was rejected at first difference. Co-integration results revealed that a stable long run equilibrium relationship exists between non-oil exports and the fundamental variables. Using quarterly observations for twenty years, vector co-integration estimate revealed that the Nigeria exchange rate volatility decreased non-oil exports by 3.65% while the

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same estimate for the US dollar volatility increased export of non-oil by 5.2% in Nigeria. Mustafa and Nishat (2005) also conducted a study on **"Volatility of Exchange Rate and Export Growth in Pakistan:"**. They examined the Structure and Interdependence in Regional Markets" and their impact on exchange rate volatility in Pakistan. They used quarterly data of Pakistan trade from 1991 to 2004 and they selected countries which are main trading partners of Pakistan. The study findings showed that exchange rate volatility has negative impact on exports to UK and Japan, Australia, Singapore and Bangladesh. Baum et al (2002) also conducted a study to find "Nonlinear Effects of Exchange Rate Volatility on the Volume of Bilateral Exports". For this study they used a large set of data from thirteen developed countries from 1980-1998. The study found that exchange rate volatility has significant effect on exports and on average trade is positively affected by exchange rate volatility Whereas total effect of exchange rate volatility remains inconclusive and they suggested more research in this field. Mahmood, and Vixathep (2002) also examined how Hong Kong, Singapore, Thailand and South Korea trade is affected by changes in exchange rate. They found in their study that exchange rate volatility resulted in reduced volume of trade in these countries in the study period. Vergil (2002) conducted a study on the "Impacts of exchange rate volatility on Turkey trade with USA". This study was an extended version of Kumar and Dhawan (1991). The standard deviation of the percentage change in the real exchange rate is employed to measure the exchange rate volatility. Co-integration technique and Error-Correction models (ECM) were used to obtain the estimates of the relationship between variables in the short-run. He found that exchange rate volatility affected trade negatively significantly. Asseery and Peel (1991); Franke (1991) and Kroner

and Lastrapes (1993) believed that exchange rate volatility has positive effect on the economy of host country and increases trade. They contended that exchange rate volatility does not have any negative effect on external trade. In contrast, Cushman (1983), Akhtar and Hiliton (1984), Gotur (1995), Kenen and Rodrik (1986), Bailey, Tavlas, Ulay (1987), De Grauwe (1988) Peree and Steinherr (1989), Persson and Svensson (1989), Kenen and Rodrik (1986), Kumar and Dhawan (1991) and Pozo (1992) argued that exchange rate volatility negatively affects the country trade because exchange rate volatility increase profit risk and investor are not willing to take risk on their profit margins and make less investment in country which in turn decreases trade. Cote, (1994) stated that exchange rate volatility can affect trade both directly and indirectly. If exchange rate movements are not fully anticipated, an increase in exchange rate volatility may lead risk-averse agents to reduce their international trading activities.

3. Research Methodology

3.1 Data and source

We used time series data in this study. The type of data is secondary which has been taken from World Development Indicators, World Trade Organization, Pakistan Economic Survey, 2019, State Bank of Pakistan's financial stability report, 2019, IMF world economic outlook and Asian Development Bank.

3.2 Sample of Study

The sampling period of this study was from 1999 to 2019. The data was collected for this period. We used quantitative techniques to analyze the data.

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3.3 Selected Variables

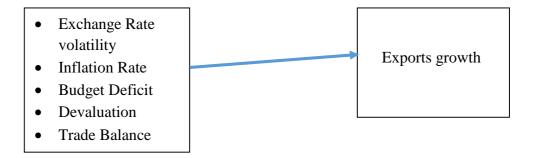The selected variables for this study are given below: -

● Exports growth

● Currency devaluation

● Exchange Rate volatility

● Inflation Rate

● Budget deficit

● Trade balance

The exports growth is dependent variable while all others are independent variables.

3.4 Conceptual Framework

The conceptual framework is consisted of conceptual model which is consisted of independent and dependent variables. The conceptual model is depicted in Figure 1

Figure 1: Conceptual Framework

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┌─────────────────────────────┐                    ┌──────────────────────┐
│  •  Exchange Rate           │                    │                      │
│     volatility              │                    │                      │
│  •  Inflation Rate          │ ────────────────▶  │   Exports growth     │
│  •  Budget Deficit          │                    │                      │
│  •  Devaluation             │                    │                      │
│  •  Trade Balance           │                    │                      │
└─────────────────────────────┘                    └──────────────────────┘
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3.5 Econometric Model

The econometric model of this study is given below:

$Y = \beta 0 + \beta 1x1 + \beta 2x2 + \beta 3x3 + \beta 4x4 + \beta 5x5 + \beta 6x6 + e$

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Where:

Export Growth = β^0 + $\beta_1$inflation + β_2 budget deficit + β_3 Trade Deficit + β_4 Devaluation + β_5 Exchange Rate volatility $_{+ £}$ Error term

3.6 Analytical Techniques

We will use the following statistical techniques in this study: -

● Descriptive Statistics

● Correlation Analysis

● Multiple Regression Analysis

4. Empirical Analysis

4.1 Descriptive Statistics

Table 1 shows that maximum Exchange Rate during the study period was Pak Rupee 170.0823 and minimum was 60.76 rupees against the US Dollar. It shows high level of volatility in Pak Rupee against US dollar. The mean and median values were 29.43 and 17.17 respectively. The other results of descriptive statistics are shown in Table 1.

Table 1: Results of Descriptive Statistics

Descriptive Statistics					
Exports	INF	BUDBAL	CURRENCY DP	TDBGDP	ERV
Mean	5969.70	743.81	4168.800	10482.32	29.43608
Median	3331.53	145.20	1638.000	5919.400	17.17999
Maximum	2466.3	5410.2	17488.00	46305.20	170.0823
Minimum	3707.6	-	167.0000	517.0000	60.76970
Std. Dev.	65806.5	6.3000	1295.447	12297.05	0
Skewness	9	1295.4	2.189228	1.600245	27.03073
Kurtosis	1.4891	2.1892	7.071792	9	1.002469
Sum	4.1918	7.0717	40909.90	4.522101	2.896450
Observations	3279083	40909.	17	229284.0	1618.984
s	17	17		17	17

4.2 Correlation Analysis

Correlation analysis technique is used to measure the strength of relationship between variables. The value of correlation lies between -1 and +1. -1 means perfect negative relationship between two variables while + 1 means perfect positive correlation between variables. The results of correlation analysis are shown in Table 2.

Table 2 Correlation Analysis

	RGDPG	INF	ERV	BUDBAL	CURRGDP	TDBGDP	DFXRES
RGDPG	1						
INF	-0.82163	1					
ERV	-0.16456	0.4057	1				
BUDBAL	0.33452	-0.35082	-0.5467	1			
CURRGDP	-0.23200	-0.03356	-0.0038	-0.15056	1		
TDBGDP	-0.02994	-0.23634	-0.5054	0.213876	0.710980	1	
DFXRES	-0.06802	-0.18876	0.13472	0.226345	0.571234	0.232568	1

The results in the table 1 show that there is negative correlation between inflation and exports, between currency devaluation and exports, between exchange rate volatility and exports and between trade deficit and exports. Whereas there is positive correlation between budget deficit and exports, between interest rates and exports. We have noted that inflation is more harmful for exports because increase in the domestic prices discourage foreign buyers to purchase costly goods. Therefore, it is necessary to keep the inflation under control and not allow price level of exportable goods to rise abnormally. In Pakistan, inflation continuously rise and the Government as well as State Bank of Pakistan have so far failed to control them.

4.3 Regression Analysis

The results of regression analysis are shown in Table 3.

Table 3: Multiple Linear Regression

Variables	Coefficient	Stand Error	t-Stat	P-value	Lowe 95%	Upper 95%	Lowe 95.0%	Upper 95.0%
ERV	-0.2241	0.0341	-6.5	0.001	-0.288	-0.151	-0.2999	-0.148
INF	-1.0575489	0.2329681	-4.5	0.001	-1.5766	0.5385	1.576634	-0.5384
BUDBAL	0.0221	0.0041	5.29	0.000	0.011	0.0314	0.0128	0.031
CURRGDP	0.1336	0.0120	6.9637	0.05	0.0912	0.1756	0.0912	0.17748
TDBGDP	-1.054	0.2330	-4.527	0.001	-1.575	-0.537	-1.5756	-0.5334
Dependent variable Exports; Independent Variable ERV = Exchange rate Volatility; nf = Inflation; Budbal =Budget deficit, TDBGDP= Trade Balance ; CurrGDP = Current Gross Domestic Product (Exports)								

The results in table 3 show that exchange rate volatility negatively affects the exports of Pakistan during study period. The negative value of coefficient (-0.2241; *P*-value 0.001) shows if one unit changes in exchange rate volatility it will likely to decrease exports by 22.41 percent. It implies that increase in volatility in exchange rate will negatively affect exports of Pakistan. Our studies contradict the results of those studies that predict increase in exports in case of devaluation of currency. But Pakistan's case is different because it has low export base and few number of goods for exports. Most of the goods manufactured for exports are consumed locally due to high population growth

Similarly, inflation rate has also negative relationship with export in case of Pakistan. If one-unit increase in inflation rate, the exports will likely to be decreased by 10.57 percent. It means if inflation is increased it will affect export sector negatively. However, budget deficit has positive association with exports. Our results reveals if one unit increases in budget deficit the exports will likely to be increased by 2.24 percent. This effect is insignificant. Similarly, currency devaluation also has positive relationship with exports in case of Pakistan. The empirical results show if one-unit increases in currency devaluation the exports will likely to be increased by 13.36 percent. The increase in volume of exports as a result of currency devaluation is not significant. Conversely, trade balance and exports have negatively related with each other which implies that a negative trade balance also has negative effect on Pakistan's exports. For example, if one unit increases in trade balance the exports will likely to be decreased by 10.54 percent.

5. Conclusions

We have examined the impact of exchange rate volatility on Pakistan's export and nature of relationship between external trade and exchange rate volatility. We have found that that there is a weak relationship between trade and exchange rate volatility and exports in Pakistan. The currency exchange rate is a significant variable, which mainly contributes to the exports of a nation. Our results also show that there is high volatility in exchange rate during study period and continuous volatility in exchange rate has also negative effect on exports. We can suggest that the Central Bank and Economic managers must coordinate their efforts to keep the exchange rate stable if they want to enhance country's exports and foreign exchange reserves. It was also noted that devaluation of currency is more beneficial for

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those economies that have surplus goods to export. However, Pakistan has limited exports potential and this is the reason that devaluation has insignificant effect on Pakistan's exports. Other variables of the study like inflation, budget deficit also have negative effects on Pakistan's exports. The reason of low Pakistan's export is that Pakistan has small export based and its industries are producing primary goods which fetches low prices in international market while its imports are mostly machinery and equipment which are costly and Pakistan has to pay huge amount of money for them. Budget deficit and Inflation are two main issues in Pakistan and policy makers have failed to control in spite of opting different fiscal strategies. However, trade balance has also insignificant relationship with exports. Pakistan has to import about 75 percent of petroleum products from oil producing countries to meet its growing demand and it has to spend about 10 to 12 billion US dollar every year on oil import. This one of the cause of budget deficit and trade deficit. Other cause of trade deficit is that Pakistan's import high tech goods and services while exports primary goods. It has to pay high price of its imports while it receives nominal price of its exporting goods and services. It creates wide gap between value of its imports and exports. Pakistan has continuously been devaluing its currency since 1970s with certain intervals but its exports are not increasing in the same ratio. Its sixty percent exports are consisted of textile items which are producing by almost all Asian countries, resulting in tough competition in international market. Pakistan has been facing problem of technology transfer because advanced countries are reluctant to transfer technology due to unknown reasons. This is the reason that Pakistan's export industry is technology-deficit sector.

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6. Policy Recommendation

In the light of above conclusions, we would like to make following recommendations to stabilize exchange rate and to improve its exports.

● Pakistan must control import of luxury goods and other unnecessary items to reduce its balance of payment.

● Pakistan must take proper steps to increase its value-added exports and try to reduce the export of raw material and primary goods which fetch low prices in international market.

● Pakistan must reduce budget deficit by increasing tax revenue. It will reduce pressure of Pak Rupee and also enable the government to execute development projects.

● Pakistan should improve infrastructure particularly in the remote areas so that labor and raw material can move rapidly to industrial areas which are mostly located near urban areas.

● Political stability is the main issue in Pakistan due to weak political system and personality-dominance politics. Capital flight is accelerated in case of political crisis. Pakistan should improve political stability through strengthening political parties. The main reason of poor foreign direct investment in fixed asset on long term basis is political uncertainty.

● Pakistan should improve quality of export goods and encourage the industrialists to use technology based machinery and equipment to improve quality of their products. It will not only improve their productivity but also enhance their profitability.

● Lawlessness, weak governance and terrorist activities prevent foreign investors to invest in Pakistan and even local capitalists prefer to keep their money in foreign banks. This creates scarcity of financial resources and force

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financial managers to borrow loans to meet growing expenditures. Strict security measures must be taken to improve security environment to restore the confidence of investors.

● Fiscal incentives and tax concessions and security of investment may be given to foreign investors so that they can invest in Pakistan without any fear.

7. Limitations and Contribution of the study

Devaluation is an important issue in Macroeconomics and it is being faced by almost all developing countries. Every countries wants to increase its exports in order to earn foreign exchange. For this purpose, they devalue their currencies whenever their balance of trade is disturbed. But the countries having low export base or small number of exporting goods or producing primary goods are facing problem of wide gap between their exports and imports. This gap creates trade deficit and put pressure on their balance of trade. In order to meet this gap, they are forced to approach IMF, World Bank and other international donors for seeking loans. These donors particularly, IMF imposes hard conditional ties including devaluation of currency. The policy makers of these counties can get insight from the results of this study and apply recommendations to improve their balance of trade and tax revenue and productivity. The study will add a new piece of knowledge in the existing body of literature. This study focus on the determination of devaluation of currency on export sector. The new researchers can broaden their study by adding other sector into their analysis.

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