

Tax Incentives and Impact on Investment In Pakistan

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Abstract

The objective of this research paper is to study the incentivized tax policy and its impact on investments in Pakistan. The study mainly relies on quantitative method of inquiry and is clearly aimed at providing insight about the impact of change in Tax and Tariff rates on domestic investment while examining and evaluating the impact of Tax and Tariff rates on FDI. The independent variables used for this study include Corporate Tax rates and Tariff rates while dependent variables are domestic investment and foreign direct investment (FDI). The research has been conducted using the data collected over a period of 25 years (1990 to 2014). Other sources/methods include secondary data analysis, inferential statistics and series data analysis involving multiple regressions for analyzing the impact of corporate tax, customs tariff rates and other tax incentives on FDI and domestic investment. The study uses both ARDL and regression analysis approaches to examine the relationship between corporate tax rate, tariff rate and domestic investment. Findings of the study reveal that corporate tax rate is significantly negatively associated with domestic investment and FDI. The study, however, also points to the fact that import tariff rates have no statistically significant relationship with foreign direct investment or domestic investment. It has been noticed that decrease in corporate tax rate results in significant increase in domestic investment and FDI and therefore it has been suggested that the government should take steps to rationalize the tax and tariff rates to attract investment. It has been further suggested that investment friendly environment may be provided to the investors through competitiveness, transparency, consistency and rationalization of tax policies. The study underlines the fact that tax policy should not only be focused on revenue collection but it should take a holistic view and planned and implemented in a manner that helps to promote investment leading to improvement of overall economic indicators of the country.

Keywords: Tax incentives, foreign direct investment, domestic investment, corporate tax rate, tariff rate, tax holiday, investment friendly environment

Taxation policies have simultaneously been very unpopular and controversial in Pakistan. Besides, there have been limited studies to empirically analyze whether these policies have led to sustainable economic development. The main objective of these policies appears to be revenue generation and facilitation of the business community. Tax policies are usually based on two premises i.e. firstly, more investment is essential for rapid economic growth, and that the tax incentives can stimulate greater investment. Unfortunately, the tax policies formulated over the years have been inconsistent, incongruous and heavily reliant on the corporate sector. Investment is undoubtedly the backbone of any economy, especially for developing countries like Pakistan, but unfortunately domestic and foreign investors have been reluctant to make

big investment decisions regarding Pakistan due to unfavorable investment environment in the country (Economic Survey of Pakistan 2014-15). Hussain (2001) concluded that complexity of tax structure and nature of tax in Pakistan has been the foremost obstacle in the way of creating business friendly environment. The main underlying factors include the improper, rigorous, retrogressive and unreasonable taxation arrangement with extremely narrow tax base and a structure prompting lower tax-GDP ratio. The lack of consistency, continuity, clarity, transparency and business unfriendly tax policy has been a major cause of concern for the investors. Historically, the government's primary motive of imposition of taxes has been to boost tax collections for resource mobilization for government spending. Tax to GDP ratio has been hovering around 9% for many years which is one of the lowest in the region, particularly in comparison with other neighboring nations like India and Sri Lanka. It is noteworthy here that out of a populace of 180 million, just 3.6 million are the National Tax Number (NTN) holders and less than 1% file their annual tax returns.

Government undertook business process reengineering for attracting foreign investment and provided investment friendly environment in the country under the tax reforms program during period 2004-2012. Government reports have revealed that prior to tax reforms measures, corporate income tax rate was 66% which was gradually reduced to 35% during the last half decade and further reduced to 34% for banking companies and 33% for non-banking companies. In this economic scenario, domestic investment has been suffering from lack of growth for a long time. Foreign Direct Investment has also been drying up in Pakistan due to many tax and non-tax factors. After hitting record high of \$5.4 billion in 2007-08, net FDI has come to dismal low of \$1,667.6 in 2013-14 (Economic Survey of Pakistan 2013-14).

According to the Economic Survey of Pakistan (2014-15), many tax benefits or incentives were offered in different forms to attract foreign investment in the country. Broad ranging tax reforms, as part of the overall fiscal agenda, were introduced. FBR brought major structural and policy changes to enhance revenue generation, boosting tax to GDP ratio and the broadening of tax base while introducing many fiscal measures to encourage FDI inflow and growth in domestic investments. The main incentives included tax cuts, tax holidays, tariff reductions, tax rebates, amnesty schemes and provision of depreciation allowance on capital assets. The corporate tax rates have also been reduced substantially during last few years on the premise that the reduced tax and tariff rates do affect investments positively. But the data has revealed that corresponding growth in domestic investment and increase in FDI inflows have not been witnessed in the investment horizon of Pakistan.

It has been suggested by some reports that a significant relationship exists between tax incentives and tariff incentives and FDI and domestic investments (Board of Investment Report 2015-16). While

various tax and tariff incentives have been provided to the local and foreign investors during the last two and half decades, but there is no empirical evidence as to what relationship exists between CTR/Tariffs with FDI and domestic investment in Pakistan. Besides, there has been no significant research or study to indicate what impact these tax incentives have had on investments (FDI and domestic) in Pakistan. This study, therefore, aims to explore as to what non-tax factors might have been affecting FDI and domestic investment. The study also suggests measures which need to be adopted to enhance investments in the country in future.

Problem Statement

Tax Incentives have been used as the tool to attract FDIs by various developing countries including Pakistan. Although Government has provided incentives like reduced CTR and Tariff rates to attract investors, however, desired increase in investment has not been observed. The relationship between tax policy variables and domestic investment and FDI needs to be analyzed in the context of Pakistan. This study tries to explore the relationship between incentivized tax policy and investment (domestic and foreign) and also to explore their impact on investments. The study also aims to explain how variables like corporate tax rates and tariff rates affect growth and inflow of investment in Pakistan. The study will further suggest future measures to be adopted by giving a clear path for future tax policy and reforms.

Research Objectives

Following are the main objectives of this paper:

- To analyze the incentivized tax policy and its effects on FDI and aggregate domestic investment in Pakistan
- To understand the impact of changes of CTR on FDI and aggregate domestic investment in Pakistan
- To check the impact of changes in customs tariff rate on FDI and aggregate domestic investment in Pakistan
- To explore whether tax exemptions/tax holidays affect FDI and aggregate domestic investment in Pakistan
- To check if the non-tax factors have any significant influence on FDI and aggregate domestic investment in Pakistan

Significance of the Study

The latest tax reforms were initiated in the year 2004 but no appraisal has so far been carried out to explore the deeper impacts on investments of different tax measures undertaken and the incentives provided in the country. It is, therefore, critical to investigate and explore the impact of the tax reforms and tax measures on the overall economy of Pakistan, particularly on investments. It is pertinent to highlight that

while there has been research on various many other aspects of tax policy but no specific study has been carried out to prove the relationship and impact of tax incentives on investment in Pakistan. This study has significant practical suggestions for policy makers, economists and academicians.

Literature Review

Etim, Onyebuchi and Udo (2014) conducted research in Nigeria on the determinants of FDI and their impacts on the Nigerian economy. They examined how different determinants of investment like exchange rate, openness and political risks affect inflow of foreign direct investment in Nigeria during the aforementioned period. They also examined that market size (GDP), exchange rate and openness cast major impact on FDI whereas political risk was not found to be significant factor. Babatunde, Adepeju (2012) stated that in Nigeria's oil and gas sector, the tax incentives, openness to trade and availability of natural resources had a major impact on FDI but the same did not affect economic stability, political risk and market size. This supports a new trend that attention should be focused for regulations to encourage FDI for needed economic objectives to attract FDI and economic growth in Nigeria. This study provides an insight into Nigeria's determinants of FDI in oil and gas, which are tax incentives followed by openness to trade and availability of natural resources. In a different study conducted in Pakistan, Majeed, Ahmed (2009) highlighted that FDI needs an enabling environment and safeguards to the investors are the essential part of it. It found the effectiveness of tax incentive like tax holidays and concessions like depreciation allowance in impacting the capital formation and investment in Pakistan.

The study of Kassahun (2015) found a significant relationship between corporate tax rate and foreign direct investment inflow. It stated that tax holiday affected positively and had significant relationship with foreign direct investment. Integrated Social Development Centre (2014) study in investment incentives in Ghana: The Cost of Social Development discovered that tax incentives are given to attract FDI and to increase export earnings in the country. It revealed that lower tax rates increased Ghana's competitiveness in the region but at the same time weakened the synchronization of trade and investment in Sub-Saharan economies. Bano and Tabbada (2015) have indicated that in Pakistan overall overseas investment showed 133.3% per annum increase from \$1277 million to \$2979 million in 2014, while the FDI had increased to \$750 million. US, Switzerland, Hong Kong, UAE and UK were main contributors to the FDI and the main beneficiaries of FDI were the sectors like financial services, power, oil & gas exploration, chemicals and communications.

It is acknowledged that experimental work on corporate taxation for creation and speculation choices of international firms should rely on

arrangement of tax segments as opposed to legal corporate tax rates. In this stratum, an essential strip of the writing suggests to levy forward looking (negligible and normal) tax rates being a suitable measure of the corporate tax trouble (Devereux & Griffith, 2003). The enormous part of work done in the past on corporate taxation and FDI makes use of legal corporate tax rates or of reverse looking normal successful tax rates as enclosed in firm-level monetary record information (Hines, 1999). Auerbach and Hines (1988) gave a model of powerful tax rates with time-subordinate statutory tax rates and venture tax credits and demonstrated estimation of deteriorating remittances to examine the effects of expected tax changes.

Alvarez, Terrados, Ortolano, Reguero and Batalla (2000) find investment impacts of expected tax changes with doubtful timing and comment that reduction of the tax rate incites speedy investment and a normal reduction of tax base has the inverse impact. Rabushka (1987) pointed out that economic growth and taxes had a direct relationship and highlighted that high tax rates have discouraged the efficient use of labor and capital and have discouraged entrepreneurship, thus holding down growth. Alternatively, World Bank states that level of taxation is positively correlated with economic development in developing countries. It has been found out that lower tax rates, both direct and indirect has significant role to boost higher economic development. Wasylenko and Michael (1997) wrote about interest of policy makers in economic activity elasticity and tax rates. Bartrik (1994) stated that 10 percent lower tax rates will increase employment, investments or new firms by 1 to 10 %. Engen, Gale, Uccello, Carroll and Laibson (1999) concluded that changes in tax policy affect economic growth.

Gabriela and Felicia (2010) found the effect of the deduction of taxes in the US on the long term increase in tax, so as to distinguish the relationship between tax reduction and economic growth. Finding is visible that with the decrease in marginal tax rates with 0.5% points, there might be some increase of economic growth rate of approximately 0.2-0.3% points. They considered that the states having the likelihood to assemble incomes by means of efficiently manage tax structures may achieve higher growth rates in contrast with the countries where there is a fragile tax accumulation framework and structural design of tax system is modest. Bond and Samuelson (1986) stated that tax holidays given to attract foreign direct investment results in loss of tax revenues to the host countries in short run. Brander and Spencer (1987) found that home countries can attract foreign direct investment in case of lowering import tariffs and lower taxes on domestic manufacturing.

Effiok and Eton (2013) found that tax rates have a significant relationship with FDI and economic growth. Abbas and Klemm (2013) analyzed in a study, A Partial Race to the Bottom: Corporate Tax developments in emerging and developing economies, by gathering dataset on corporate income tax regimes for 50 emerging and developing

economies over the period 1996-2007 and explored its impact on corporate tax revenues and domestic and foreign investment. They found an evidence of race amongst countries of Africa to lower tax rates to attract and increase investment. They also found that higher tax rates affect domestic and foreign investment in long run, but at the same time raise revenues in the short-run. According to Gastanaga, Nugent and Pashamova (1998), the policies of host country bear an impact on the FDI inflows and they can be used to direct the inflows to a particular location. The different types of variables e.g. corporate tax rates the degree of openness to international capital flows, bureaucratic delay, tariff rates, exchange rate distortions, contract enforcement, nationalization risk and corruption.

Fahmi (2012) observed in a study, the impact of tax holidays on FDI in the case of Indonesia for the period 1981-2010. It was observed that inflation, gross fixed capital formation, tax rate, openness had a significant role in attracting the FDI but the tax holidays cannot even mitigate the negative effect created by inadequate infrastructure, political and economic instability, and poor policies. Stapper (2010) found that foreign investor's investment decision was not affected by high corporate tax rates. Dharmapala and Hines (2009) made an analysis of the factors influencing countries to become tax havens. About 15% of countries with low tax rates are tax havens, the study found, and these were mostly small and affluent countries. Governance quality was significantly good. The study also envisaged that a smaller country having population within the range of one million, have 26% to 61% chances of becoming a tax haven. Low tax rates induce foreign investment more in well-governed countries than otherwise. The study concluded that poorly-governed countries seldom become tax havens, and that a rational tax policy is jeopardized by the poor governance.

Demirhan and Masca (2008) concluded that economic growth, liberalization, physical infrastructure cast positive impact in boosting FDI, whereas inflation positively affects inflow of FDI while tax rates have negative impact on attracting FDI. Shah, Ahmed and Siddiqui (2003) calculated the cost of capital and analyzed that without any concessions, capital is dependent on the capital goods' prices, tax rates, banking markup rates and other incentives and concessions. Greater the tax reduction or longer the tax holiday, the lower is the cost of capital. Depreciation allowance also decreases capital cost and the extent depends on interest rate. Lower the interest rate higher is the depreciation rate and lower is the cost of capital.

Hines and James (1999) have undertaken a comparative study regarding the dynamics of tax credits and tax rates. It has been found that if investors cannot set off foreign tax credits with local tax liabilities, the incentive of foreign investors is minimized which they prefer to utilize to avoid high-tax in other countries. One percent variation of corporate tax rate creates a variation range of 9-11 percent between the investors using

foreign tax credit and other investment as whole. This suggests that corporate taxes significantly affect the FDI in the US. Hartman (1972) in his study analyzed FDI in context of domestic tax policy in USA. The study analyzed impact of tax policy changes on FDI. It was found the reduction in personal and corporate tax rates are great catalyst and incentives for savings. Corporate tax rate incentive has been offered in the US through accelerated depreciation allowances.

DeMooij and Ederveen (2003) undertook a study of empirical literature on the topic of company taxation and FDI. They studied the results of 25 studies and compared the tax rate elasticity. They found that the mean value of tax elasticity in the literature under study is around -3.3, i.e. this means that with 1% decrease in the host country's tax rate results in 3.3% increase in FDI in that country. The variation across countries and studies has been explained by them as the underlying characteristics of data e.g. studies using effective tax rates yield large elasticity's than studies using statutory tax rates. It concluded with the finding that tax rates have negative relationship with FDI. Slemrod (1990) analyzed the impact of US and investing country's tax system on FDI in US. This study employed standard empirical model to find the link between FDI and taxation. This model gave results that tax rates in US have a negative relationship with FDI. The study also suggests an alternative explanation to the FDI in US.

Dunstan, Hargreaves and Karagedikli (2007) contented that cost variations can have different effects of tax reductions on investment funds which would be slightly contractionary in nature whereas the company tax reductions will show expansionary tendency. Scholes and Wolfson (1989) found that higher taxes on capital in investing country leads to increase of FDI in that country due to the tax credits that act as a shield for the investors against high taxes. They also found that tax credits increase in the areas where the higher tax rates is a major attraction for FDI. The study found that when US tax rates increased, the FDI in US under worldwide systems increased. Devereux and Freeman (1995) found that the taxes do not significantly affect decision variation of domestic investment in comparison to outward FDI. However, they found that taxes do influence the size and location of FDI. Altshuler and Goodspeed (2002) report that a correlation does exist between corporate tax rates of a country and the investments.

Gondor and Nistor (2012) observed that competition amongst governments for attracting FDI is determined by tax rates but this is mainly due to business environment and the fiscal policy of a country. This research also reveals the relationship between FDI and fiscal policy and makes this relationship a conjecture. The results show that the business environment is the determinant for FDI rather than the corporate tax rate and this relationship is directly linked to the fiscal policy of the country. Desai, Foley and Hines (2004) noticed that multinational associations really change their obligation levels as per the corporate tax

rates that they are faced with. Henceforth it supports that the conduct of the multinational associations was clearly dictated by level of tax rates.

Klemm and Parys, (2012) found that tax holidays had some strategic interaction in addition to the corporate income tax (CIT) but they found no evidence for investment allowances and tax credits. Zenjari, Wahabi, Haj and Drissi (2012) found that taxation has a major impact on competitiveness and net profitability of investment. Munongo (2015) analyzed the differential impacts of tax incentives on different sectors and found that amongst tax incentives, custom duty exemption is insignificant while tax holiday was found significant. Oniyewu and Shareshta (2005) argue that high levels of taxation would discourage FDI. Hussain and Kamuli (2012) found that market size, macroeconomic indicators, regional integration, availability of factors of production and stable financial sector attract FDI in developing countries. Anyanwu (2012) found that positive relationship existed among market size, trade openness, law and order, national resources and the FDI inflows. Bolnick (2004) noted tax incentive regimes have not been successful in many countries due to many external factors like undue pressures from politicians.

In view of the above theoretical aspects of the topic, there is a need to review the economic scenario and analyze the linkages and relationships between taxes/ and investments in Pakistan. It is imperative to analyze and see whether the tax incentives offered in the country have any positive impact on investments in the country.

Hypotheses

With the forgoing literature review, this paper aims to test following hypotheses based on the relationship of different variables like corporate tax rates, tariff rates and domestic and foreign direct investment in Pakistan.

H1: There is significant long term relationship between corporate tax rate and foreign direct investment in Pakistan

H2: There is significant short term relationship between corporate tax rate and foreign direct investment in Pakistan

H3: There is significant long term relationship between tariff rate and foreign direct investment in Pakistan

H4: There is significant short term relationship between tariff rate and foreign direct investment in Pakistan

H5: Corporate tax rate has significant negative relationship with domestic investment in Pakistan

H6: Tariff rate has significant impact on domestic investment in Pakistan

Research Methodology and Model Estimation

This research study is based on secondary data for the period span of over 25 years (1990-2014) to analyze the tax policy incentives and their impact on investment in Pakistan. The research methodology revolves around two distinct components. The first component includes information collection from key sources, tabulation and analysis. The second component scouts the correlation between investment and corporate tax and tariff rates. In order to explore overall tax incentives impact on domestic and foreign investment in aggregate in Pakistan, this study has used quantitative method to gain a richer understanding and find answers to the research questions. Considerable amount of secondary data has been gathered from SBP, FBR, FBS and Economic Surveys of Pakistan, various documents, research papers, studies, World Bank and government reports, Income Tax Ordinance 2001, Pakistan Customs Act, PIDE Inflation Expectations Surveys, Annual Reports of Board of Investment, Human Growth Reports, Pakistan Tax Policy and Global Competitiveness Reports. Descriptive and inferential statistics are used to analyze the data. Understanding and analyzing the overall effect of tax incentives in attracting FDI in developing countries is critical to this study, therefore, the validating procedures are based on statistical analysis.

Theoretical Foundation

Keynes (1930) argued that by changing tax rates and expenditure, as main instruments of fiscal policy, the governments can bring about economic development. Macroeconomic objectives of employment, investment and growth can be achieved through combined measure of imposing taxes and government expenditures. (Dégh, 1997) in Conduit theory states that corporate taxes should not be imposed on an investment company in the same manner and same tax burden as done in case of other regular firms because the investment firm further distributes its capital gains, interest and profits to its customers/shareholders, unlike the regular firms with a different business strategy. McCracken (1985) in Trickle-Down theory suggests that financial benefits and incentives in taxes should be offered to large businesses investors and entrepreneurs because it will enhance business activities in such enterprises which will stimulate investment leading to overall economic growth. Svetalekh (2016), in his study, states that a negative or inverse relationship exists between Corporate Tax Rate and FDI. The theory suggests there is an inverse relationship and significant impact of taxes and investment, so these theories will support this research work.

Descriptive Analysis, Statistical Method and Model Estimation

In the descriptive analysis, the simple ratio, percentages, tables, charts and graphs have been employed to analyze the data. Inferential statistics have been used and the study utilizes time series data analysis technique involving multiple regressions for analyzing the impact of

corporate tax rate on FDI and customs tariff rates and other tax incentives on FDI and domestic investment on aggregate level.

This study uses a model comprising of two variables of incentivized tax policy like custom tariffs and corporate tax rates to find its impact on domestic investment and foreign direct investment in Pakistan in aggregate. For testing of time series data, two dependent variables have been taken. To check the impact of corporate tax rate and tariff rate on domestic investment and FDI, the time series data requires regression analysis. To avoid spurious results, data should be stationary at same level. For domestic investment and subsequent independent variables, data was stationary at same level, so we employed regression analysis. For foreign direct investment, the condition of stationariness was violated, so as per suggestion of Ouattara (2004), we employed ARDL approach.

The researcher has employed ARDL and regression analysis approaches to examine the relationship between corporate tax rate, tariff rate and domestic investment in following model (equations 1 and 2). For equation 4.1, the relationship between corporate tax rate, tariff rate and domestic investment has been tested, for which regression analysis has been made.

$$\Delta DI_t = \beta_0 + \beta_1 \Delta CTR_t + \beta_2 \Delta TR_t + \varepsilon_t \dots\dots\dots 1$$

And, to examine the relationship between corporate tax rate, tariff rate and foreign direct investment, following model has been tested and for this analysis ARDL technique has been used.

$$\ln FDI_t = \beta_0 + \ln CTR_t + \ln TR_t + \varepsilon_t \dots\dots\dots 2$$

Whereas,

DI_t = Net Direct Investment at time t

FDI_t: Net FDI Inflow in Rupees at country level (in aggregate) at time t

β₀: is an intercept of the model

CTR: Corporate Tax Rate according to law at time t

TR: Tariff Rates at time t.

There are several approaches to test the existence of the long-run equilibrium relationship among time-series variables. The most widely used methods include Engle and Granger (1987) test, fully modified OLS procedure of Phillips and Hansen's (1990), maximum likelihood based Johansen (1988 & 1991) and Johansen-Juselius (1990) tests. These techniques require that the variables in the system are integrated at order one I (1). Furthermore, these methods do not have the properties to explain the small size. To overcome these problems, autoregressive distributed lag (ARDL) approach, a newly developed method, used to co-integration has become popular in recent years. This study used autoregressive distributed lag approach (ARDL) to co-integration following the methodology proposed by Pesaran and Shin (1999). This methodology has several advantages over other co-integration

procedures. First, it can be applied without matching the stationary properties of the variables in a given sample. Secondly, it can estimate long-run properties which are not available in alternative co-integration procedures. Finally, ARDL Model has the capacity to accommodate large number of variables than other Vector Autoregressive (VAR) models.

Firstly, data has been tested for unit root. This testing is a pre-condition to avoid the possibility of spurious regression. Ouattara (2004) reports that bounds test is based on the assumption that the variables are I (0) or I(1), so in the presence of I (2) variables, the computed F-statistics provided by Pesaran et al. (2001) becomes invalid. Similarly other diagnostic tests are applied to detect serial correlation, heterosidisticity and conflict to normality.

If data is found integrated at level I (0) or I (1) the ARDL co-integration method is used. This method consists of three stages. In the first stage it the long-run relationship between the variables is established by testing for the significance of lagged variables in an error correction mechanism regression, then the first lag of the levels of each variable is added to the equation to create the error correction mechanism equation and a variable addition test is performed by computing an F-test on the significance of all the lagged variables.

Second stage involves estimating the ARDL form of equation where the optimal lag length is chosen as per Schwarz Bayesian. Then the restricted version of the equation is solved for the long-run solution. An ARDL representation of above equation 4.2 is as below:

$$\text{Ln FDI}_t = \beta_0 + \sum \psi_i \text{Ln FDI}_{t-1} + \sum \beta_i \text{LnCTR}_{t-1} + \sum \lambda_i \text{LnTR}_{t-1} + \mu_t \dots \dots \dots 3$$

Where I range from 1 to p

The third stage deals with the estimation of error correction equation using the differences of the variables and the lagged long-run solution, and determines the speed of adjustment of returns to equilibrium. A general error correction representation of equation is given below:

$$\Delta \text{Ln FDI}_t = \beta_0 + \sum \beta_i \Delta \text{Ln CTR}_{t-1} + \sum \lambda_i \Delta \text{Ln TR}_{t-1} + \text{ECM}_t + \mu_t \dots \dots \dots 4$$

In this stage, stability of the long-run and short-run coefficients is observed by employing cumulative sum of squares (CUSUMSQ) and cumulative sum (CUSUM) tests.

Data Analysis, Empirical Results and Discussion

This part of paper consists of results of the analysis and discussion of findings which covers topics such as descriptive analysis, correlation analysis, and regression analysis, unit root analysis of foreign direct investment, corporate tax rate and tariff rate and discussion on findings of this study.

Descriptive Analyses

Descriptive statistics of domestic investment, corporate tax rate and tariff rate are given in table 1. Change in corporate tax rate and tariff rate have negative mean value while change in domestic investment has positive mean value and it has the highest one. The volatility of tariff rate is highest one followed by domestic investment. Domestic investment is found positively skewed, whereas corporate tax rate and tariff rate have found negative skewness. Domestic investment has maximum value and tariff rate has minimum value.

Table 1. Descriptive Statistics: Domestic Investment, Corporate Tax & Tariff Rate

Variables	Mean	Median	Std.	Kurtosis	Skewness	Range	Min	Max
Domestic Investment	0.131	0.120	0.086	1.594	0.833	0.402	-0.036	0.365
Corporate Tax Rate	-0.021	0.000	0.048	12.107	-3.216	0.226	-0.216	0.010
Tariff Rate	-0.053	-0.036	0.136	1.314	-0.362	0.630	-0.380	0.250

Source: Author’s Estimation

Correlation Analysis

Table 2 states domestic investment has significant and negative relationship with corporate tax rate and an insignificant and negative relationship has been observed with tariff rate. Corporate tax rate is found significantly and positively associated with tariff rate. The correlation reported in table 2 is within tolerable limit so problem of multi-co-linearity does not exist.

Table 2. Correlation Matrix: Domestic Investment, Corporate Tax & Tariff rate

	Domestic Investment	Corporate Tax Rate	Tariff rate
Domestic Investment	1		
Corporate Tax Rate	-0.609**	1	
Tariff rate	-0.314	0.488*	1

Source: Author’s Estimation

Regression Analysis

Table 3 reports that corporate tax rate is significantly negatively associated with domestic investment.

Table 3. Domestic Investment

	Coefficients	t Stat	P-value
Intercept	0.107	6.575	1.64E-06
Corporate Tax Rate	-1.078	-3.020	0.006
Tariff rate	-0.013	-0.107	0.915

R2	0.371
Adjusted R2	0.312
Observations	24

Source: Author’s Estimation

Unit Root Analysis Of Fdi, Ctr and Tr

It is based on the assumption that the variables are I(0) or I(1) so in the presence of I(2) variables the computed F statistics provided by Pesaran, Shin and Smith (2001) become invalid. Unit Root test determines the order of integration among time series data as given in table 4. ADF test has been applied under assumption of trend and constant at level and first difference. Table 4 indicates that the series are not stationary at same level of integration. LN (FDI) is integrated at level I (0). LN (CTR) and LN (TR) are integrated at first differences I (1). This testing is of preliminary nature but is essential to rule out any possibility of spurious regression as Ouattara (2004) has observed that bounds test is based on the assumption that the variables are I (0) or I(1).

Table 4. *Unit Root Test*

	ADF- Level	ADF-1st Diff
LN(FDI)	-4.245511	-3.622493
LN(CTR)	-2.17093	-5.250582
LN(TR)	-1.33928	-5.60957
1% Critic. Value	-4.39431	-4.41635
5% Critic. Value	-3.6122	-3.62203
10% Critic Value	-3.24308	-3.24859

Source: Author’s Estimation

The econometric problems such as heteroskedasticity and autocorrelation have not been observed in the data as shown in table 5.

Table 5. *Diagnostic Tests of Data*

Items	Test Applied	CHSQ(x2)	Prob
Serial Correlation	Lagrange Multiplier Test	1.5478	.348
Functional Form	Ramsey's RESET Test	11.8382	.002
Normality	Skewness and Kurtosis	.17024	N/A
Heteroscedasticity	White Test	.67679	.436

Source: Author’s Estimation

Table 6(a) shows that tariff rate is not statistically significant, however CTR has significant and positive impact on FDI. FDI has persistent impact for its last two subsequent periods. The outcomes of the bounds testing approach for co-integration reveals that the calculated F-statistics is 15.065 which is significant at level of 1% and it shows that

the null hypothesis of no co-integration cannot be accepted and there exists co-integration relationship among the variables in this model. An analysis of above Table 6 (a) & 6 (b) reveals that corporate tax rate significantly explains foreign direct investment. The value of R2 is 0.89 which indicates a high degree of correlation among variables. F statistics is also significant at 1% which shows overall goodness of fit.

Table 6 (a). Results of ARDL Model Based on Schwarz Bayesian Criterion

Regressor	Coefficient	S. Error	T Ratio	Prob.
FDI(-1)	1.1726	.17680	6.6325	.000
FDI(-2)	-.68675	.16783	-4.0920	.001
CTR	5.14E+07	1.83E+07	2.8127	.015
TR	8.10E+07	9.37E+07	.86443	.403
TR(-1)	9.76E+07	1.17E+08	.83465	.041
TR(-2)	-2.27E+08	1.19E+08	-1.9074	.079
TR(-3)	2.82E+08	1.23E+08	1.9661	.071
TR(-4)	-2.37E+08	9.04E+08	-2.6209	.021

Source: Author's Estimation

Table 6 (b). Results of ARDL Model Based on Schwarz Bayesian Criterion

R2	.89026	Adj R2	.83116
AIC	-458.9889	SBC	-463.1669
F Statistics	15.065		
F Significance	.000		
DW Statistics	2.38		

Source: Author's Estimation

Table 7 indicates that corporate tax rate is significantly positively related with foreign direct investment. The results show that tariff rate and foreign direct investment are insignificantly correlated.

Table 7. Estimated Long Run Coefficients for Selected ARDL Model

Regressor	Coefficient	S. Error	T Ratio	Prob.
CTR	1.00E+08	2.57E+07	3.898	.002
TR	-8.32E+07	7.33E+07	-1.135	.277

Source: Author's Estimation

Error Correction Representation of short run relationship is shown in Table 8 which explains the short-run relationship among tariff rate, corporate tax rate and foreign direct investment. The error correction model explains that changes in tariff rate are not statistically significant while variations in corporate tax rate have significant short term effect.

Table 8. Error Correction Representation for the Selected ARDL Model

Regressor	Coefficient	Standard Error	T-Ratio	Prob.
Foreign Investment	Direct			
Corporate Tariff Rate	5.14E+07	1.83E+07	2.812	.014
Tariff Rate	8.10E+07	9.37E+07	.864	.402
Tariff Rate	2.21E+08	8.69E+07	2.546	.023
Tariff Rate	-5.292	9.45E+07	-0.056	.956
Tariff Rate	2.37E+08	9.04E+07	2.6209	.020
Ecm(-1)	-0.51414	0.12514	-4.1086	.001

Source: Author's Estimation

ECM (-1) is one period lag value of error terms that are obtained from the long term relationship. The coefficient of ECM (-1) shows that the extent to which lack of equilibrium in the short term will be arrived at in the long term. The error correction variable ECM (-1) has been found as negative and also statistically significant. The Coefficient of the ECM term shows that the process of adjustment is fast and the value shows that 51% of the previous year's disequilibrium in FDI from its equilibrium path will be corrected in the current year.

Major Findings

The analysis of the study has brought out the following major findings.

- Corporate tax rate has significant short run and long run relationship with foreign direct investment. Corporate tax rate has greater impact on FDI inflows. This relationship is true in Pakistan.
- Investment is negatively affected by higher tax rates and vice versa.
- Tariff rates do not have any statistically significant long term relationship with foreign direct investment but has short term relationship with FDI which is partially in line with past research studies conducted in Pakistan.
- The findings of this paper reveal that corporate tax rate has a significantly negative relationship with domestic investment in Pakistan context. The reduction in CTR casts a positive impact on domestic investment which is in line with the previous research studies
- Tariff rate has no significant relationship with domestic investment in Pakistan which can be attributed to non-tax factors.

Conclusion and Recommendations

Literature on the subject has revealed that inflow of FDI in a particular country, inter alia, promotes and accelerates economic growth by employment opportunities and technology transfers. Lower CTRs

have generally been found positively impacting investment. However, increased inflation in the country has eroded the expected benefits to a great extent. The findings of this study reveal that corporate tax rates have significantly negative relationship with domestic investment. The reduction in CTR casts a positive impact on domestic investment. The hypothesis is proved that CTR has a significant and negative relationship with domestic investment. It has been found that CTR has negative and statistically significant relationship with FDI. Corporate tax rate has greater impact on FDI inflows. No significant relationship of FDI has been found with tariff rates. The research has also revealed that tariff rates do not have any statistically noteworthy relationship with FDI as well as with domestic investment.

To sum up the findings, it has been empirically proved that corporate tax rate is significantly negatively associated with domestic investment as well as with FDI. This finding is in sync with situation in other countries. It is also found that tariff rate has no statistically significant relationship with FDI as well as domestic investment. This is a very unusual finding because a conventional intuition points to the contrary. This study has established that inflow of FDI in a particular country, inter alia, promotes and accelerates economic growth by generating employment and technology transfers. CTR has been found to cast greater influence in attracting FDI. Moreover, CTR is an important variable to influence MNEs' investment which encourages governments to reduce taxes and review fiscal policies.

Recommendations

- Substantial tax incentives should be offered to the foreign investors to attract FDI in transparent manner.
- Issue of narrow tax base needs to be dealt through documenting the economy and broadening the tax base
- Tax-to-GDP ratio needs to be improved at faster rate to bring it at par with comparable countries.
- There is a need to keep tax policies fair and transparent without any influence of the interested lobbies.
- Trust deficit existing amongst domestic investors regarding persistent governmental policies should be removed.
- The consistency and continuity in policies is very important. After launching CPEC, the prospects are very bright for investment but condition is that CPEC should be backed by strong political will.
- Investment friendly environment may be provided to the investors through competitiveness and rationalized tax policies.
- Tax incentives need to be viewed holistically as a component of overall economic policy to achieve overall economic development in the country.

- The government should regularly review and rationalize tax and tariff rates and other incentives to promote investment.
- Revenue generation has great importance to provide fiscal space but government should develop investment focused tax policy for sustainable economic development. Tax base may be broadened for revenue maximization
- Pakistan should undertake a periodic review for an economic cost-benefit and social cost-benefit analysis of its tax policy initiatives/incentives.
- Tax incentives should be implemented to benefit investors and put in control so that these may not be misused by domestic business enterprises to route their investments through foreign to enjoy tax incentives.
- Government should review and reform overall institutional and regulatory framework to streamline and promote domestic and foreign investments in the country
- Law and order should remain number one priority of the Government to protect investors.
- Government should focus its spending on development of physical infrastructure which is a pre-requisite of domestic and foreign investment
- Efficient, transparent and reliable regulatory framework should be ensured in Pakistan to earn the confidence of the investors.

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