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**Fiscal Deficit cannot be reduced by increasing Taxes
(A point to ponder from Pakistan)**

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Abstract

In Pakistan the budget deficits have consistently at increasing trend from 1995 to onwards which is being financed by the governments of now and then through external and domestic borrowing which are resulting a high debt levels due to high interest cost associated with it and this all pave the way for an increase in forthcoming taxes levy by the government time to time. This paper is an empirical investigation of the proposition that Fiscal deficit cannot be reduced by increasing taxes. The finding reveals that an increase in taxes is not the better choice for tackling the jinni of fiscal deficit.

Keywords: Fiscal deficit, Tax Collection, Error correction model (ECM), ADF unit root test.

1. Introduction

Fiscal deficit in Pakistan is a major issue as the various findings indicate that the fiscal deficit is remained at the same level even the tax collections are increased for all of the fiscal years after 1994 and to compensate this deficit government increases its debt financing from domestic and foreign sources which leads towards inflation and high interest rates. This paper is an empirical attempt to interrogate that whether or not an increase in tax collection is a better and logical option to reduce the size of fiscal deficit for the economy of Pakistan?

2. Literature Review

Friedman (1982) concluded that an increase in taxes (revenue collections by government) does not tackle the budget deficit because they believed that the level of fiscal deficit is not reduced by increasing taxes/ revenue collections, infact, government goes for borrowing to tackle the deficit and as the result debt servicing is increased. In addition, Koch, Schoeman, and Tonder (2005) found that there is an association between the burden of taxes and economic growth according to their findings based on the data of 1960-2002 if tax burden decreases economic growth increases significantly. Baharumshah and Lau (2007) Found two sets of different results where the fiscal policy of Korea, Singapore and Thailand is driven by expenditures where the government finances revenue for the planned expenditures according to the limit of the balanced budget which facilitate the long term sustainable budget position. However the taxation system should be implemented by taking care of the overall smooth fiscal policy. According to Baharumshah and Lau (2007) in case of Malaysia and Philippines expenditures and revenues are independent of each other and the level of government expenditures and revenues is determined through fiscal policy. Furthermore they confirmed that in order to achieve long-term economic growth fiscal consolidation is necessary to reduce deficits and debt levels which lead a country to fulfill expenditure priorities better and provide funds to more productive sectors.

Griffin and McKinley (1992) believes that in order to reduce the fiscal deficit, the expenditure policies of the government should be directed towards long-term future growth and for the well being of the people, in addition the activities that contribute more on socio economic development should be increased instead of using resources and funds to military defense projects. Similarly, King and Rebelo (1990) also confirmed that the taxation has a very important role in the long run growth process of a country where growth is not affected by indirect taxation, however direct taxation is harmful for growth. Furthermore, Narayan and Narayan (2006) confirmed that if the proper implementation on policies is taken into consideration regarding tax/ revenue collections the fiscal deficit can be avoided in the countries like Pakistan, they further stressed that if the expenditure rises faster than revenue then this can create huge budget/ fiscal deficits.

While investigating fiscal deficit for Greece, Hondroyiannis and Papapetrou (1996) found unidirectional causality running from government expenditure to revenues in Greece and the odd government spending decisions were found as the pivot reasons for fiscal deficit for long run. They further confirmed that the government spending to GDP is very high in Greece which results an operating inefficiency for the economy and any attempt for reducing fiscal deficit without reducing the government expenditure leads to failure.

Ahiakpor and Amirkhalkhali (1989) Based on the analysis for Canadian economy proposed that when government increases taxes in order to fully control over fiscal deficit the government must reduce or limit its expenditures instead of finding ways to increase tax revenue which is just a burden on public. Baghestani (2004) in a study of Egypt and Jordan claimed that to promote domestic savings and private investment it is necessary to eliminate budget deficit for both the counties and the increase in tax collection is not the solution of tackling the budget deficit. They further stressed that the process of privatization since, facilitates high domestic saving and investment can be a good player to reduce fiscal deficit. Neyapti (2008) also supported the view point of Baghestani (2004) and he studied and

confirmed that the privatization and decentralization improve the quality of governance which leads to decrease budget deficit and launch a stable economic condition.

3. Research Methodology & Econometrical Models

To explore and investigate the effects of an increasing change in taxes on the fiscal deficit, the non-stationarities in the collected taxes and the fiscal deficit are interrogated first as explained in equation 1 and 2, while, using the annual data of the outlined series for period from 1995 to 2011. The data for both the series was taken from the publically available source (website of State Bank of Pakistan). Error correction model (ECM) in the frame of ARDL is used as shown in equation 3, to investigate the impact of increasing change in collected tax on the fiscal deficit of Pakistan for the last 16 years. Both the previous lags of collected taxes and the fiscal deficit have been deployed in the ECM model to analyze the data.

$$\Delta TX_t = \alpha TX_{t-1} + x't + \beta_1 \Delta TX_{t-1} + \dots + \beta_p \Delta TX_{t-p} + ET_t \quad \text{---Equation 1}$$

$$\Delta FD_t = \alpha FD_{t-1} + x't + \beta_2 \Delta FD_{t-1} + \dots + \beta_p \Delta FD_{t-p} + ET_t \quad \text{---Equation 2}$$

$$\Delta FD_t = C + \beta_3 \Delta TX_t + \beta_4 \Delta TX_{t-1} + \beta_5 \Delta TX_{t-2} + \beta_6 \Delta FD_{t-1} + \beta_7 \Delta FD_{t-2} + ET_t \quad \text{---Equation 3}$$

Where, TX= Collected Taxes and FD= Fiscal Deficit.

4. Findings and Results

Table 1: Findings of ADF Unit Root Test

H: There is a non-stationarity in Collected Taxes.				H: There is a non-stationarity in Fiscal Deficit.			
At Level		T-Stats	Prob. *	At Level		T-Stats	Prob. *
ADF Test		-1.67912	0.9887	ADF Test		-1.57343	0.9691
Test Critical	1%	-3.23161		Test Critical	1%	-3.21982	
	5%	-2.96482			5%	-3.11871	
	10%	-2.75391			10%	-2.68829	

$$\Delta TX_t = \alpha TX_{t-1} + x't + \beta_1 \Delta TX_{t-1} + \dots + \beta_p \Delta TX_{t-p} + ET_t \quad \text{---Equation 4}$$

-0.02179 1.60891 0.55323
[-1.6791] [1.8721] [7.3211]

$$\Delta FD_t = \alpha FD_{t-1} + x't + \beta_1 \Delta FD_{t-1} + \dots + \beta_p \Delta FD_{t-p} + ET_t \quad \text{---Equation 5}$$

-1.0013 0.00311 0.90013
 [-1.5734] [1.9347] [5.7323]

The primary objective of this paper is to find an effect of change in taxes on the change in fiscal deficit of Pakistan, since both the outlined series are time series therefore, to interrogate the stated objective, the non-stationarities in both the series are investigated first by deploying the ADF unit root test. The empirical findings as reported in the table 1, reveal that at zero order there is the non-stationarities in both the series. Since, The ADF t-statistics are -1.167912 and -1.57343 respectively for both the collected taxes and fiscal deficit. And each ADF t-stats for both the series are more than for all corresponding critical values at 1%, 5% and 10% which imply the significant presence of Shocks in collected taxes and fiscal deficit. Since the root (alpha) is less than 1 for the series of collected thus we can conclude that the observed shocks in taxes are for short run. Whereas, for the series of fiscal deficit the root (alpha) is 1, thus it can be concluded that the series of fiscal deficit has the shocks for long run. As Subhani & Osman (2011) confirmed that the alpha/root of ADF unit root test explains the short/long run shocks in the time series if the shocks are found present. In the above equations 4 and 5, x_t are optional exogenous regressors which gives the prediction of application of ECM model, since the t-stats for exogenous repressors are more than 1.5 thus the ADF model predicts also the application of error correction model, that is, the ECM model can further be applied to conclude the co movements between the stated series.

Table 2: Findings of Error Correction Model (ECM)

Error Correction	$\Delta(\text{Fiscal deficit})$
Co integrating Equation	0.012345 (0.03281) [1.53680]
$\Delta(\text{Taxes} (-1))$	0.723599 (1.2E+08) [1.93211]
$\Delta(\text{Taxes} (-2))$	0.236718 (1.5E+09) [0.63464]
$\Delta(\text{Fiscal deficit}(-1))$	0.576453 (9.46982) [2.98535]
$\Delta(\text{Fiscal deficit}(-2))$	0.321772 (0.63221) [0.65238]
C	0.088674 (0.18978) [0.23548]

R Squared	0.603311
Adjusted R Squared	0.397665
F- Statistics	5.241287
Akaike AIC	52.67570
Schwarz SC	53.21198

$$\Delta FDt = C + \beta_3 \Delta TX_t + \beta_4 \Delta TX_{t-1} + \beta_5 \Delta TX_{t-2} + \beta_6 \Delta FDt_{-1} + \beta_7 \Delta FDt_{-2} + ET_t$$

0.0886 0.0123 0.723 0.236 0.576 0.321 Equation 6
 [0.235] [1.536] [1.932] [0.634] [2.985] [0.652]

The findings of error correction model as they are shown in the table 2 and also by the equation 6 reveal that there is the fiscal deficit for the current period is not controlled by the taxes collection for same period (current lag) and for the previous period (lag1), as the increase in tax collection for both the current and previous lag translates the increase in fiscal deficit significantly (at $t > 1.5$). While, the increase in fiscal deficit for previous lag (lag1) also affects positively to the fiscal deficit for current lag (at $t > 1.5$) that is the fiscal deficit for current lag gets increased. table 2 also confirms that the applied ECM model explains the fiscal deficit 39.766 % significantly as Adjusted R Squared is 0.39766 at $F = 5.241 > 3.384$.

5. Discussion and Conclusion

Fiscal deficit in Pakistan is a major issue because, as tax/revenue collection gets increased expenditure increases as a result and due an increase in govt. expenditures, fiscal deficit either remains at the same level or also increased as confirmed by the findings of this paper. To compensate this deficit government increases its debt financing from domestic and foreign sources which leads towards inflation and high interest rates. Thence, to reduce the fiscal deficit, an increase in tax collection has never been proven as an smart idea for Pakistan.

Hondroyiannis and Papapetrou (1996) also confirmed that an attempt for reducing fiscal deficit by an increase in tax collection without reducing the government expenditure leads to failure.

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