IMPACT OF DIRECT, INDIRECT, IMPORT AND EXPORT TAX ON GDP

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ABSTRACT-: *The core purpose of this study is to investigate the relationship of Direct, indirect, import and export tax with GDP. For this aim, the long-term association of Direct, indirect, import and export tax with GDP of Pakistan has examined with considering the stationarity of data. The study consists of five variable containing four independent and one dependent variable. The long-term association of the Direct, indirect, import and export tax with GDP is investigated by the error correction model (ECM) is used to check the reconciliation in the short-term behavior of an economic variable with its long-term behavior that was developed by the Engel and Granger. Moreover, the diagnostic tests are used to check the stability of the variables and perfection of the model. The research methods that are employed give an appropriate framework for determining the relationship between the economic variables. This paper explains how to create a co-integration relationship between the economic variables. The findings of the study shows that indirect and export tax have significant impact as well as long-term relationship on GDP. Increase in indirect and export tax collection leads to an increase in the GDP. On the basis of empirical facts, it adds the new information of empirical results in the literature in terms of identify a relationship of Direct, indirect, import and export tax with GDP in the Pakistan.*

Keywords: Direct tax, indirect tax, import tax, export tax, GDP

INTRODUCTION

Change in the tax rates has a very large effect on the output of the country. If there is increase in exogenous tax at one percent of the GDP, there is increase in three percent of real GDP. Moreover, the effect on the output due the tax changes is more closed actual change in the taxes that is relate to the future changes and creates the fall in the investment due to the increase in the exogenous taxes [1]. By the estimate of the consumer the tax is recollected in large amount income about 8% of the GDP from different producers and the consumers. Tax changes that brought by the protective trade policy described its status in the debatable issues of the national politics during in this time [2]. A country that is higher GDP in per capita, lower share of the foreign direct investment, a healthy investment in the industrial sector, and having more protection of the civil rights, is a country with the higher possibility of large tax revenues. In the middle income countries, the tax revenue is less dependent on the lagged values than in the countries of higher income [3].

There is more complexity in the effects of changing the indirect tax that has generally believed only except for the taxes of value added obtained in the all stages of production and distribution. Once there is change in the relative prices due the change in the indirect taxes the international patterns of trading also change [4].

The revenues that are collected from both corporate and personal taxes shows reforms in the economic growth. The collection of direct tax to the GDP is still so much poor in the India than other developing countries [5]. The countries that are importing the goods have the tax incentive of importing from two exporting countries due to the export policies of the exporting county that is depend upon the tax regime whether they used the uniform or the discriminatory tax rules. When a country used the discriminatory tax regime then it is show that the maximum subsidy on the export tax for each exporting country is negative [6].

Direct tax has sizeable impact on the inflation at estimated rate. Taxes reforms are obtained by the practice consideration direct tax reform are used to reduce the distortion and stimulate the market mechanism. Some economists are suggesting that there is need to increase the base of direct taxes as well as the potion of direct taxes in the total tax revenues. The losses in the revenues are due the reduction of these direct taxes can be recover by attrition of staff, transfer of employees, flexibility in the economy because of better investment and efficient market system [7]. The proper management of the indirect taxes which include the excise duties and value added tax can create considerable fiscal neutrality. By the responses and the attitude of the members of the states shows that the closer harmonization in the taxes is not considered [8].

The change in the tax rates are significantly effect on the differential rates of inflation by using consumption prices alone. The extent to which the wealthier household made their investment and the consumption patterns to reduce their taxes are reflected in the lower base year tax for that households. The inflation of the tax has greater impact on the household consumption at large extent because of the higher weight of taxes in their consumption [9].

Taxes on the exports are so much harmful for poor people both in the rural and the urban areas. It reduces both the price of the consumers and the producers in which the benefits of the poor households. When the producer prices are changes the prices of consumers are offset. The commodities that are made by the unskilled labors and are so much by labor intensive if we suppress their prices by taxing are create so much harm for the poor people and these commodities are the main food for the poor people. [10].

Certain principals based upon the ethics determine the structure of the tax schedule. The schedule is applicable for both direct and indirect tax and lead to the following results. If the government has no intention on the equal distribution of the tax and concern only on the efficiency of the tax collection this can be apply only to direct taxation and would be in the form of poll taxes. The indirect tax is equally applicable on the in the form of consumer preferences in their purchases as well as restrictions on the taxes that employed on the income tax [11].

The tax on the exports is so much important in the trade policies specifically in the developing countries having the strong advantage in the production of the basic commodities [12]. Economic space of the country as well as endogenous plant location and exogenous plant location is also effect on the export tax policy of the country [13].

The rate of the profit of the firm is depending upon the both investment in the capital stock which is evaluated by the gross and net payment of the tax. Taxes paid in relation to the ratio of the wages and profit on the net national product, this thing only showed when the taxation rate on the consumption of goods is equal to investment expenditure [14].

The differential taxes that are applied to the commodities play an important role in the optimum tax policy the general income tax is not suit in this case [15]. The pre-committed such as the house purchases face the low tax rates than other commodities. The people that have highly income only face the taxes on the house purchases not on the marginal income [16]. Low income people are

continuously facing the positive tax rates on their marginal income. Finally, the subsidy rate that is given on the purchasing of houses can be so much high and can create the tax differentiation is very high in the welfare [17].

METHODOLOGY

The conventional methods that used in the econometrics suppose that the variance in the error term of the model should be homoscedastic. But some time series are unit root. It means there is volatility in the time series due to increase in the slandered error. A variable that is the unit root can create spurious result in the analysis of data but if it has long term relationship the method provides the sufficient results. It requires the test for co-integration based on Engle-Granger's (1987) method or can be addressed by the Johansen-Juselius (1990) test. But this method required that all the variables should be I (1) and I (2). In addition, the error correction model (ECM) is used for the co-integration. The ECM model shows the short term and long term results at a time so as a result loss of information is being eliminated in the analysis of data. The test of co-integration must be conducted in the start of the analysis. If there is rejection in the null hypothesis of no co-integration, then Engel and Granger (1987) method is used to overcome this problem. According to this method all the time series should be unit root at level but it should be stationary at first difference. But this thing is applicable when there is only one co-integration vector then in this case the Johansen's (1988) approach is used. The co-integration test developed by the Johnson enables to check a number of co-integrated vectors with respect to number of variables by using the VAR model in which all variables are endogenous. One thing is common in the Johansen (1988), Engel and Granger (1987) and Johansen and Juselius (1990) that all the series should be none-stationary at level and if one or more them are the stationary the co-integration is unable to check.

DATA AND EMPIRICAL RESULTS

The time series data have been collected by federal board of revenue from year 2005 to 2014 quarterly. The data extracted from annual financial statements and reports of federal board of revenue. Total five variables have been used in this study, one dependent variable and four dependent variables. The set of variables data were collected and then analyzed and investigate the relationship of Direct, indirect, export and import tax with GDP in Pakistan through empirically data testing. The findings elaborate the significance of the study and the potential of taxes in the GDP of Pakistan.

Unit Root test

It is very necessary to use the unit root test to confirm the stationarity of the financial time series for every variable before estimating the model. This thing estimates that both the regressors and regressand of the model are unbiased and consistent over the time periods. So check the stationarity by unit root developed by the Augmented Dickey-Fuller (ADF) test. At first glance it has been noted that export tax is stationary at level as their p values are less than .05 so we reject the null hypothesis of none-stationarity at level export tax. But the data of GDP, direct tax, indirect tax and import tax is none stationary at level so we cannot reject the null hypothesis of none-stationarity for direct tax, indirect tax and import tax. GDP, direct tax, indirect tax and import tax become stationary at first difference but the indirect tax become stationary at second difference. See Table 1:

Table 1

Variables	I(0) (Prob.)	I(1) (Prob.)	
GDP	0.1361	0	
Direct tax	0.8318	0	**Table I**
Indirect tax	0.2345	0	**Unit root**
Import tax	0.1295	0	**Results**
Export tax	0.0002	-----------	

Error correction Model

The above error correction model is estimated with using the lag restriction. The model shows the error correction of 16.62 with lag 1. The negative sign of the coefficient of error term is showing that the disequilibrium is gradually disappearing between the long run and short run values of the dependent variable. This thing indicates that the short run values of the GDP is being converge into the equilibrium of long run at the speed or percent rate of 16.62 per year. By incorporating the adjustment of the error term for the short term equation to create the required equilibrium, the indirect and export tax are act as long term catalyst for the growth to GDP at 16.62 percent rate of adjustment to its long term equilibrium. But the direct tax and import tax are insignificant so they are not directly moving the GDP. It can be significant in the short term model. See Table 2:

Table 2

Dependent Variable	ΔGDP			
Independent Variables	**Coefficients**	**T-value**	**P-value**	
α	0.000649	-0.0025	-0.9979	
ΔDirect tax	5.8821	2.8195	0.308	
ΔIndirect tax	1.05	0.8149	0.0579	**Table II**
ΔImport tax	2.4353	1.0354	0.658	**ECM**
ΔExport tax	1.4521	2.956271	0.0459	
$E_{(t-1)}$	-0.166209	2.604577	-0.0181	
Adj. R-squared	0.240843	**Prob .(F-stat)**	0.042723	

Post estimation Diagnostic Tests

In the above diagnostic test Chi-square value explain the autocorrelation, specification error and the hertosecdasticity in the variables of the model. As the p-value of the Chi-square is not less than .05 so the null hypothesis of no autocorrelation, no error specification and the hetrosecdasticity is failed to reject. So in the above model the error term of current year is not regress on its previous year. More over the model is perfect as there is no specification error showed by the Ramsey test. And the model is homoscedastic showing that the unequal variances are not existing in the model. The variances of the observations of the variables with respect to error term remain same. **Table 3:**

Autocorrelation	**Heteroscdasticiy**	**Specification Error**	
χ^2BG	χ^2WHITE	Ramsey	**Table 3**
0.414	0.159	0.235	**Post**
(.304)	(0.107)	(0.236)	**Estim.**

DISCUSSION AND CONCLUSION

To conclude this research, the results can be taken from the preceding evidence over the period of 2005–2014 in Pakistan. The study explained the significance of taxes in GDP of Pakistan and it showed that the tax has significant impact on the GDP of Pakistan on the basis of results. Therefore, the empirical findings of the study are clearly match with the old study of [14] which shows that if the tax is inceases then GDP increases. This significance is explained by the co-integration test developed by the Engel and Granger. Furthermore, the two variables indirect tax and export tax has significant impact on GDP. This thing is relating with the study of the [11] which explains that the tax on the exports is so much important in the trade policies specifically in the developing countries having the strong advantage in the production of the basic commodities. Moreover, the indirect tax is applicable in the form of consumer preferences in their purchases as well as restrictions on the taxes that employed on the income tax. The income tax varies

with respect to personal income and personal income has direct relationship with GDP. [4] hypothesized revenues that are collected from both corporate and personal taxes shows reforms in the economic growth. This has practical implication as the taxes rate is increasing in Pakistan so the GDP is also increases in the Pakistan. But on the other hand the direct tax and the import tax have no significant impact on the GDP.

REFERENCES

[1] Irwin, A. D. “Tariff Incidence in America's Gilded Age”. *The Journal of Economic History,* **67**(3): 582-607 (2007).

[2] Castro, G. Á., & Ramírez, D. B. “Determinants of tax revenue in OECD countries over the period 2001-2011”. *Contaduría y Administración,* **59**(03): 35-59 (2014).

[3] Friedlaender, F. A., “Indirect Taxes and Relative Prices”. *The Quarterly Journal of Economics.* **81**(1): 125-139 (1967).

[4] Bagchi, A. “Strengthening Direct Taxes: Some Suggestions”. *Economic and Political Weekly,* **30**(7): 380-384 (1995).

[5] Liao, P.-C., & Wong, K.-y. “Uniform versus Discriminatory Tariffs: When Will Export Taxes Be Used?”. *Southern Economic Journal.,* **72** (4): 915-925 (2006).

[6] Pillarisetti, J. R., “Direct tax reform in privatizing economies: A comparative study of India and Latin American countries”. *International Journal of Social Economics.,* **22**(08): 22 - 33 (1995).

[7] Tyc, V. "Harmonization of indirect taxes in the European Union". *International Journal of Law and Managemen.,* ***50***(02): 87-92 (2008).

[8] Gillingham, R., & Greenlees, J. "The Impact of Direct Taxes on the Cost of Living". *Journal of Political Economy,* **95**(4): 775-796 (1987).

[9] Warr, P. "Welfare Effects of an Export Tax: Thailand's Rice Premium". *American Journal of Agricultural Economics,* ***83***(04): 903-920 (2001).

[10] Atkinson, a., & stiglitz, j. "The design of tax structure: direct versus indirect taxation". *Journal of public economics,* **06**: 55-75 (1976).

[11] Hwang, H., & Mai, C.-c. "Optimal Export Taxes with an Endogenous Location". *Southern Economic Journal,* **65**(04): 940-952 (1999).

[12] O'Connell, J. "Indirect Taxes and the Cambridge Model". *Journal of Post Keynesian Economics,* **18**(01): 141-151 (1995).

[13] Cremer, H., & Gahvari, F. "Uncertainty, Optimal Taxation and the Direct Versus Indirect Tax Controversy". *The Economic Journal,* **105**(432): 1165-1179 (1995).

[14] Fausti, S. "Joint-Product Export Smuggling and Export Tax Policy". *Open economies review,* **08**: 61-70 (1997).

[15] Romer, C. D., & Romer, H. D. "The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks". *American Economic Review,* **100**(01): 763–801 (2010).

[16] Liberati, P. "The Distributional Effects of Indirect Tax Changes in Italy". *International Tax and Public Finance,* **08**: 27-51(2001).

[17] Quazi, R. "Effects of Foreign Aid on GDP Growth and Fiscal Behavior: An Econometric Case Study of Bangladesh". *The Journal of Developing Are,* **38**(02): 95-117 (2005).

[18] Smart, M, "Reforming the Direct–Indirect Tax Mix". *International Tax and Public Finance,* **09**: 143–155 (2002).