AN EMPIRICAL INVESTIGATION OF THE RELATIONSHIP BETWEEN TRADE LIBERALIZATION AND TAX REVENUE IN PAKISTAN

ATIF ALI JAFFRI, FARHANA TABASSUM AND ROOMA ASJED*

Abstract. This study examines the empirical relationship between trade liberalization and tax revenue in Pakistan for the period 1982-2013. Estimation results based on ARDL model show that there exists positive relationship between trade liberalization and total tax revenue in Pakistan over the study period. The coefficient of lagged error term (ECM_{t-1}) in short-run model is negative and significant suggesting speed of convergence to equilibrium. The coefficient (–0.3119) implies that deviation from the long-term equilibrium is corrected by 31.19% over one year. Sound and stable trade policy along with favourable environment are needed that promotes import of raw material, capital and intermediate goods which enhances trade in the country leading to enhancement of tax collection in Pakistan.

Keywords: Trade liberalization, Tax revenue, ARDL, ECM

---

*The authors are, respectively, Associate Professor/Chairman, Department of Economics; M. Phil. (Economics) Scholar; and Lecturer in Economics at the University of Gujrat, Gujrat (Pakistan).
  Corresponding author e-mail: atif.ali@uog.edu.pk

I. INTRODUCTION

Trade liberalization has become an important development policy initiative in many developing countries since the 1980s. Under Structural Adjustment Programs (SAPs) suggested by the World Bank and the IMF countries have been shifting from destructive protective policies to free trade. Trade liberalization is defined as "the total or part elimination of trade barriers such as quotas, import duties, tariffs and non-tariff barriers imposed by governments on imported and exported goods" (Marchant and Snell, 1997).

During 1980s Pakistan's economy moved towards trade liberalization, deregulation and privatization. In 1995, Pakistan became member of the World Trade Organization (WTO) as a result of the Uruguay Round (UR) of trade negotiations to extract gains from implementation of multilateral trade liberalization. Trade liberalization leads to growth, competition, efficiency, productivity and, hence, development in developing and developed countries (Newman, Rand and Tarp, 2013; Manni and Afzal, 2012; Topalova and Khandelwal, 2011; Geng, 2008; Utkulu and Ozdemir, 2004; Dornbusch, 1992).

Recently, the subject of trade liberalization and tax revenue has become an important issue both theoretically and empirically. Theoretically, trade liberalization is expected to increase total tax revenue by increasing the share of trade tax revenue through imposing custom and excise duties on both imports and exports (Keen and Ligthart, 2002). In contrast, others argue that under trade liberalization reforms the reduction of trade restriction leads to reduction in trade tax receipts to federal government and thus less proportionate increase in total tax collection (Pritchett and Sethi, 1994).

The impact of trade liberalization is an empirical question because when trade liberalization reduces import duties and other trade restrictions then there will be revenue loss but if volume of trade increases then tax revenue can increase (Tanzi, 1989; Glenday, 2002; Greenaway, Morgan and Wright, 2002; Suliman, 2005).

In case of Pakistan, there are a number of factors that influence tax revenue such as exchange rate, openness, per capita income, urbanization, population, inflation, external debt, foreign aid, effective rate of trade taxation, political stability and broad money (Mahmood and Chaudhary, 2013; Chaudhry and Munir, 2010). Studies regarding determinants of tax revenue in Pakistan show that there is lack of such studies which look at the impact of external factors consistent with trade liberalization period.

According to *Pakistan Economic Survey* (2013-14), tax to GDP ratio in Pakistan is below 10% even worse than its neighboring countries. The main issues related to tax revenue are the structural problems and low tax base. The historical trend of tax revenue from 1990 to 2012 has been shown in Figure 1.

FIGURE 1

Tax Revenue (% of GDP)

Figure 1: Tax Revenue (% of GDP)
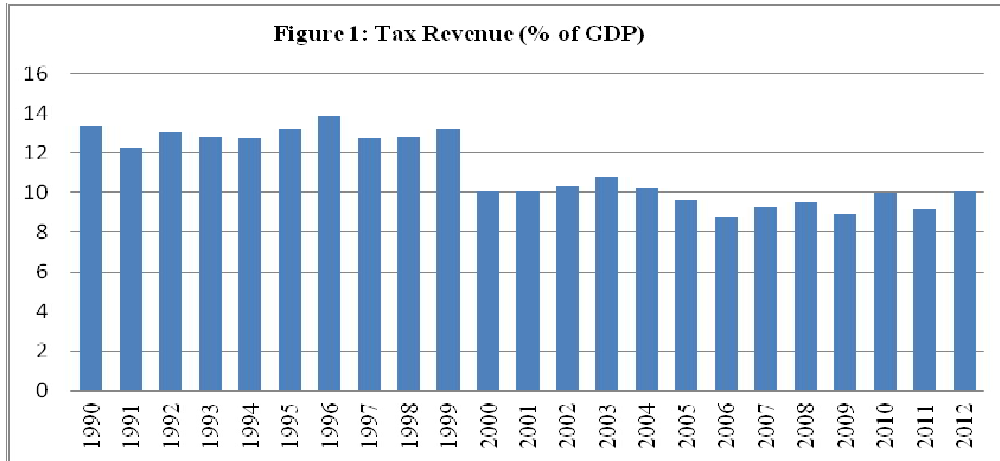
Data Source: *World Development Indicators* (WDI), World Bank.

II. LITERATURE REVIEW

Basirat *et al.* (2014) examined the empirical relationship of economic determinants and aggregate tax revenue in Iran by using annual time series data. Findings show that exchange rate, imports, value added by agriculture and industry sector have significant effect on tax collection during 1974-2011 (Basirat *et al.*, 2014).

Velaj and Prendi (2014) provide the evidence on factors that determine taxes in Albania during 1993-2013. Findings show that inflation, GDP and imports increase tax revenue. Coefficient of GDP indicates that with 1% increase in GDP the taxes grow by 0.62% while unemployment has negative effect on tax revenue. Karagöz (2013) discussed the determinants of tax revenue in Turkey using the time series data for the period 1970-2010. Results show that variables that significantly affect tax revenue include agricultural and industrial sector share, monetization, foreign debt and urbanization. Agriculture share has negative effect while trade openness found to be as insignificant variable among all variables.

Cagé and Gadenne (2012) analyzed the fiscal cost of trade liberalization using a panel data set of 103 developing countries for the period 1945-2006. Trade liberalization leads to lower tax revenue. Revenue can be increased from trade openness by investing in tax capacity because countries which are trapped in high tax capacity have experienced positive effect of trade openness on tax revenue.

Ghani (2011) focused on both conventional and non-conventional determinants of tax to GDP ratio by using the panel data set of 104 countries. Conventional factors such as foreign aid, agriculture value added, GDP per capita, urbanization and trade openness are found as important determinants of tax ratio. Moreover, governance factors, *i.e.* rule of law and control of corruption are found as important significant determinants of tax ratio during 1996-2005. The study has also constructed tax effort index of Pakistan which has indicated that there is downward trend in tax to GDP ratio.

Mahmood and Chaudhary (2013) analyzed the effect of FDI on tax revenue in Pakistan by using time series data over the period of 1972 to 2010. Findings show that FDI and GDP per person have positive effect on tax revenue. Error correction coefficient –0.017 indicate 17% adjustment speed in dependent variables toward long-run equilibrium.

Mushtaq *et al.* (2012) have empirically investigated determinants of trade and aggregate tax revenue in Pakistan for the period 1975 to 2010. To estimate the determinant of total taxes different influencing factors were included in econometric model. Ratio of total trade to trade taxes was used as a proxy variable for trade openness. Empirical findings based on Ordinary Least Square (OLS) method show that GDP, population growth, trade openness and urbanization significantly affect total taxes. Exchange rate, GDP, population and urbanization are significant determinants of trade taxes.

Chaudhry and Munir (2010) investigated the factors responsible for low tax revenue in Pakistan by using time series data over the period of 1973-2009. Results show that social, external and economic policies affect tax to GDP ratio. External debt, exchange rate, trade openness, foreign aid, broad money and political stability are most important determinant of tax effort in Pakistan. Remittances, inflation, agriculture, industry and services share have insignificant effect on tax revenue.

III. METHODOLOGY AND RESULTS

In the light of empirical literature this study has examined the impact of trade liberalization on total tax revenue along with some control factors. All the

variables are transformed in log form. Following Immurana *et al.* (2013) and Karagöz (2013) log-log model has been estimates to test the hypothesis that trade liberalization affects total tax revenue collection in Pakistan or not.

$$LTTR = \alpha + \beta_1 (LOPEN) + \beta_2 (LAGR) + \beta_3 (LPCI) + \beta_4 (LGC) + \mu \qquad (1)$$

Where,

LTTR   is natural logarithm of total tax revenue,

LOPEN is natural logarithm of trade openness measured as share of trade in GDP,

LAGR   is natural logarithm of share of agriculture in GDP,

LPCI   is natural logarithm of per capita income, and

LGC   is natural logarithm of government consumption.

For the empirical relationship between trade liberalization and tax revenue this study has used annual time series data for the period 1982-2013. Data was collected form Federal Board of Revenue (FBR) annual reports, World Development Indicators (WDI) and from Economic Survey of Pakistan.

In Tables 1 and 2 stationarity tests based on Augmented Dickey Fuller (ADF) and Phillips Perron are applied on all variables to check order of integration.

TABLE 1

Stationary Test Based on ADF

Variable	At Level		At First Difference	
	Intercept	Trend and Intercept	Intercept	Trend and Intercept
	Test Statistics		Test Statistics	
LTTR	0.37 (0) (0.9785)	–1.84 (0) (0.6606)	–4.61 (0)*** (0.0009)	–4.56 (0)*** (0.0053)
LOPEN	–2.68 (0)* (0.0879)	–3.16 (0) (0.1107)	–7.90 (0)*** (0.0000)	–7.80 (0)*** (0.0000)
LAGR	–2.76 (0)** (0.0547)	–2.13 (0) (0.5069)	–5.45 (0)*** (0.0001)	–5.79 (0)*** (0.0003)
LPCI	1.40 (0) (0.9986)	–1.79 (0) (0.6815)	–5.13 (0)*** (0.0002)	–5.45 (0)*** (0.0006)
LGC	0.23 (0) (0.9706)	–1.05 (0) (0.9211)	–4.81 (0)*** (0.0005)	–4.79 (0)*** (0.0030)

TABLE 2

Stationary Test Based on Phillips Perron (PP)

LTTR	0.37 (0.9785)	–2.06 (0.5462)	–4.57*** (0.0010)	–4.51*** (0.0060)
LOPEN	–2.77* (0.0730)	–3.15 (0.1111)	–7.93*** (0.0000)	–7.83*** (0.0000)
LAGR	–2.74* (0.0775)	–2.25 (0.4439)	–5.45*** (0.0001)	–5.78*** (0.0003)
LPCI	1.40 (0.9989)	–1.81 (0.6729)	–5.13*** (0.0002)	–5.49*** (0.0005)
LGC	0.12 (0.9623)	–1.35 (0.8546)	–4.82*** (0.0005)	–4.81*** (0.0029)

NOTE: Asterisks ***, **, * show that probability is less than 0.01, 0.05 and 0.10 respectively.

Both tests are applied at level and first difference. Both tests indicate that order of integration is mix of I(0) and I(1). In this situation traditional techniques such as Engel Granger and Johansen Cointegration are not applicable which require the same order of integration. Pesaran *et al.* (2001) developed an approach for testing the existence of level relationship between dependent and independent variables when variables have mix order of integration, *i.e.* I(1) and I(0) data. However, there are some prerequisites of this methodology such as dependent variable must be I(1) and none of variable is I(2). Thus, suitable technique is Bound Testing Procedure or Autoregressive Distributed Lag (ARDL) approach to cointegration because the key assumptions of ARDL model are fulfilled here.

TABLE 3

VAR Lag Order Selection Criteria for Model

Lag	AIC	HQ
0	–5.652576	–5.578745
1	–14.10556	–13.66258
2	–15.05786	–14.24572
3	–16.45635*	–15.27505*

*Indicates lag order selected by Akaik information criterion (AIC) and Hannan-Quinn (HQ) criterion

In the first step, Vector Autoregressive (VAR) is applied to determine the appropriate lag structure of the model. Maximum lags are determined by various information criteria such as Akaik Information Criterion (AIC) Schwarz Criterion (SC) and Hannan Quinn (HQ) in Table 3. Here the value of both AIC and HQ at 3 lags is smaller than other lags so three lags are selected based on both criteria.

$$\Delta LTTR = \gamma_0 + \gamma_{1i} \sum_{i=1}^{3} \Delta LTTR_{t-i} + \gamma_{2i} \sum_{i=0}^{3} \Delta LOPEN_{t-i} + \gamma_{3i} \sum_{i=0}^{3} \Delta LPCI_{t-i} +$$

$$\gamma_{4i} \sum_{i=0}^{3} \Delta LAGR_{t-i} + \gamma_{5i} \sum_{i=0}^{3} \Delta LGC_{t-i} + \gamma_6 LTTR_{t-1} + \gamma_7 LOPEN_{t-1}$$

$$+ \gamma_8 LPCI_{t-1} + \gamma_9 LAGR_{t-1} + \gamma_{10} LGC_{t-1} + \varepsilon_t \qquad (2)$$

Null Hypothesis:

H$_0$ = $\gamma_6 = \gamma_7 = \gamma_8 = \gamma_9 = \gamma_{10} = 0$ (No cointegration)

H$_1$ = $\gamma_7 \neq \gamma_8 \neq \gamma_9 \neq \gamma_9 \neq \gamma_{10} = 0$ (Existence of long-run relationship)

TABLE 4

ARDL Bounds Testing Analysis

Model Estimated (LTTR)		
F-Statistic	6.7129***	
Selected Lag Length	03	
(Criteria)	(AIC)	
	Critical values from Pesaran *et al.* (2001) Table CV (v)	
Critical Bound values	Lower	Upper
1%	5.17	6.36
5%	4.01	5.07
10%	3.47	4.45

NOTE: Asterisk *** denotes the significance at 1% level.

After the determination of appropriate lag structure through VAR model the Wald coefficient test (F-test) is applied. If the calculated F-statistic falls above the upper value bound provided by Pesaran *et al.* (2001) the null

hypothesis of no cointegration is rejected. If F-calculated is less than the lower value bound then null hypothesis of no long-run relationship is accepted but if F-calculated falls between the upper and lower critical value bounds then results are inconclusive. The calculated F-statistic for model (*LTTR*) is 6.7129 which is greater than upper critical value bound at 1 percent level of significance thus showing the existence of strong cointegration between *LTTR* and all other independent variables.

The results of the long-run coefficients of model are given in Table 5.

TABLE 5

Long-Run Analysis

Variable	Dependent Variable: *LTTR*		
	Coefficient	t-statistic	Prob
Constant	–1.16	–1.05	0.3038
LOPEN	0.43**	2.08	0.049
LAGR	–0.4379**	–2.03	0.0536
LPCI	0.1794	1.15	0.2607
LGC	0.0789	0.7101	0.4845
LTTR(–2)	0.9053***	25.92	0.0000
R^2	0.9978		
ADJ R^2	0.9973		
F-statistic	2179.04		
Prob. (F-statistic)	0.0000		
S.E. of Regression	0.0573		
J-B Test (prob.)	2.2455 (0.3254)		
ARCH Test (prob.)	0.3046 (0.5810)		

NOTE: Asterisks ** denotes the significance at 5% level.

Results of estimated long-run model show that openness has significant and positive effect on tax revenue. A 1% increase in trade liberalization (proxied by trade openness as a % of GDP) leads to 0.43 percent increase in tax revenue. Thus, it answers the question of this study that trade

liberalization exerts significant and positive effect on total tax revenue in Pakistan. Possible explanation of the positive relationship between trade liberalization and tax revenue in Pakistan is that trade takes place at specified entry and exit point with less chance of tax evasion. Another explanation is that the impact of trade openness on tax revenue depends on elasticity of imports. If imports are inelastic the demand will not affect to increase in price due to high import duty rates or due to other import restrictions and tax collection will rise. This finding is consistent with earlier findings of other studies (Dawoodi and Grigorian, 2007; Gupta, 2007; Dioda, 2012; Nwosa *et al.*, 2012).

Agriculture sector share in total GDP has negative effect on total tax revenue in Pakistan during the period of study. Its coefficient is significant at 10% level with the value of –0.43 which show that 1% increase in agriculture share leads to 0.43 percent reduction in total tax revenue. Implication of this evidence is that in Pakistan taxes are not levied on agriculture sector production. It is difficult to levy tax due to its informal and subsistence nature of economy. Agriculture sector share in GDP is 20% and in employment is 45% but its contribution in tax revenue is not more than 2.5% this exemption from tax is adversely affecting the economy[1]. Previous studies have also pointed out that agriculture share negatively affect tax revenue (Immurana *et al.*, 2013; Karagöz, 2013: Basirat *et al.*, 2014).

Per capita income has insignificant effect on tax revenue in long-run in Pakistan. These findings are not consistent with earlier evidence. In practice Pakistan's income taxation policy is regressive where the income and average tax rate have inverse relationship as income increases the tax rate on taxable amount decrease.[2]

Short-Run Analysis

ECM results of the following estimated model are given below:

$$\Delta LTTR = \gamma_0 + \gamma_{1i} \sum_{i=1}^{3} \Delta LTTR_{t-i} + \gamma_{2i} \sum_{i=0}^{3} \Delta LOPEN_{t-i} + \gamma_{3i} \sum_{i=0}^{3} \Delta LPCI_{t-i}$$

$$+ \gamma_{4i} \sum_{i=0}^{3} \Delta LAGR_{t-i} + \gamma_{5i} \sum_{i=0}^{3} \Delta LGC_{t-i} + \gamma_6 ECM_{t-1} + \varepsilon_t \qquad (3)$$

---

[1]A Report on Tax Reforms in Pakistan, March 2015.

[2]Budget 2014-15: Another Ritualistic Exercise!

TABLE 6

Short-Run Analysis

Variable	Dependent Variable: $\Delta LTTR$		
	Coefficient	t-statistic	Prob
Constant	0.1116	10.352	0.0000
$\Delta LOPEN$	0.3560***	3.0171	0.0068
$\Delta LAGR$	0.2863	1.2996	0.2085
$\Delta LAGR(-1)$	0.5752	2.8548	0.0098
$\Delta LPCI$	0.2036	1.3722	0.1852
$\Delta LPCI(-1)$	0.3324	2.2172	0.0384
ΔLGC	0.0169	0.1984	0.8447
$\Delta LGC(-1)$	–0.0793	–0.9222	0.3674
$ECM(-1)$	–0.3119*	–1.7984	0.0872
R^2	0.6986		
ADJ R^2	0.5787		
F-statistic	5.7951		
Prob. (F-statistic)	0.00067		
S.E. of Regression	0.0391		

***, * denote the significance at 1% and 10% level of significance.

The stationary test of ADF is tested against the null hypothesis for ECM. The ADF of ECM is –4.93 with probability of 0.0005 which reject the null of unit root and confirm that ECM is stationary at 1% significance level. The coefficient of –0.3119 indicates a high rate of convergence to equilibrium, which implies that deviation from the long-term equilibrium is corrected by 31.19% over one year.

The coefficient of openness variable is positive and significant at 1% significance level. The sign of coefficient is same in both long-run and short-run. In the short-run 1% increase in trade liberalization measured by trade as a percent of GDP (OPEN) leads to 0.35 percent increase in total tax revenue.

To check the validity, accuracy and dynamics of model certain diagnostic tests are applied. There are three major types of diagnostic tests: coefficient tests, residual tests and stability tests.

J-B test statistic (0.358) has probability (0.835) greater than 0.05, so residuals are normally distributed. Serial correlation LM test is applied to check autocorrelation, probability of LM test is (0.2137) which is greater than 0.05 indicating no serial correlation. The Autoregressive conditional heteroskedasticity test is used to check the presence of heteroskedasticty. The probability of ARCH test is (0.6120) greater than 0.05, accepting the null hypothesis of non-existence of heteroskedasticity. The Ramsey RESET test is used to check the specification of the model that whether it is correctly specified. The results of Ramsey RESET F-stat (0.1129) and prob (0.7405) show that model is correctly specified.

IV. CONCLUSION AND POLICY IMPLICATIONS

Empirical results of the study show that there is positive relationship between trade liberalization and tax revenue over the study period. This is because of the fact that trade takes place at specific entry and exit points with low chance of tax evasion. In Pakistan duty rates on import are higher than other developing countries which have contributed in raising tax revenue. The study also found negative relation between agriculture sector share and tax revenue in Pakistan. This result is consistent with the fact that share of agriculture in GDP is almost 20% but its contribution in taxes is not more than 2.5% which reflects tax evasions and tax exemptions on agricultural output in Pakistan.

Policy implications based on empirical evidence of the study is that government should take steps to reduce the trade restrictions in order to enhance trade so that maximum gains in tax revenue can be achieved.

REFERENCES

Agbeyegbe, T. D., J. Stotsky and A. WoldeMariam (2006), Trade liberalization, exchange rate changes, and tax revenue in Sub-Saharan Africa. *Journal of Asian Economics*, Volume 17(2), pp. 261-284.
http://dx.doi.org/10.1016/j.asieco.2005.09.003

Basirat, M., F. Aboodi and A. Ahangari (2014), Analyzing the effect of economic variables on total tax revenues in Iran. *Asian Economic and Financial Review*, Volume 4(6), pp. 755-767.

Cagé, J. and L. Gadenne (2012), The fiscal cost of trade liberalization. Paris School of Economics *Working Paper* # 2012-27.

Chaudhry, I. S. and F. Munir (2010), Determinants of low tax revenue in Pakistan. *Pakistan Journal of Social Sciences* (PJSS), Volume 30(2), pp. 439-452.

Dickey, D. A. and W. A. Fuller (1979), Distribution of estimators for autoregressive time series with unit root. *Journal of the American Statistical Association*, Volume 74(366a), pp. 427-431.
http://dx.doi.org/10.1080/01621459.1979.10482531

Dioda, L. (2012), *Structural Determinants of Tax Revenue in Latin America and the Caribbean*, 1990-2009. United Nations, ECLAC Sub Regional Headquarters in Mexico.

Dornbusch, R. (1992), The case for trade liberalization in developing countries. *Journal of Economic Perspectives*, Volume 6(1), pp. 69-85.
http://dx.doi.org/10.1257/jep.6.1.69

Geng, N. (2008), *Trade Liberalization, Market Efficiency and Productivity Growth: A Smooth Transition Approach on Indian Firms*. Department of Economics, UCSC.

Ghani, Z. (2011), A Cross Country Analysis of Tax Performance with Special Focus on Pakistan's Tax Effort. Master's Degree Project, Swedish Business School at Orebro University.

Glenday, G. (2002), Trade liberalization and customs revenues: Does trade liberalization lead to lower customs revenues? The case of Kenya. *Journal of African Finance and Economic Development*, Volume 5(2), pp. 89-125.

Greenaway, D., W. Morgan and P. Wright (2002), Trade liberalization and growth in developing countries. *Journal of Development Economics*, Volume 67(1), pp. 229-244.
http://dx.doi.org/10.1016/S0304-3878(01)00185-7

Gupta, A. S. (2007), Determinants of tax revenue efforts in developing countries. *IMF Working Paper* # WP/07/184.

Immurana, M, I. and A. M. Rahman (2013), The impact of trade liberalization on tax revenue in Ghana: A cointegration analysis. *Africa Development and Resources Research Institute Journal*, Volume 3(3), pp. 1-19.

Karagöz, K. (2013), Determinants of tax revenue: Does sectoral composition matter? *Journal of Finance, Accounting and Management*, Volume 4(2), pp. 50-63.

Keen, M. and J. E. Ligthart (2002), Coordinating tariff reduction and domestic tax reform. *Journal of International Economics*, Volume 56(2), pp. 489-507. http://dx.doi.org/10.1016/S0022-1996(01)00123-4

Mahmood, H. and A. R. Chaudhary (2013), Impact of FDI on tax revenue in Pakistan. *Pakistan Journal of Commerce and Social Sciences*, Volume 7(1), pp. 59-69.

Manni, U. H. and M. N. I. Afzal (2012), Effect of trade liberalization on economic growth of developing countries: A case of Bangladesh economy. *Journal of Business, Economics and Finance*, 1(2), pp. 37-44.

Marchant, M. A. and W. M. Snell (1997), *Macroeconomic and International Policy Terms*. The University of Kentucky Cooperative Extension Service, USA.

Mushtaq, S., K. Bakhsh and S. Hassan (2012), Estimating impact of trade liberalization on tax revenue in Pakistan. *Journal of Agriculture and Social Sciences*, Volume 8(4), pp. 148-150.

Newman, C., J. Rand and F. Tarp (2013), Trade liberalization, Supply Chains and Productivity. Nordic Conference in Development Economics, Bergen, June 2013.

Nwosa, P. I., M. O. Saibu and O. O. Fakunle (2012), The effect of trade liberalization on trade tax revenue in Nigeria. *African Economic and Business Review*, Volume 10(2), pp. 28-43.

Pesaran, M. Hashem, Yongcheol Shin and Richard J. Smith (2001), Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, Volume 16(3), pp. 289-326. http://dx.doi.org/10.1002/jae.616

Phillips, P. C. B. and P. Perron (1988), Testing for a unit root in time series regression. *Biometrika*, Volume 75(2), pp. 335-346. http://www.jstor.org/stable/2336182

Pritchett, L. and G. Sethi (1994), Tariff rates, tariff revenue, and tariff reform: Some new facts. *The World Bank Economic Review*, Volume 8(1), pp. 1-16. http://dx.doi.org/10.1093/wber/8.1.1

Tanzi, V. (1989), The impact of macroeconomic policies on the level of taxation and the fiscal balance in developing countries. *International Monetary Fund Staff Papers*, Volume 36(3), pp. 633-656. http://dx.doi.org/10.2307/3867050

Topalova, P. and A. Khandelwal (2011), Trade liberalization and firm productivity: The case of India. *The Review of Economics and Statistics*, Volume 93(3), pp. 995-1009. http://dx.doi.org/10.1162/REST_a_00095

Utkulu, U. and D. Ozdemir (2004), Does trade liberalization cause a long-run economic growth in Turkey. *Economics of Planning*, Volume 37, pp. 245-266. http://dx.doi.org/10.1007/s10644-005-8080-8

Velaj, E. and L. Prendi (2014), Tax revenue – The determinant factors – The case of Albania. *European Scientific Journal*, Special Edition Volume 1 (September), pp. 525-531.