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The impact of government expenditures on human welfare: An empirical analysis for Pakistan

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ABSTRACT

Fiscal policy is used to improve human development, reduce poverty and stabilize economic growth. This study explores the relationship among human development index, defense expenditures, and non-defense expenditures for Pakistan. It uses autoregressive distributed lag model for investigating the long run and short run impacts of different types of expenditures on human development. The findings show that in the long run per capita income, health expenditures, recurrent expenditures and development expenditures have positive effects on human development, while the impact of defense expenditures is insignificant. It is interesting to note that although defense expenditures have insignificant effect however the military government regime has positive impact on human development. The study suggests investing in human capital to improve human development in Pakistan.

Key Words: Government Expenditures, Bound Testing, Human Development.

1. Introduction

Fiscal policy is important to achieve macroeconomic objectives of government. Government expenditures and taxes are key tools of fiscal policy that are used to reduce

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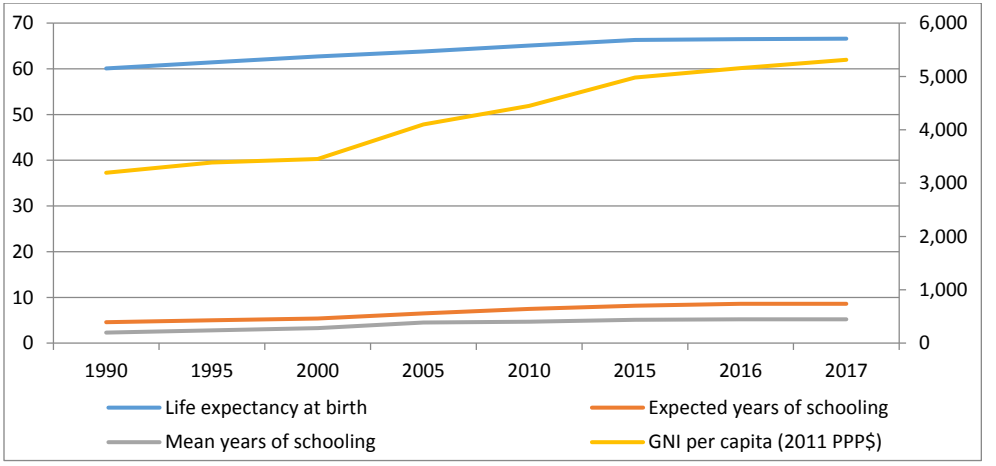
poverty, improve human development and stabilize economic growth (Padda and Akram). Human capital plays vital role in promoting economic growth. Developing countries can stimulate human capital accumulation through expenditures on education as well as on health and other social services. Measuring human development has not unique technique. Firstly, United Nations Development Program developed a composite measure of human development and welfare namely: Human Development Index (HDI) in 1990 which is consist of health, education, and income. In Human Development Report of 2018 the HDI values positioning Pakistan at 150 out of 189 countries of the world.

The main elements of Human Development Index (HDI) are Education, Health and Income. Over the previous years there are improvements in these indicators. Figure 1 show trends in education, health and income (at secondary axis) of Pakistan from 1990 to 2017 while figure 2 presents Human Development Index for the same period. From these two figures we can conclude that there is not any notable change in HDI in the period.

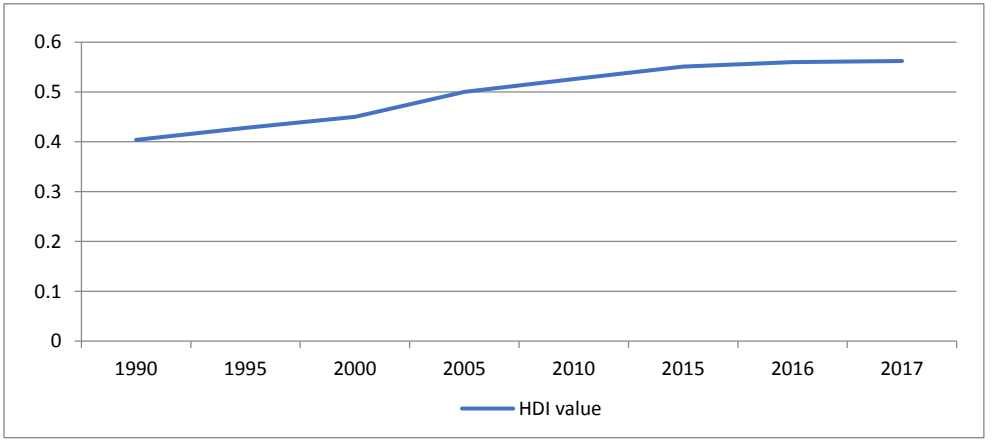
Figure 1: Main Indicators of Human Development for Pakistan



Note: Gini per capita is on secondary axis while other variables are on primary axis.

Source: Human Development Indicators: 2018 Statistical Update (Pakistan).

Figure 2: Trends in Human Development Index of Pakistan (1990-2017)



Source: See note under figure 1.

Empirical studies argue that investment in human development activities has very important and significant role for economic growth of East Asian economies because well-educated labor force is capable to produce more output and quick in adaptation of new technology than poorly educated labor (Yah and Lioyd; Mattisson; Rowen and Erixen; Becker). Government affects human development through its fiscal policy. Therefore, it is important to estimate the effects of different type of expenditures by government for human development. The role played by government expenditure and its effects on human welfare are inconclusive. Some researchers showed government expenditures have positive effect on welfare and wellbeing of the people while other found negative. Fedra and Haliciouglu (2004) and Bhuria (2012) find both defense expenditures and growth are positively related, but non-defense expenditures boost up economic growth more than defense expenditure.

Mostly, objective of government expenditures is to maximize the welfare of the common people through strengthening the relationship between economic and human development of a country (Alyandro, Gustar and Frances; Suescun). Patrick (2009) examines increasing trend in government expenditure and finds that the trend of poverty

is going up because the share of social spending is very low. Many studies have examined relationship in defense expenditures and growth in Pakistan. Some analyzed debt sustainability while others examined government expenditure and economic development, See for example, Saqib and Yasmin (1987), Nasir (1997), Zaman (2013), Shahbaz (2010), Anwar (2012), Chaudhary and Anwar (2000), Qaisar Abbas (2008), Nabila Asghar (2011), Mahmood et al. (2009) and Hassan (1999).

This present study intends to find out the relationship between different types of government expenditures and human development. This is very important issue but there is little empirical literature that investigates the association among expenditures and human development. Present study intends to explore the impact of the health expenditure, per capita income, defense expenditure, development expenditures, and recurrent expenditure on human development. It will also analyze the effect of different government regimes. After this introductory section, section 2 will review the previous studies. Section 3 consists of materials and methods used for analysis. Section 4 presents results whereas section 5 gives policy implications.

2. Literature Review

There is extensive literature available that discusses the effect of government expenditure on the development and prosperity of the common person presenting different results. Some studies found a negative relationship between government expenditure and welfare while few studies found the positive relationship. Effect of defense and non-defense expenditure on human development is basically extension of Barro (1990). Devarajan, et al. (1998) extended the basic proposition of the Barro's model. Agenor (2005) explains that the optimal government expenditure depends on the parameters of school technology and goods producing technology. Agenor and Neanidis (2006) extend previous work and explain that optimal government expenditure depends on all parameters of fiscal spending policies. But in developing economies it is very difficult to find the simple rule to guide the policy makers.

Davies (2009) explains the relationship between the government expenditure and human wellbeing. The study uses Human Development Index as proxy of human wellbeing. However, UNDP uses other major indexes for wellbeing namely: human poverty index, gender empowerment measure index etc. Iganiga (2012) analyzes the wellbeing and social welfare of the Nigerian economy by government expenditure on the common peoples. The study finds that government expenditure can be very helpful to reduce the poverty, improve the health and improve human development. Devereux et al. (2000) argues that wellbeing of the people and the government spending has inverse relationship. Armey (1995) investigates the empirical association among government spending and economic development and finds inverted U shaped relationship.

Some researchers find negative association among government expenditures and the welfare of the common peoples. Human development is basic of the economic growth but it is not sufficient conditions for all the economies. The educated and productive public is foundation of the economic growth. Heitger (2001) empirically find the negative relationship between economic growth and government expenditures. Amakom (2010) explains that government expenditures on the education and better health facilities will increase the economic growth and expenditures on primary education have more positive impact on the human development in Nigeria. Gomanee et al. (2003) explore relationship between human development and aid and find the negative relationship between poverty and aid depending on human development index. Suescun (2007) analyses Latin Amercian economies using the latest econometric techniques. The study investigates that expenditure on infrastructures, health, government consumption and transfers have positive impact HDI.

Some studies are available that found the positive relationship between defense expenditure and welfare. Kentor and Kick (2008) find that defense expenditures have direct relationship with human development. Ando (2009) investigates the impact of defense expenditures on human development growth. The study finds that defense spending and human development have positive relationship. But non-military

expenditures have more impact on the economic growth as compared to the military expenditures and long run relationship hold between them (Lai et al. 2002 and Yildrim and Sezgin 2005).

Some studies find negative association between military expenses and human development. In this regard, Hou (2009) determines negative relationship between human development and defense spending by using the data of the 36 developing economies. Many studies using the panel data with multiple equations models and nonlinear models find negative impact of defense expenditure on the economic growth directly and indirectly (Klein, 2004 and Stroup and Heckelman, 2001). Sudarlan (2015) explains that HDI depends on the per capita income, education, and health. The study finds that income does not significantly affecting the poverty and education. Ali et at. (2012) investigate the relationship between fiscal policy and wellbeing of the common people in Pakistan. The study finds that income and education have direct while current expenditures have inverse relationship with HDI. As the literature view shows that a limited literature is available of the subject of this study for Pakistan thus current study will investigate short run and long run relationship between different type of expenditures and political regimes and human development for Pakistan using recent data.

3. Materials and Methods

3.1 Sources of Data

Time series data are used in this empirical analysis from 1972 to 2012. The data of different variables such as, human development index (hdi), real health expenditure (lrhe), real per capita income (lrpi), real defense expenditure (lrdfe), real development expenditure (lrdve) and real recurrent expenditure (lrrue) are used for analysis. The data are taken from handbook of statistics on Pakistan economy, various issues of Economic Survey of Pakistan and UNDP reports. A dummy variable is also used for type of government: 1 for military government (mr) and 0 for civil government (cg).

3.2 Econometric Model

When countries manage their public expenditures well they show better performance in economic development. Human development is also depended on economic development. Therefore, the linear regression model is employed to measure the role of defense and non-defense expenditures in human development. Following Iganiga (2011) present study uses following model for analysis.

$$hdi_t = \delta_0 + \delta_1 lrhe_t + \delta_2 lrpi_t + \delta_3 lrdfe_t + \delta_4 lrdve_t + \delta_5 lrrue_t + \delta_6 mr_t + \mu_t \quad (1)$$

3.3 Unit Root Analysis

The time series data usually follow a random walk. In case of random walk series, non-stationary, ordinary least square estimates may be spurious. Therefore, first the Augmented Dickey-Fuller (ADF) test is used to check the nature of the series i.e. whether the series has unit root or not.

3.4 ARDL Technique

The ARDL model is introduced by Pesaran (1997), Pesaran, Shin and Smith (1995, 1999), and Pesaran et al (2001). We can apply ARDL technique irrespective of the series are I (1) or I (0). Another advantage of this technique is selection of model from general to specific so in this method we can avoid the worse of data mining (Laurence son and Chai, 2003). Due to these advantages of this model, we use ARDL bound testing approach to estimate cointegration, thus writing equation (1) as representation of ARDL is;

$$\Delta hdi_t = \delta_\circ + \in pr_t + \sum_{i=0}^{n} \gamma_i \, \Delta lrhe_{t-i} + \sum_{i=0}^{n} \emptyset_i \, \Delta lrpi_{t-i} + \sum_{i=0}^{n} \varphi_i \, \Delta lrdfe_{t-i} + \sum_{i=0}^{n} \theta_i \, \Delta lrrcue_{t-i} + \sum_{i=0}^{n} \beta_i \, \Delta lrdve_{t-i} + \rho_0 hdi_{t-1} + \rho_1 lrhe_{t-1} + \rho_2 lrpi_{t-1} + \rho_3 lrdfe_{t-1} + \rho_4 lrrcure_{t-1} + \rho_5 lrdve_{t-1} + \varepsilon_t \quad (2)$$

Using equation (2) we will estimate the co-integration among the variables in equation (1), hence 'n' are showing the optimal lag length selected for the model on the basis of minimum AIC and 'Δ' is the first difference operator.

Pesaran (1999), bound test methodology is applied to find the cointegration among the variables, testing the joint significance of the coefficients of lagged value of variables by F-test. In this case

Null hypothesis would be written as, H_0: $\rho_0 = \rho_1 = \rho_2 = \rho_3 = \rho_4 = \rho_5 = 0$, and

Alternative hypothesis would be H_I: $\rho_0 \neq \rho_1 \neq \rho_2 \neq \rho_3 \neq \rho_4 \neq \rho_5 \neq 0$.

The rejection of null hypothesis means cointegration exists among the variables, while the non-rejection of null hypothesis means no long run relationship of variables. If F stat (value) is in upper bound, cointegration exists, the long run relationship is present regardless series are stationary or not. If F stat (value) is in lower bound, cointegration does not exist, long run relationship is not present regardless series are stationary or not. If F test's value lies between the two bounds, the test would be inconclusive. After the conformation of cointegration, the long run relationship is estimated. The ARDL model gives long run coefficient.

After ARDL estimation following Error Correction Mechanism (ECM) model is estimated for short results:

$$\Delta hdi_t = \alpha_1 \Delta lrhe_t + \alpha_2 \Delta lrpi_t + \alpha_2 \Delta lrdfe_t + \alpha_3 \Delta dve_t + \Delta lrrcue_t + \alpha_5 deq_{t-1} + e_t \quad (3)$$

Where 'deq' is the ECM term and α_5 is the speed of adjustment. All equations are estimated by Oxmatrics software.

4. Results

First, ADF unit root test is conducted for each series individually. The ADF test results presented in Table-1 shows that all series are non-stationary at level while at first difference they are stationary. Thus, we can conclude that all variables are stationary at first difference. Therefore, we conclude that the results of ordinary least square will be spurious. Therefore, we move forward with ARDL for further analysis.

Table-1: Augmented Dickey-Fuller test's results for unit root.

Variables	Level	P-value	1^{s}Difference	P-value	Conclusion
Hdi	-2.068	0.550	4.959	0.001	I(1)
Lrhe	-3.096	0.120	-3.763	0.033	I(1)
Lrpi	-1.777	0.696	-5.930	0.000	I(1)
Lrdf	-1.413	0.894	-6.343	0.000	I(1)
Lrrcue	-0.398	0.983	-6.463	0.000	I(1)
Lrdve	-3.465	0.057	-4.986	0.001	I(1)

Next step is to estimate the optimal lag for the estimation of model for ARDL estimation. The model is estimated for minimum lag length by using Akaike Information Criteria (AIC). By doing this process, we have found that optimal lag is 3. After having this requirement, the model is estimated with difference and lag values of variables. The restrictions for exclusion are applied to check the existence of cointegration.

4.1 Cointegration Analysis:

Table-2 reports the calculated F-value and Pesaran bound critical values with unrestricted intercept and no trend. The results show that that calculated F- value is greater than the upper bound critical value, which is an indication of cointegration. After

the confirmation of the cointegration the long run relationship is estimated with unrestricted ARDL model.

Table-2: Joint significance testing for existence of cointegration

	Value	Bound Critical value Unrestricted intercept and no trend		
			I(0)	I(1)
F-stat	5.7886	1%	3.41	4.68
		5%	2.62	3.79
		10%	2.26	3.35

Table-3: Long run results (Dependent variable is HDI)

	Co efficient	**Std.Error**	**t-value**	**t-prob**
Constant	-0.753	0.112	-6.68	0.000
Lrhe	0.043	0.015	2.83	0.008
Lrpi	0.285	0.030	9.26	0.000
Lrdf	-0.050	0.036	-1.36	0.184
Lrrcue	0.043	0.011	3.68	0.000
Lrdve	0.088	0.015	5.78	0.005
Mr	0.018	0.008	2.16	0.008

Diagnostic tests summary: AR 1-2 test: F(2,28)= 4.172[0.065]; ARCH 1-1 test : F(1,28) = 6.824[0.094]; Normality test : Chi^2(2) =0.304[0.85]; Hetero test : F(11,18) = 3.065[0.057]; RESET test : F(1,29) = 0.281[0.049]

AR-1 (Auto correlation test): The p value is above the 0.05, so null hypothesis cannot be rejected, therefore no auto correlation in our model.

ARCH (Auto regressive conditional heteroscedasticity): tells variance depends on old variance, effect of fluctuations. Above in test summary the *(P>0.05*) shows that null hypotheses does not reject, it means no area effect.

Normality Test: the null hypothesis is that disturbance of error is normal. Above in the test summary the *(P>0.05*) shows that value is insignificant means hypotheses cannot be rejected.

Hetero-Test: white noise test - without cross term. The result shows that there is variance. i.e. $E(u_i^2)$ *White test for hetroskedasticity with null hypothesis of no hetroskedastcity.* It is clear from test summary the *(P>0.05*) null does not reject, so no hetero.

RESET test: tells the misspecification. Result shows that model is correctly specified because in test summary the *(P<0.05).*

The above output exhibits that there exists cointegration among the variables. The semi-log model (lin-log model) is used, so the interpretation of coefficients can be made by two ways. Either by dividing the slope coefficient by 100 for changing relative change to a percentage change or to get elasticity divides the slope coefficient by average value (mean) of response variable (Macpherson, 1999, Robert, 2009 and Hallorn, 2005). In present study the mean (average) value of hdi is 0.428. The per capita income is significant and has positive impact on human welfare. A one percent increase in per capita income leads to rise by (0.285/0.428)= 0.667 percent human welfare in the long run. Health expenditures are significant and play positive role in human development. One percent increase in health expenditures lead to raise by 0.103 percent human development. Defense expenditure has no role in promoting human welfare, because it is insignificant. One percent increase in recurrent and development expenditures raise human welfare by 0.102 and 0.207 percent, respectively. The dummy variable is used as type of government. The military government has significantly positive impact on human

welfare. From the cointegration method we conform the long run relationship and error correction model will give us short run relationship between variables.

4.2 Error Correction Mechanism Representation

The output of the error correction model shows the short run relationship between HDI and other variables. Per capita income and health expenditure play significantly positive role in HDI in the short run. While development expenditure has significantly negative effect on HDI, because currently development expenditure on the construction of roads, dams, canal, schools, hospitals and many other projects give benefits and promoting human development in the long run. The error term shows the adjustment process towards the long run equilibrium. The deq_1 term in the ECM model has expected negative sign. Thus the deviation from the long run equilibrium is corrected by 32% in current year as shown in the ECM result.

Table 4: Error correction results

	Co efficient	**Std.Error**	**t-value**	**t-prob**
Dlrhe	0.026	0.008	3.25	0.049
Dlrpi	0.133	0.061	2.18	0.037
Dlrdf	-0.011	0.025	-0.447	0.658
Dlrrcue	0.022	0.009	2.37	0.024
Dlrdve	-0.021	0.009	-2.34	0.029
Mr	0.027	0.116	0.23	0.423
deq_1	-0.324	0.128	-2.52	0.017

All the variables have unit root is indicated by Augmented Dickey-Fuller test. They are integrated of order (1). The long run association exists between the variables and exist cointegration among the variables. Current expenditure and development expenditure have positive effect on HDI. The per capita income also has significant and positive impact human development. The findings are similar to the result found by Gomanee, Grima and Morrissey, 2013 and Iganiga, 2012. Similarly, the health expenditure has significant and positive effect on human welfare. Our result is analogous to the findings of Abbas and Peck (2007) and Imran (2012). But defense expenditure is insignificant and no role in human welfare. The finding about defense expenditures supports the results of Khan (2004) and Anwar (2012).

5. Conclusion

The present study estimated relationship between different types of government expenditure and human development. The attempt has been made to empirically investigate the long run as well as short run relationship among human development index and health expenditure, per capita income, defense expenditure, development expenditure and recurrent expenditure. A dummy variable is also used as proxy of type of government i.e. military or civilian. The time series data is used in empirical analysis for Pakistan. The ARDL cointegration and error correction model are used for the analysis because all variables are integrated of order one. A long run association exists between the variables as there is cointegration among the variables. The per capita income, health expenditure, current expenditure and development expenditure have significant and positive impact on human development but defense expenditure are insignificant and no role in human welfare but in military government regime has positive impact on the HDI in long run. However, in short run per capita income, health expenditures and current expenditures have positive effect on human development, while development expenditures have negative impact on it.

On the basis of the analysis, present study concludes that the government should undertake macroeconomic policies in to raise per capita income. The expenses of the government should be properly monitored for efficient utilization of resources. The current expenditure comprises on expenditures on general administrative, law and order, community services, social services, economic services, subsidies and debt servicing, investible funds and grants, which are crucial for economic growth and human development. The government expenditures on community, economic services and law and order should be given more importance for boosting economic growth in Pakistan. The government should raise the share of development expenditure of GDP to alleviate poverty and get better human development in the country. The government institutions should improve efficiency to accelerate human welfare. Now the civilian government should emphasis on good governance and carry out proper measures to pick up economic development and human welfare.

References

Ali, Syed Ammad, Hasan Raza, and Muhammad Umair Yousuf. "The role of fiscal policy in human development: The Pakistan's perspective." *The Pakistan Development Review* (2012) 4(51): 381-394.

Abbas Q and JF Peck, (2008). Human Capital and Economic Growth: Pakistan, 1960-2003. *The Lahore Journal of Economics, 31.1*: 1-27.

Amakom, U. (2010): Distributional Impact of Public Expenditure on Education and Healthcare in Nigeria: A Gender Based Welfare Dominance Analysis, International Journal of Business and Management, Vol. 5, No. 12, December 2010, 116 ISSN 1833-3850. www.ccsenet.org/ijbm.

Anwar MA, Z Rafique, and S Azam, (2012). Defense Spending-Economic Growth Nexus: A Case Study of Pakistan. *Pakistan Economic and Social Review* 50.2: 163-182.

Ando, S. (2009). The impact of defense expenditure on economic growth: Panel data analysis based on the Feder Model, *The International Journal of Economic Policy Studies*, *4*(8), 141-154.

Asghar N, P Azim, and H Rehman, (2011). Impact of Government Spending in Social Sectors on Economic Growth: A Case Study of Pakistan. *Journal of Business &Economics* ,3.2: 214-234.

Armey, D. (1995): The Freedom Revolution, Regnery Publishing, Washington.

Barro, R. (1990) "Government Spending in a Simple Model of Endogenous," *Journal of Political Economy*, 98(5), p. S103-S125.

Iganiga, BO (2012). Cost of Governance and the Empirics of the Nigerian Welfare Question: An ARDL Option. *International Journal of Research in Management, Economics and Commerce,*2.5: 22-46.

Chaudhary MA and S Anwar, (2000). Foreign Debt, Dependency, and Economic Growth in South Asia. *The Pakistan Development Review,*39. 4: 551–570.

Devarajan, S., D. Xie and H. Zou (1998) "Should Public Capital Be Subsidized or

Provided?" *Journal of Monetary Economics*, 41(2), p. 319-31.

Davies, A. (2009): Human Development and the Optimal Size of Government, The Journal of Socio-Economics 38 (2009) 326–330.

Devereux, M. B., Head, A. C. and Lapham, B. C. (2000): Government Spending and Welfare with Returns to Specialization, Scandinavian Journal of Economics 102(4), pp.547-561, 2000.

Gomanee K, S Girma , and O Morrissey, (2003).Aid, Public Spending and Human Welfare: Evidence from Quantile Regressions. *Centre for Research in Economic Development and International Trade,* 3.13.

Heitger, B. (2001): The Scope of Government and its Impact on Economic Growth in OECD Countries, Kiel Institute of World Economics, Kiel Working Paper No. 1034 (April 2001).

Kentor, J., & Edward, K. (2008). Bringing the military back in: Military expenditure and economic growth 1990 to 2003, *Journal of World-Systems Research, 14*(2), 142-172. https://doi.org/10.5195/JWSR.2008.342

Klein, T. (2004). Military Expenditure and Economic Growth: Peru 1970-1996, *Defence and Peace Economics*, *15*(3), 275 – 288. https://doi.org/10.1080/102426903200035101.

Padda, I. U. H., & Akram, N. (2009). The Impact of Tax Policies on Economic Growth: Evidence from South-Asian Economies. *The Pakistan Development Review*, *48*(4), 961-971.

Pesaran M H, (1996). Testing for the Existence of Long Run Relationship. *Dae Working Paper* 9622.

Pesaran, M H, And Y Shin, (1999). An Autoregresive Distributed Lag Modelling Approach to Cointegration Analysis in Econometrics and Economic Theory in 20th Century. *The Ragnar Frisch Centennial Symposium, ed., Strom, S., Cambridge University Press. Cambridge.*

Pesaran M H, Y Shin and R Smith, (2001). Bound Testing Approaches to the Analysis of level Relationships. *Journal of Applied Econometri ,*16: 289–326.

Shahbaz M and S Shabbir, (2010). Military Spending and Economic Growth in Pakistan: New Evidence from Rolling Window Approach.*Ekonomskaistraživanja ,*25.1 (2010): 144-159.

Smith, P. and Wahba, J. (1995): The Role of Public Finance in Economic Development: An Empirical Investigation, No. 9508, Working Papers, The Economic Research Forum.

Stroup, M. D., & Heckelman, J. C. (2001). Size of The Military Sector and Economic Growth: A Panel Data Analysis of Africa and Latin America, *Journal of Applied Economics*, *4*(2), 329-360.

Sudarlan. (2015). Contribution of Human Development Index on per Capita Income Growth and Poverty alleviation in Indonesia, International Journal of Scientific & Technology Research, 4(08).

Zaman K, IA Shah, MM Khan and M Ahmad, (2013). Impact of Military Expenditure and Economic Growth on External Debt: New Evidence from a Panel of SAARC Countries. *Journal of Economic and Social Studies,* 3.2: 131-146.

APPENDIX

Modeling Dhdi by OLS

	Coefficient	Std.Error	t-value	t-prob	Part R^2
Dhdi_1	0.007	0.343	0.020	0.984	0.001
Dhdi_2	-0.285	0.248	-1.15	0.294	0.180
Dhdi_3	-0.257	.258	-0.997	0.357	0.142
Constant	-0.372	0.410	-0.906	0.399	0.120
DLrhe	0.022	0.022	1.01	0.350	0.146
DLrhe_1	0.019	0.045	0.431	0.682	0.030
DLrhe_2	0.057	0.029	1.98	0.094	0.396
DLrhe_3	0.018	0.033	0.542	0.607	0.046

DLrpi	0.188	0.191	0.983	0.363
0.138				
DLrpi_1	0.333	0.137	2.43	0.051
0.496				
DLrpi_2	0.146	0.136	1.08	0.323
0.161				
DLrpi_3	0.237	0.108	2.18	0.072
0.441				
DLrdfe	0.015	0.058	0.270	0.796
0.012				
DLrdfe_1	-0.087	0.052	-1.66	0.147
0.315				
DLrdfe_2	-0.147	0.049	-2.98	0.024
0.596				
DLrdfe_3	-0.170	0.035	-4.88	0.002
0.798				
DLrdve	-0.026	0.010	-2.48	0.047
0.505				
DLrdve_1	0.005	0.028	0.210	0.840
0.007				
DLrdve_2	0.021	0.021	0.994	0.358
0.141				

DLrdve_3	0.004	0.022	0.021	0.983	0.001
DLrruce	-0.011	0.017	-0.675	0.524	0.070
DLrruce_1	0.017	0.027	0.655	0.536	0.066
DLrruce_2	0.040	0.026	1.51	0.181	0.275
DLrruce_3	0.029	0.023	1.29	0.242	0.218
hdi_1	-0.591	0.283	-2.09	0.081	0.421
Lrhe_1	0.057	0.059	0.974	0.367	0.13
Lrpi_1	0.077	0.130	0.593	0.574	0.055
Lrdfe_1	0.051	0.076	0.664	0.531	0.068
Lrdve_1	-0.045	0.042	-1.07	0.325	0.167
Lrruce_1	-0.032	0.047	-0.683	0.520	0.072
mr	0.014	0.015	0.905	0.400	0.120