VALUE ADDED TAX (VAT), GROSS DOMESTIC PRODUCTION (GDP) AND BUDGET DEFICIT (BD): A CASE STUDY IN SRI LANKA

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Abstract

Almost unknown in 1960, the value-added tax (VAT) is now found in more than 130 countries, raises around 20 percent of the world's tax revenue, and has been the centerpiece of tax reform in many developing countries including Sri Lanka.Every country needs sufficient tax revenue for their successful economic activities of their country. Imposing the tax revenue is directly link with gross domestic production and budget deficit of the country. The focus of this research paper is to find out the impact of Value Added Tax (VAT) on Budget Deficit (BD) and Gross Domestic Production (GDP) of the country and also identify the association among value added tax, gross domestic production and budget deficit in Sri Lanka. To fulfil the objective this research obtained Sri Lankan Central Bank reports (secondary data) from 2005 to 2015 and carried out a SPSS analysis. Analysis results confirmed that there is significant association between value added tax and gross domestic production and also there is significant association between value added tax and budget deficit of the country. It implies that the Sri Lankan Government should give key focus on amending and implementation of VAT because the county is facing the budget deficit continuously and here the gross domestic production impact by VAT same time VAT impact on BD of the country. Also, the high level of GDP needs for every country to improve the BD of the country so the government has to handle the value added tax very carefully for the economic success of the country.

Keywords: *Value Added Tax; Budget Deficit; Gross Domestic Production*

Introduction

Taxes are one of the major revenue for a country in where taxes are collected from citizens, companies, investors and so on to generate economy. There have several impacts of taxes due to economic growth whether it is positive or negative impacts. According to (Bofah, 2003), taxes refer to the revenue that is collected by the government to provide services and finance themselves. Government revenue generally can be divided in to two major revenues such as tax revenue and non-tax revenue. Tax revenue plays an important role in the tax revenue of the country especially more than 87% revenue of the country comes from the tax revenue in Sri Lanka. Tax revenue mainly consists with Value Added Tax.

Taxes are also expected to ensure economic goals through the ability of the taxation system to influence the allocation of sources including transferring resources from the private sector to the government to finance the public investment programme, the direction of private investment into desired channels through such measures as regulation of tax rates and the granting of tax incentives. In addition, import duties could be used to protect local industries from foreign competition. This has the effect of transferring a certain amount of demand from imported goods to domestically produced goods. Sri Lankan government is often doing varies changes in value added tax policy in the budgets according to the economic needs of the country. This study covers value added tax, gross domestic production and budget deficit of the country.

Value Added Tax (VAT) is introduced by the Act No.14 of 2002 and is in force from 1st August, 2002. VAT Act replaced the Goods and Services Tax (GST) which was almost similar tax on the consumption of goods and services. It is a tax on domestic consumption of goods and services. The goods imported into Sri Lanka and goods and services supplied within the territorial limits of Sri Lanka are the subject matter of this tax. It is a multi-stage tax levied on the incremental Value at every stage in the production and distribution chain of Goods and Services. The tax is borne by the final or the ultimate consumer of Goods or services. It is an indirect tax and the Government will receive at the end, through all the intermediary suppliers in the chain of production and distribution, an amount equal to the amount paid by the final consumer. The latest effective VAT amendment in Sri Lanka is Implementation of Changes to Value Added Tax (VAT) and Nation Building Tax (NBT) as passed in Parliament on 26th October 2016.

Gross domestic product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time period. Though GDP is usually calculated on an annual basis, it can be calculated on a quarterly basis as well. GDP includes all private and public consumption, government outlays, investments and exports minus imports that occur within a defined territory. The Gross Domestic Product (GDP) in Sri Lanka was worth 82.32 billion US dollars in 2015. The GDP value of Sri Lanka represents 0.13 percent of the world economy. GDP in Sri Lanka averaged 16.25 USD Billion from 1960 until 2015, reaching an all-time high of 82.32 USD Billion in 2015 and a record low of 1.42 USD Billion in 1960. GDP in Sri Lanka is reported by the World Bank. The graph used at is included in annexure 1.

A budget deficit is an indicator of financial health in which expenditures exceed revenue. The term budget deficit is most commonly used to refer to government spending rather than business or individual spending, but can be applied to all of these entities. When referring to accrued federal government deficits, the deficits are referred to as the national debt. Sri Lanka recorded a Government Budget deficit equal to 7.40 percent of the country's Gross Domestic Product in 2015. Government Budget in Sri Lanka averaged -7.63 percent of GDP from 1990 until 2015, reaching an all-time high of -5.40 percent of GDP in 2013 and a record low of -10.20 percent of GDP in 2001. Government Budget in Sri Lanka is reported by the Central Bank of Sri Lanka. The graph used at is included in annexure 2.

Significance of the research

The study aims to evaluate and analyze the impact of VAT on GDP and BD. Every government has to increase government revenue and try to reduce unnecessary government's expenses to reduce the budget deficit here tax revenue plays a vital role in government revenue. Specially value added tax contributes very highly to tax revenue. Further the government can be able to reduce the budget deficit through increasing gross domestic production of the country. Even though value added tax directly imposing production of the goods and services and turnover so government has to consider when they imposing value added tax on productions and turnover to manage the value-added tax revenue and gross domestic production of the country because both are key important elements in economic position of the country.

Research Problem

There is a problem in Sri Lanka which is, Sri Lanka is facing the budget deficit continuously also the government is doing several actions to reduce the budget deficit through increasing tax revenue, increasing gross domestic production of the country however they are unable to reduce the budget deficit. Sri Lanka had budget deficit 499,376 million LKR as well VAT revenue 219,700 million LKR (Central Bank Report 2015) in 2015. Here proportion of the VAT revenue and budget deficit is 1:2.27, it is not good shine for any country and especially to Sri Lanka because it is one of the developing country. The government has to take necessary steps to improve gross domestic production and VAT revenue of the country to reduce the budget deficit of Sri Lanka.

Research Questions

RQ_1: Does VAT impact on GDP of the Sri Lanka?

RQ_2: Does VAT impact on BD of the Sri Lanka?

RQ_3: Is there any association among VAT, GDP and BD of the Sri Lanka?

Objectives of the Study

The main objective of the research was, to find out the impact of value added tax on gross domestic production of Sri Lanka, the following objectives were considered as sub objectives.

- To reveal the impact of value added tax on budget deficit of the country.
- To find out the relationship between value added tax, gross domestic production and budget deficit of Sri Lanka.
- To suggest the possible recommendations to government of Sri Lanka.

Literature Review

Taxation and VAT

The development of a nation highly depends on the amount of revenue generated for the provision of infrastructural facilities for the common good of all where the major source of generating revenue for a government is 'Taxation' (Appah, 2014; Ogbonna *et* al, 2016). Using the proceeds collected through tax, government use to smooth their operations such as making provisions for public goods, defense against aggressions and to maintain the stability of the business activities etc (Ogbonna & Appah, 2016).

Although there are various types of taxes collected from the government which mainly includes income tax, personal income tax, capital tax, education tax as well as other levis which generates revenue for government (Ogbonna & Appah, 2016) the main focus of the study is based on 'Value Added Tax (VAT)'. According to Appah (2016) VAT is a tax on consumption which is collected at each point of sales of goods and services from production to consumption but eventually borne by the final consumer. During the period of 1950s' the term VAT was very rarely heard except countries like France, where now it raises about 20 percent of the world tax revenue (Keen & Lockwood, 2007).

The concept GDP and Budget deficit

Considering the concept GDP, this indicator uses to praise the performance of economy where in terms of 'Price', 'markets' and 'productions' (Brinkman and Brinkman, 2011). This also avoids the impact of societal which is inherent in the process of economy as well (Brinkman and Brinkman, 2011). Alternative indicators for an evaluation of the economy in terms of the social, as well as the economic, are sprouting as mushrooms in a wet forest. Budget deficit can experience either by rising government spending or cutting taxes which would immediately resulted in reducing national savings which, comprises with both the private as well as public savings (Ball and Mankiw, 1995). But in the case of long run, the accumulated effects of the deficits alter the economy's output as well as wealth (Ball and Mankiw, 1995).

VAT, GDP and Budget deficit

The previous empirical studies found that most of the tax structures were highly significant and related with the economic growth in a country. One of the earlier studies done by (Marsden, 1983) mentioned that change in tax policy will affect the economic planning. According to (Gober J.R., 1997), a countries economy may be affect differently due to any changes in each tax components. Based on their finding, excise taxes as percentage of Ireland's total revenue was four times the level in U.S. Change in economic growth depends on each of tax structures (Gold, 1991).(Mahdavi, 2008) Suggest that the effect of rises in total tax revenue will reduce the growth in developing countries. Due to by the fiscal crisis in the past several decades, several developing countries had to revive its economy by changing the level of taxes. Two of the early studies by (Hinrisch, 1966) and (Musgrave, 1969) examined the relationship between the ratios of tax revenue to GDP (TAX/GDP) and found it was relatively low in the developing countries. However, there are very few studies which have been conducted relating to Sri Lankan context in the field of value added tax; nevertheless, some of the relevant related studies with regard to the research matter were reviewed below.

The stark reality in most developing countries is that whilst there is severe budgetary pressure as a result of ever increasing demand for government expenditure, there is a limited scope for raising extra tax revenues, as a result of Non-compliance with corporate persons result from technicalities and tax avoidance, poor record keeping and cash transactions. (Dessai, 2004) Noted that governments have at their disposal many tax instruments that could be used to finance their activities such as recurrent and capital expenditure. These tax alternatives include changes in tax policy by the way of changes in personal and corporate income taxes, taxes on sales and services as well as manufacturing, value added taxes, capital gain taxes and others. It is not uncommon for a country to impose all of these taxes evenly. (Lim, 1983) In this study of instability of government revenue and expenditure in less developed countries observed that tax revenues instability was the major cause of expenditure instability in less developed countries in the period going from 1965 to 1973.(Ogbonna&Ebimobowei, 2012) Noted the most comprehensive assessment of the impact tax revenue on economic growth. In this he disaggregated tax revenue into its various components that means varies taxes such as; excise duties, personal income tax, petroleum profit tax, companies' income tax, value added tax and education tax.

Taxation is one of the important elements in managing national income, especially in developed countries tax revenue is playing an important role in civilized societies since their birth thousands of years ago, (Lymer, 2009). Lymer and Oats (2009) stated that tax is defined as a compulsory levy or payment, imposed by government or other tax raising body on income, expenditure, or capital assets, for which the taxpayer receives nothing specific in return. However, taxpayers are enjoying some advantages as indirectly such as free health, free education, nation defence, infrastructure facilities, etc… Income tax introduced very firstly in England (UK) in 1799. In Sri Lanka income tax was introduced under colonial system in 1932. The first year of assessment (Y/A) was started from 1931. 1931/1932 is the first year of assessment in Sri Lankan tax system. Value Added Tax (VAT) in Sri Lanka shall be amended as follows:

Value Added Tax rate shall be increased to 15%. Threshold for the registration for VAT shall be Rs.3 million per quarter or Rs.12 million per annum. Wholesale and retail trade (other than by a manufacturer or importer) shall be liable for VAT and the tax shall be charged only on liable supplies. The restriction on exempt supplies (deemed VAT) shall be removed. Threshold for the VAT liability of wholesale and retail trade shall be reduced to Rs.3 million per quarter or Rs.12 million per annum.

Following supplies which are currently exempted shall be liable for VAT.

- Supply of Telecommunication services
- Import or supply of telecom equipment or machinery
- High tech equipment including copper cables for telecom industry

The issue of licenses to local telecom operators by TRC Supply of healthcare services Supply of goods or services to any specified projects other than housing projects Amendments to the VAT Act shall be implemented with effect from 01.11.2016.

Methodology

This study focuses to analyze the impact of value added tax on gross domestic production and budget deficit of Sri Lanka and find out the relationship among value added tax, gross domestic production and budget deficit of the Sri Lanka. Researcher ensures that here the data be true and fair because all data was extracted from central bank reports and publication & official website of Inland Revenue - Sri Lanka which are the ultimate organizations of the country and also which are come under high authority of the country.

I. Data Sources

Secondary data were used in this study those secondary data collected from central bank reports of Sri Lanka from 2005 to 2015, Publications of Inland Revenue, text book, journals, magazines and local newspapers.

II. Research Design

This study used exploring research design for collecting, analyzing and evaluating quantitative data in the research process to understand the research problem more completely. In this study the priority of the design was given to the quantitative methods because the quantitative research study can only use to answer the research questions as "Do value added tax impact on gross domestic production and budget deficit" and "Is there any relationship among value added tax, gross domestic production and budget deficit" as well answer to the hypothesis of the study.

III. Sampling Frame Work

The secondary data used for the purpose of collecting the main data for the study from the Central Bank of Sri Lanka. The study was considered whole of the Sri Lanka not only for one specific area. Through the judgmental sampling the researcher considered the period from 2005 to 2015 which covers 10 years in the study with very recent period.

IV. Reliability and Validity of the Data

The secondary data used in this data, all the relevant data value added tax revenue, gross domestic production and budget deficit from 2005 to 2015 collected from the central bank reports, Sri Lanka. The central bank is the highest authority organization in Sri Lanka to publishing the economic data in Sri Lanka due to that the collected data are reliability and validity data in this study.

V. Methods and Measures

In the quantitative approach, various statistical methods were employed to compare the collected data from the Central Bank Reports. These methods included inferential statistics, which involved in drawing conclusions about a population based only on sample data. It included correlation analysis and single regression analysis.

Descriptive Statistics were carried out to verify the sample characteristics. In a way, Mean, and Standard deviation are used to describe the variables.

Correlation Analysis was used to find out the significant relationship among value added tax, gross domestic production and budget deficit of Sri Lanka.

Regression Analysis was used to find out the significant impact of value added tax on gross domestic production and budget deficit of Sri Lanka. And also, the data analysis for the research was performed with the help of the latest SPSS computer package.

Analysis and Discussion

a) Descriptive Analysis

Table 1: Descriptive Statistics (in Millions)

	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
GDP	11	1,810,000	1,940,000	3,760,000	2,751,200	177,456	588,555	346,400,000,000
BD	11	419,000	(591,000)	(172,000)	(400,190)	42,610	141,320	19,970,000,000
VAT	11	137,000	139,000	275,000	206,980	11,919	39,529	1,563,000,000

Based on the Descriptive analysis, the Sri Lankan economy had 206,980 million LKR value added tax revenue, 2,751,200 million LKR gross domestic productions and 400,190 million LKR budget deficits approximately for recent eleven years. Sri Lanka is one of the developing countries in south Asian region so Sri Lanka has to consider south Asian countries' value added tax revenue, gross domestic production, budget deficit, their economic policy on increasing government's revenue, increasing gross domestic production and other macro-economic variables such as unemployment rate, inflation rate, per capita income, money supply, economic growth rate and exchange rate for the Sri Lankans stability economic growth. Meanwhile, in terms of economic growth rate, 5 percentage growth levels have been achieved by the Sri Lankan economy last recent eleven years approximately.

b) Correlation Analysis

Table 2: Correlations

		GDP	VAT	BD
GDP	Pearson Correlation	1	.846**	-.866**
	Sig. (2-tailed)		**0.001**	**0.001**
	N	11	11	11
VAT	Pearson Correlation	.846**	1	-.839**
	Sig. (2-tailed)	**0.001**		**0.001**
	N	11	11	11
BD	Pearson Correlation	-.866**	-.839**	1
	Sig. (2-tailed)	**0.001**	**0.001**	
	N	11	11	11

**. Correlation is significant at the 0.01 level (2-tailed).

Hypothesis used (this is used to get a result to RQ_3),

H_0- There is no significant relationship of VAT with GDP and BD

H_1- There is a significant relationship of VAT with GDP and BD

Table 2 shows the correlation analysis, according to the correlation analysis it can be seen that value added tax revenue significantly correlated with gross domestic production and budget deficit of the country ($P < 0.01$). Hence the H_1 is accepted and null hypothesis (H_0) is rejected. In detail their relationships can be elaborate as follows,

Value Added Tax and GDP -A Positive Relationship (.846)

Value Added Tax and BD - A Negative Relationship (-.839)

Budget Deficit & GDP - A Negative Relationship (-.866)

Therefore, the RQ_3 is accepted as mentioned in our research questions above.

c) Regression Analysis

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.846[a]	0.715	0.683	3.31E+05	0.715	22.582	1	9	0.001

a. Predictors: (Constant), VAT

According to the table 3, Model Summary adjusted R square (R^2) is 0.683. It means that there is 68.3% impact of the independent variable (value added tax revenue) on the dependent variable (gross domestic production) and other remaining part did not explain in this study.

Table 4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.41E+11	1	1.41E+11	21.353	.001[a]
	Residual	5.92E+10	9	6.58E+09		
	Total	2.00E+11	10			

a. Predictors: (Constant), VAT

b. Dependent Variable: BD

Above table 4 ANOVA table in the regression analysis which is significant here P value is 0.001. It is below than the level 0.01 or 1%. Therefore, we can conclude that 1% of the impact is in the significant level between VAT and BD of Sri Lanka.

Table 5: Coefficients

		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	220457.7	136520.237		1.615	0.141
	VAT	-2.999	0.649	-0.839	-4.621	0.001

a. Dependent Variable: BD

From the table 5 coefficients in the regression analysis, Standardized Coefficients beta value between value added tax revenue and budget deficit of Sri Lanka is -0.839 which is significant at 0.01 levels ($P < 0.01$). Finally, in terms of the Regression analysis, research can come to the conclusion that value-added tax revenue is significantly impact on budget deficit of Sri Lanka. *Hence, the* RQ_2 *is accepted.*

Table 6: Model Summary

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.839[a]	0.703	0.671	81115.17	0.703	21.353	1	9	0.001

a. Predictors: (Constant), VAT

Table 7: Anova

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.41E+11	1	1.41E+11	21.353	.001[a]
	Residual	5.92E+10	9	6.58E+09		
	Total	2.00E+11	10			

a. Predictors: (Constant), VAT

b. Dependent Variable: BD

Table 8: Coefficients[a]

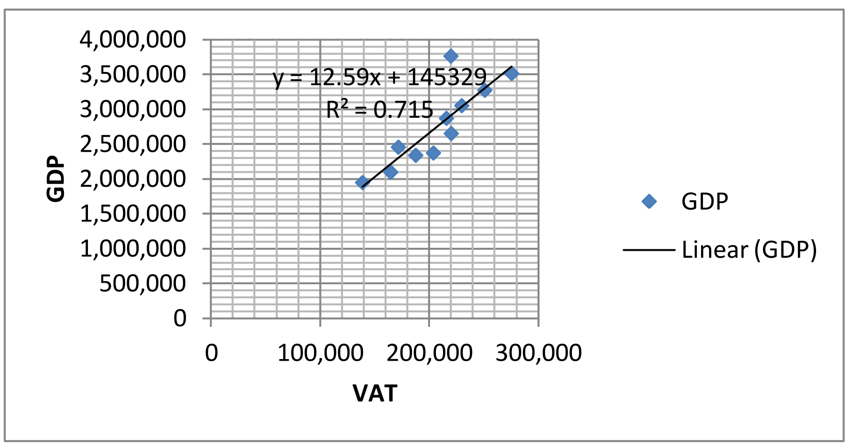
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	145328.7	557395		0.261	0.8	-1.12E+06	1406244
	VAT	12.59	2.649	0.846	4.752	0.001	6.597	18.583

a. Dependent Variable: GDP

According to the table 6, Model Summary adjusted R square (R^2) is 0.671. It means that there is 67.1% impact of the independent variable (value added tax revenue) on the dependent variable (budget deficit). Above table 7 ANOVA test in the regression analysis which is significant here P value is 0.001. It is below than the level 0.01 or 1%. Therefore, we can conclude that 1% of the impact is in the significant level. From the table 8 coefficients in the regression analysis, Standardized Coefficients Beta value between Value added tax policy changes and GDP of Sri Lanka is 0.846, which is significant at 0.01 levels ($P < 0.01$). Finally, in terms of the Regression analysis, we can conclude that value added tax revenue significantly impact on GDP of Sri Lanka. Therefore, the RQ_1 is accepted.

According to the table 08 and annexure 3, this research illustrated following regression line between VAT and GDP and following formula for analysis purposes.

GDP = 145,328 + 12.59*VAT



In above graph adjusted R square (R^2) is 0.715. It means that there is 71.5% impact of the independent variable (value added tax revenue) on the dependent variable (GDP). This study and annexure 04 is further answered for question RQ_1.

Conclusion

Based on the study value added tax revenue significantly impact on gross domestic production of Sri Lanka and budget deficit. Moreover, there is significant relationship among value added tax revenue, gross domestic production and budget deficit in the Sri Lanka. Currently budget deficit, instability of the political situation, instability of the price, instability of the nature, economic crisis, unemployment and low gross domestic production are the major issues in many countries. Also, Sri Lanka is facing the budget deficit continuously due to that it is one of the major economic problems in the country. Budget deficit of the country merely depends on two major things such as total government revenue and total government expenses of the country. Basic government expenditures cannot avoid by any government in present context. Some capital expenditures should be needed for the future development of the country as well some current expenditure much be needed for the current survival of the country. Government should identify unnecessary costs to be eliminate in-order to minimize the budget deficit of the county.

The government also can focus to increase the total revenue of the country to reduce the budget deficit or avoid the budget deficit. There two pars under the government revenue such as tax revenue and non-tax revenue here tax revenue plays a major role in the total government revenue especially indirect tax revenue contribute very high level to the total tax revenue. Under the indirect tax revenue value added tax revenue is the major source in Sri Lanka. Value added tax is tax on domestic consumption of goods and services. Here high level of the value-added tax charging may reduce the gross domestic production of the country. Low domestic production will lead to the low level of value added tax revenue. According to the results of the study value added tax revenue is significantly impact on gross domestic production and the budget deficit of the country. So according to this finding the fiscal policy makers can make effective fiscal policy to increase the tax revenue and budget deficit of the country.

Nation building tax (NBT) and economic service charge (ESC) are practicing like same as value added tax so the government fiscal policy makers have to think about these kinds of number of tax practice in Sri Lanka because this practices are creating problems under the charging of value added tax, nation building tax and economic service charge. From this research, one could clearly identify that through the effective policy of value added tax, the government can make changes in the gross domestic production as well budget deficit of the country. Furthermore, the government should consider the effective functions of the Inland Revenue and try to establish its branches in every district and take actions to fulfill the available vacancies in the Department of Inland Revenue to increase the tax revenue of the country.

Therefore, further researcher can take the period from the introduction of the value-added taxation in Sri Lanka up to the current period for the analysis which study can bring the ultimate findings on the topic of the research as well as researcher may consider other economic indicators of the country for the development of the country.

As much interest researcher in the field of taxation and economy of the country, there are very few research studies in the field of taxation in Sri Lanka that related study, much needed for the country especially for developing country due to that the further researcher could do their study in the field of taxation to contribute to the country.

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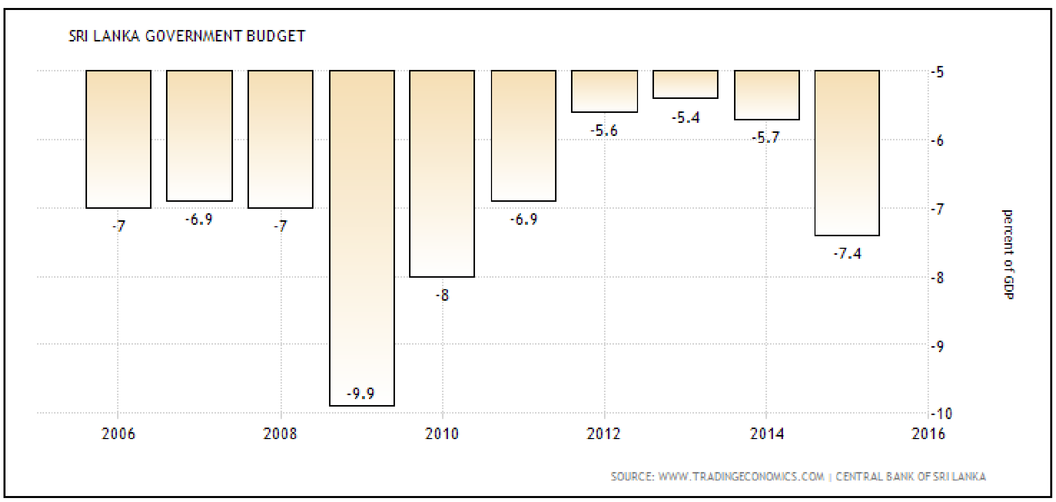
Annexures

Annexure 1

Annexure 2



Annexure 3

DATA TABLE (Mn)

Year	GDP	VAT	BD
2005	1,941,671	138,660	(172,396)
2006	2,090,564	164,555	(205,745)
2007	2,332,656	187,452	(246,045)
2008	2,365,501	203,646	(309,644)
2009	2,449,304	171,510	(476,361)
2010	2,645,542	219,990	(446,017)
2011	2,863,691	215,576	(450,180)
2012	3,045,288	229,604	(488,967)
2013	3,266,099	250,757	(516,090)
2014	3,506,664	275,350	(591,244)
2015	3,756,663	219,700	(499,376)

Annexure 4

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.48E+12	1	2.48E+12	22.582	.001[a]
	Residual	9.87E+11	9	1.10E+11		
	Total	3.46E+12	10			

a. Predictors: (Constant), VAT

b. Dependent Variable: GDP

GROUP No : 15

#	Name	Reg. #	CPM #
1	B.G.V Madhuwantha	70041	10580
2	N.M Ihlas	69848	10495
3	H.G.R Sampath	70316	11285
4	P.L.S Chathuranga	69665	10658
5	K.K.G.D Ruwantha	70290	10708
6	C.M.R.C Chandrasekara	69651	10646
7	S.M Sajath	70297	11281
8	K.T.N Praboth	70201	11177
9	N.P.M Silva	70378	10713
10	I.A.D Jayalath	69603	11207