

## The Role of Value Added Tax on Economic Growth of Ethiopia

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| Abstract  | Article Information  |  |
|---|--|--|
| <p>The achievement of economic growth is crucial for countries sustainable development. Recently, Value Added Tax (VAT) becomes a major worldwide tax instrument which enhances economic growth. Being a tax levied on the final consumption of goods and services, VAT is collected at each stage of production and distributions when value is added up on them. In Ethiopia, the adoption of VAT to replace the out dated general sales tax as of January 2003 becomes the central landmark tax reform. Accordingly, it has introduced a uniform standard rate of 15% VAT system on most of goods and services. Thus, this paper analyses the role of VAT on economic growth of Ethiopia from 2003 to 2012 based on theoretical and empirical evidences. To meet this objective, time series macro-economic data on GDP, VAT, total tax revenue excluding VAT, non-tax revenue and foreign revenue were used. This data is collected from Ministry of Finance and Economic Development, Ethiopian Economic Associations and Ethiopian Revenue and Customs Authority. Descriptive statistics and multiple regressions were employed to analyze the data. The finding of the study reveals that as compared to sales tax, VAT boosts the general economic growth of Ethiopia but the issue of regressively resembling to sales tax still continues. During the periods under review, the growth rate of VAT was 66.27% on average. For the periods of sales tax, the average growth rates of GDP were only 2.53%. However after executions of VAT, such growth rate reached about 21.9% on average. The analysis also showed as the average ratio of VAT to GDP becomes 2.95%. The finding also reveals that, VAT, total tax revenue and non-tax revenue except foreign revenue were significant at 5% level of significance but all of them positively contributed for economic growth during the periods under review. However, to be effective, it requires strong administrations and cooperation's of the tax payers with taxing authority and the government in general.</p> | <p><b>Article History:</b></p> <p><b>Received</b> : 24-12-2013</p> <p><b>Revised</b> : 17-03-2014</p> <p><b>Accepted</b> : 27-03-2014</p> <p><b>Keywords:</b></p> <p>Value added tax</p> <p>Economic growth</p> <p>Contributions</p> <p>Role</p> <p>Ethiopia</p> <p><b>*Corresponding Author</b></p> <p><b>Dasalegn Mosissa</b></p> <p><b>E-mail:</b></p> <p>dasseef@yahoo.com</p> |  |
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### INTRODUCTION

Ethiopia is one of non-oil owned and highly populous but fastest developing country. According to World Bank (2012), Ethiopia's 2012 estimates of population being around 82.9 million having an average life expectancy of 58 years with a total land area of 1.14 million square kilometers. In the modern days of Ethiopia, many reforms were made that leads to aquatic change in the socio-political and economic structural patterns (Yesegat, 2009). Hence, the government needs ample amounts of revenue to meet the current expenditure that provoked than ever before. This leads to common benefits among federal, state and local governments. According to Musgrave and Musgrave (2004), the most important economic means by which funds can be raised for the public to facilitate its activities are taxation, borrowing from the public and credit creation. As credit creation will lead the country towards inflation and borrowing of money from the bank requires the payments of principal and interest on the sum amount borrowed, they can be detrimental to building wealth over the time (Machiraju, 2008). Hence, because of drawbacks associated with both credit creations and borrowing from the public, tax is the bona fide instrument for collecting

sufficient amount of revenue to finance the welfare of a given country (Brautigam *et al.*, 2008).

Taxes are revenue collected by the government to afford public services for the country and finance its daily activities (Bhatia, 2009). The work of Jhingan (2004) shows as the main and most important reasons for taxation are to finance government expenditure and to redistribute wealth for the development of country in general. The tax that is levied directly on personal or corporate income is direct tax and if it is levied on the price of a good or service, then it is an indirect tax. According to Shenk and Oldman (2007), indirect taxes of a tax on consumption have long been the heart of taxation in developing countries and it provide two-thirds or more of tax revenues in many countries. Similarly, the author argued as indirect tax is more important instrument for the poorest countries to boost domestic tax revenues on goods and services. Value added tax (VAT) is one of indirect tax that applied on consumption of goods and services and it is to be charged on the value of imports and on value added on goods and services supplied by

one business to another till it reaches to final consumers (Bird, 2005).

According to Shenk and Oldman (2007), France was the first country who implemented VAT for the first time in the world by 1954. VAT has been the most important development in taxation and over the last half-century; it becomes a widely accepted indirect tax system across the globe. The study of Charlet and Butdens (2012) reveals as VAT was limited to less than ten countries in the late 1960s, and now it has been implemented by more than 150 countries across the world. Ethiopia adopted VAT by January 1, 2003 through replacing the out dated general sales tax in accordance with proclamation No 285/2002 for the purpose of raising sufficient tax revenues. Hence, Ethiopia entered what is currently a large chorus of nations in the world just as about 50 years after France implemented it as a taxing system by 1954. Among all the African union countries, Ethiopia adopted VAT after all of them with the exception of Angola who adopted it in 2008 (Abate, 2011).

The study conducted by Bird (2005), reveals VAT as the 'money machine' tax which necessarily adopted by both developed and developing countries that allow the government to collect sufficient amount of revenue. Hence, the majority of economists as well as experts of political scientists think that VAT is the best preferable general consumption tax recently available that enhances economic growth.

In the recent decades, it is commonly contended that VAT increases government revenue, improves economic efficiency, promotes exports, raise revenue rapidly, simplify the tax administration procedures and widen the tax base and fosters growth (Brautigam *et al.*, 2008). Hence there is a growing recognition among developing countries for the crucial role of VAT revenue as an instrument of economic growth. According to Adereti, *et al.*, (2011), the main aim of VAT was to increase the revenue base of government and make funds available for developmental purposes that will accelerate economic growth. The study of Aizenman and Jinjark (2005) explained VAT as a tax system applied on the percentages of the price of goods and services throughout the value addition mechanism continuously on all goods and services with some exemption stated under the law. Their conclusion is that VAT collects sufficient amounts of revenue through lessening cost of their collection and easement of their administration. Furthermore, the consumption type of VAT revenue is unavoidably collected as far as there were the chain of production and consumptions of goods and services.

In general, many studies were conducted on the contributions of Value added tax revenues for the economy by using gross domestic product as macro level indicator both in developed and developing countries. Among them, Unegbu and Irefin (2011), Wawire (2011) and Adereti, *et al.*, (2011) was the common. To the extent of the researcher's knowledge, with the exceptions of Alemu (2011) that uses micro economic sectors to empirically evaluate the contributions of VAT for the Ethiopian economic development and social spending however, their scholarly contribution in this regard was unnoticed of the role of VAT on economic growth in the Ethiopian context.

Most of the previous authors' investigations were on the contributions of VAT for economic growth suggests that VAT has a positive relationship with economic growth and these countries that adopted VAT has benefited from it. They reasoned that VAT collects sufficient amount of revenue for the government and it enhances economic growth in general. So this study rests its major interests on evaluating the role of VAT on economic growth both theoretically and empirically as there is no comprehensive work that is conducted under the contributions of VAT on economic growth in the Ethiopian context since its introduction.

## MATERIALS AND METHODS

### Research Methodology

This research work was in both descriptive and inferential in nature. The study by its nature requires time serious collection of quantitative data for the periods of 2003 to 2012 which is not randomly selected. The selection of starting date is warranted, since it is the year in which the Ethiopian VAT was implemented. The Ethiopian fiscal year starts on July 6 and ends on July 7 of each year. Hence, the data for VAT in the year 2003 includes sales tax before the implementations of VAT. This is reasoned that VAT was implemented replacing the general sales tax on January 1<sup>st</sup>, 2003 which is about half of the Ethiopian fiscal year.

### Type and Sources of Data

The study mainly uses secondary sources of data from various government offices. The study has used important time series records held by tax authorities of Ethiopian Revenue and Custom Authority (ERCA), Ministry of Finance and Economic Development (MOFED), and Ethiopian Economic Associations (EEA). The data basically concentrates on various documents, annual reports, financial statements, forms, published and unpublished statistical data from 2003 to 2012 so as to accomplish the objectives of the paper.

### Variables of the Research

To meet what is aimed for; the researcher consulted the variables used in different studies such as Worlu and Nkoro (2012); Hakim and Bujang (2011); Owolabi (2011); Alemu (2011); Adereti, *et al.*, (2011) and Golit (2008). However, the variables of this study were adjusted to more or less similar to the variables of the studies conducted by Adereti, *et al.* (2011). As such this paper uses data on five economic variables: Gross domestic product (GDP), Value added tax (VAT), total tax revenue (both direct and indirect tax with the exclusions of VAT (TTR), Non-tax revenue (summations of charges and fees, sale of goods and services, government investment income, miscellaneous revenue, pension contribution, extraordinary revenue, privatization proceeds and capital revenue) (NTR) and foreign revenue (both external assistance and external loan) (FR). However, the data of total government revenue (TGR) for the period under review of 2003 to 2012 was taken to describe the ratio of VAT to the respective TGR, TTR, and GDP. In additions, the data of total tax revenue for descriptive purpose of indicating the ratio of VAT to TTR and growth rates of TTR itself during the periods under review includes VAT revenue unlike for the inferential purpose that excludes the data of VAT revenues for the periods under review. Furthermore, the data of GDP during the operations of sales tax before its replacement by VAT (1993-2002) was taken to compare the growth rates of GDP during both

periods (periods of sales tax and VAT). The researcher identified VAT, TTR, NTR and FR as an independent variable and GDP as dependent variable to study by what amount the VAT contributes to the general economic growth during the period under review of 2003 to 2012.

### Specifications of the Model

Different scholars adopted and used some models to analyze the contributions of VAT on economy of different countries. However, this paper was adjusted based on the macro-economic development as more or less similar to Adereti, *et al.*, (2011), that uses four macro-economic development indicators of GDP, VAT, TTR and TGR and establish the link among the VAT and GDP. However, this study improves upon them by using the periods from 2003 to 2012, as such it update the analysis and it captures the link between VAT revenue and its role on economic growth especially in the Ethiopian context by including some necessary variables and adjusting them based on the objectives of the paper. Hence, the model of this paper was developed based on these variables selected above of GDP, VAT, TTR, NTR, and FR. Guided by the perceived functional relationship between the matrix of economic growth (GDP) and VAT revenue, the link is forged between these five variables. From sub-macro and micro economic perspectives, the model for this work states that economic growth (GDP) depends on revenue collected from VAT, TTR, NTR, and FR. Accordingly, the purposeful relationships and resulting models are specified as below:

$$GDP = f(VAT, TTR, NTR, \text{ and } FR) \dots \dots \dots (1)$$

From the above functional relationships, the following stochastic model is specified below:

$$GDP = \alpha_0 + \alpha_1(VAT) + \alpha_2(TTR) + \alpha_3(NTR) + \alpha_4(FR) + \mu \dots \dots \dots (2)$$

Generally, the working model can be restated in its logarithm form as follows:

$$\text{Log GDP} = \alpha_0 + \alpha_1 \text{Log}(VAT) + \alpha_2 \text{Log}(TTR) + \alpha_3 \text{Log}(NTR) + \alpha_4 \text{Log}(FR) + \mu \dots \dots \dots (3)$$

Where, GDP = Gross domestic product, VAT=Value added tax, TTR =Total tax revenue which is summations of both direct and indirect tax excluding VAT, NTR = Non tax revenue which is the summations of charges and fees, sale of goods and services, government investment income, miscellaneous revenue, pension contribution, extraordinary revenue, privatization proceeds and capital revenue, FR= Foreign revenue which is the summations of both external aid and loans and  $\alpha_0, \alpha_1, \alpha_2, \alpha_3$  and  $\alpha_4$ ; are model parameters and  $\mu$  is the stochastic error term. The 'priori' expectation is that the model parameter is expected to be positively signed. The implication is the real context as growth is expected even when no VAT revenue, TTR, NTR and FR was collected. Logarithm will be used to make the data under study to be normal and linear. This is because logarithm is one of the transformations methods that make the data normal if they are not normal with their actual numbers.

### Methods of Data Analysis

To address the objectives of the research and to analyze the data, both descriptive statistics and multiple regression statistical methods of both SPSS statistical package version 20.0 and STATA/SE version 11.0 was employed. The researcher uses multiple regression methods to regress the independent variables of VAT, TTR, NTR and FR towards the GDP as dependent variable of economic growth indicator. However, data

such as sales tax with that of VAT were analyzed based on the proclamations and regulations existed concerning each of them. This analysis was required by the researcher as VAT replaces sales tax while it was incepted on January 1, 2003. The time series information (annual data) was used for statistical computations of the contribution and hence, can be used for testing the hypotheses. These statistical computations can be employed to explore the inherent relationships among the variables. Descriptive analysis techniques such as percentages and ratios have also been used.

## RESULTS AND DISCUSSIONS

### Results of Descriptive Analysis

#### Contributions of Value added tax to the Country's Economy

As it can be seen from the Table 1, subsequent to its implementation in Ethiopia, the government revenue generated from VAT shows a significant increasing even though it shows the trend of instability during the periods under review. The ratio of VAT to government revenue while its adoption in 2003 was 2.24% and reaches its maximum point in 2007 when it hits 38.56%. The average ratio of VAT revenue to that of total government revenue during the period of 2003 to 2012 was 22.27% (Table 1). The growth rates of VAT during the periods under review were on average 66.27%. While the maximum VAT growth rate was 230.31% during the year 2005, its minimum growth rates becomes 1% in the year of 2003. This shows as there was a huge fluctuation with the growth rates of VAT revenue. Furthermore, the results of Table 1 reveals as the growth rates of the total government revenue during the period under review reached its maximum point (95.90%) during 2008. However, such growth rates fall to its minimum point when it reduced to (-26.92%) in 2006. But during the period under study, the average of the total government revenue growth rate becomes 22.82%. This reveals as there was a growth from 2003 to 2012 which contributed for economic growth during the periods under review. The result indicates that the ratio of VAT to that of total tax revenue while in its initial periods of 2003 was only 4.54% and it hits its maximum point in 2007 when it becomes 35.16% (Table 1). In nutshell, as shown by the Table 1 below, even if the contributions of VAT for tax after the year 2007 was slightly reduced, the average ratio of VAT revenue to that of total tax revenue during the periods of 2003 to 2012 was 26.75% and hence, it was sufficiently donated for the country's economy.

When the growth rates of total tax revenue was considered for the periods under review, its average growth rate becomes 27.44%. While the maximum growth rate was 49.33% during 2010, the minimum growth rate becomes 1% during 2003 (Table 1). This reveals that, during the periods under study, there was growth of tax revenue which contributes for the country's economic growth in general. Table 1 below also reveals, as the ratio of VAT revenue to GDP, which was only 0.46% at the inception of VAT in 2003, rose marginally throughout the periods and reaches its peak of 4.25% in 2012. Even though it was slightly fluctuated during the period under review, its average was 2.95% which realizes as VAT makes such contributions for the country's economy. This finding supports the conclusion of ITD (2005) that shows some evidence as the presence of a VAT has been associated with a higher ratio of general government revenue and grants to the country's GDP.

**Table 1:** Actual amount, Ratios and growth rates of VAT, TTR, TGR and GDP during the periods of VAT.

| Year           | In Millions of ETB |                 |                  |                 | Ratios of VAT to TGR, TTR and GDP in terms of % |              |             | Growth Rates (%) |              |              |             |
|----------------|--------------------|-----------------|------------------|-----------------|---|--------------|-------------|------------------|--------------|--------------|-------------|
|                | TGR                | VAT             | TTR              | GDP             | VAT to TGR                                      | VAT to TTR   | VAT to GDP  | GR of VAT        | GR of TGR    | GR of TTR    | GR of GDP   |
| 2003           | 16626.41           | 372.2           | 8194.3           | 81421.07        | 2.24  | 4.54         | 0.46        | 1                | 1            | 1            | 1           |
| 2004           | 20057.88           | 1220.7          | 10324.94         | 91044.09        | 6.09  | 11.82        | 1.34        | 227.97           | 20.64        | 26.00        | 11.82       |
| 2005           | 18534.39           | 4032.05         | 11923.03         | 100908.38       | 21.76   | 33.82        | 4.0         | 230.31           | -7.60        | 15.48        | 10.83       |
| 2006           | 13544.66           | 4809.15         | 13939.62         | 131641.45       | 35.51   | 34.50        | 3.65        | 19.27            | -26.92       | 16.91        | 30.46       |
| 2007           | 15382.71           | 5931.48         | 16870.46         | 171989.14       | 38.56   | 35.16        | 3.45        | 23.34            | 13.57        | 21.03        | 30.65       |
| 2008           | 30134.46           | 7312.89         | 23981.09         | 248302.68       | 24.27   | 30.50        | 2.95        | 23.29            | 95.90        | 42.15        | 44.37       |
| 2009           | 45649.11           | 8988.18         | 29007.47         | 335392.04       | 19.69   | 31.0         | 2.68        | 22.91            | 51.48        | 20.96        | 35.07       |
| 2010           | 52562.22           | 13677.93        | 43318.07         | 382938.65       | 26.02   | 31.58        | 3.57        | 52.18            | 15.14        | 49.33        | 14.18       |
| 2011           | 69455.1            | 16156.12        | 58980.78         | 506079.135      | 23.26   | 27.40        | 3.19        | 18.12            | 32.14        | 36.16        | 32.16       |
| 2012           | 92345.25           | 23313.25        | 85739.86         | 548921.587      | 25.25   | 27.19        | 4.25        | 44.30            | 32.96        | 45.37        | 8.47        |
| <b>Average</b> | <b>37429.219</b>   | <b>8581.395</b> | <b>38836.108</b> | <b>259863.8</b> | <b>22.27</b>                                    | <b>26.75</b> | <b>2.95</b> | <b>66.27</b>     | <b>22.82</b> | <b>27.44</b> | <b>21.9</b> |

Source: Author's computations based on the data from MOFED, ERCA and EEA

When we look the growth rate of GDP itself before the implementations of VAT but while sales tax was in operations (1993-2002) (Table 2) and after the executions of VAT (2003-2012) (Table 1), the growth rate of GDP were fluctuating during both periods. However, the growth rate of GDP during the implementations of VAT (2003-2012) was significantly increasing and it is more stable than its predecessors for periods under considerations. During the periods of sales tax operations (1993-2002), the average growth rate of GDP was only 2.53%. While the minimum GDP growth rate was in 1998 with the rates of (-4.05%), the GDP growth rate hits its maximum point during the year 2000 when it becomes 8.30%. In contrast to the periods of sales tax, after implementations of VAT (2003-2012), the growth rates of GDP alarmingly increased and reached about 21.9% on averages. During the same periods, while the minimum GDP growth rate was 1% in 2003, it reaches its maximum point with the growth rates of 44.37% during the year of 2008.

Generally, even if GDP of one country was influenced by many variables other than sales tax and Value added tax system, the above finding indicates that during the periods of VAT system, Gross domestic products of Ethiopia increased significantly than during the periods of sales tax. Therefore, the contribution of VAT to the country's economic growth was still paramount and it is desirable if supported by strong administrative capacity as many of the developing countries lack such administrative abilities in the areas of tax system.

**Table 2:** GDP by actual amount and GDP growth rate (1993-2002) during sales tax.

| Year           | GDP<br>(In millions of ETB) | Growth rates of<br>GDP (%) |
|----------------|-----------------------------|----------------------------|
| 1993           | 56722.32471                 | 1                          |
| 1994           | 59841.73652                 | 5.50                       |
| 1995           | 61739.42139                 | 3.17                       |
| 1996           | 63259.13847                 | 2.46                       |
| 1997           | 65500.34909                 | 3.54                       |
| 1998           | 62850.61692                 | -4.05                      |
| 1999           | 66648.33263                 | 6.04                       |
| 2000           | 72181.09732                 | 8.30                       |
| 2001           | 73274.436                   | 1.51                       |
| 2002           | 71690.915                   | -2.16                      |
| <b>Average</b> | <b>65370.83681</b>          | <b>2.53</b>                |

Source: Author's computations based on the data from MOFED, ERCA and EEA

The main fact here is that even if VAT positively contributed for the country's economic growth, there are still some defects regarding to its implementations in the Ethiopian context. Some of these goods and services entitled under the band of exemptions were either not clear or they are pending for the issuance of some other directives or regulations. This is also supported by the findings of (Abehodie, 2007). Either the proclamations or regulations do not make clear ideas on which part of these goods or services are to be exempted. For instance, even if the law puts breads, injera and milk as exempted goods, practically it is only bread at the level of bakeries, injera without sauce and milk which is not processed that can be exempted from the levy of VAT. Hence, there are still complications regarding to such issues unless otherwise supported by strong administrations in order to achieve the objectives of VAT to enhance economic growth in general. Accordingly, a good VAT system might exempt certain specific items that constituted a significant fraction of the consumption of poor people. As such, the items to be exempted should be on the very necessary subjects and be kept to a minimum level as they should not distort country's economic growth. In addition, under the Ethiopian VAT system, there was only a single standard rates that makes this taxing system to be regressive. This regressiveness harms the poor as both rich and poor's pay the same amount for similar benefits from goods and services. Hence, both millionaire and the beggars pay the same amounts which have its own adverse impact on country's economic growth in general.

### Results of the Regression Model

This part provides the empirical result of the inferential data which are analyzed by multiple regression models. However, before analysis of the result, it is necessary to test some of the assumptions of classical linear regression model to make it more dynamic and effective. The researcher have tested autocorrelation which is sometimes called serial correlation or lagged correlation using Durbin-Watson d-statistic, multicollinearity using the Variance Inflation Factor (VIF) after regression, hypothetically testing heteroskedasticity by using both Breusch-Pagan and White's test, Checking specifications of the model by using Ramsey RESET test, checking the normality of residuals by using Swilk test and testing for stationarity of the time series data using Engle Granger test and the statistical data reveals as it is possible to do the regressions analysis. Hence, the output of regression

analysis of the data using both descriptive and multiple regressions was shown by table 3 and 4 below respectively.

**Table 3:** Descriptive statistics.

| Variable    | Observation | Mean     | Min      | Max      |
|-------------|-------------|----------|----------|----------|
| Log VAT     | 10          | 3.724786 | 2.570776 | 4.367603 |
| Log TTR     | 10          | 4.217145 | 3.893323 | 4.79537  |
| Log NTR     | 10          | 3.775215 | 3.46851  | 4.048291 |
| Log Foreign | 10          | 4.031749 | 3.582813 | 4.396667 |

Source: Computation using STATA / SE Version 11.0

The descriptive statistics of table 3 reveals as the revenue generated from all independent variables under study that contributed towards the economic growth in terms of logarithm on average ranges from 3.724786 to 4.217145 for the period under review of 2003 to 2012. While the minimum revenue generated is VAT in its initial adoption stage of the year 2003 with the amount of 2.570776, the maximum one is total tax revenue excluding VAT with the value of 4.79537 in terms of logarithm in the year of 2012.

As it is clearly understood from the table 4, the coefficients of determination (Adjusted R-square statistics) of the model was 98.77% indicating that all the independent variables (VAT, TTR, NTR and FR) explained the variations of dependent variable (GDP) by about such percent and other variables account for only 1.23% of the changes in the GDP. Hence, it is highly impressive to make strong conclusions.

The regression findings of the study showed that all variables of VAT, TTR and NTR except the FR, were significant at 5% level of significance. However, all variables including FR were positively contributed for economic growth during the periods under review. The coefficients of each independent variable from the

regression model indicates how many percentages each of them make changes for economic growth through GDP and the positive coefficient of VAT revenue confirms priori expectation of a positive relationship between VAT revenue and GDP.

The analysis of hypothesis reveals as the correlation between VAT and economic growth indicator of GDP during the period under review was positive. The results of table 4 also informs us that when no money is received from VAT, about 1.071622 in terms of logarithm worth of expenditure is made by the country for the GDP and every 1% increase in VAT revenue causes about 13.55% increase in GDP keeping other variables constant. Likewise, 1% increase in TTR excluding VAT revenue will cause about 35.87% increase in GDP. In similar vein, a 1% increase in NTR will cause about 53.59% increase in GDP and even though FR of both external aids and external loan was insignificant at 5% level of significance, a 1% increase in FR will cause about 5.1 % increase in GDP keeping other factors constant. The level of significance from such result again indicates that VAT makes a significant contribution to GDP during the period under review. In addition, the results of table 4 also shows that F-ratio is 181.14, which is significant because probability (F- statistic) value of 0.0000 is less than 0.05 which is the level of significance for the study stating that VAT revenue, TTR, NTR and FR were making a significant contribution to the composition of the GDP and economic growth of Ethiopia. The researcher therefore concludes that the null hypothesis which states that VAT has no significant contributions to economic growth of Ethiopia from 2003 to 2012 is hereby rejected and the alternative hypothesis of VAT revenue makes significant contributions to the country's economic growth for the study period was accepted. In nutshell, this finding sufficiently supports the conclusions of Tripathi, *et al.*, (2011) that identify VAT as the real goal maker that fosters growth and prosperity in the country.

**Table 4:** Regression out puts of adjusted model with its relevant statistics.

| Source       | SS (Sum Square)    | MS (Mean Square)   | Number of observation=10  |       |                      |
|--------------|--------------------|--------------------|---------------------------|-------|----------------------|
| Model        | 0.879518754        | 4.219879689        | F(4, 5) = 181.14          |       |                      |
| Residual     | 0.006069403        | 5.001213881        | Prob >F = 0.0000          |       |                      |
|              |                    |                    | R-squared = 0.9931        |       |                      |
|              |                    |                    | Adj R-squared = 0.9877    |       |                      |
| <b>Total</b> | <b>0.885588157</b> | <b>9.098398684</b> | <b>Root MSE = 0.03484</b> |       |                      |
| Log GDP      | Coefficient        | Std. Error         | T                         | P> t  | [95% Conf. Interval] |
| Log VAT      | .1354909           | .0385588           | 3.51                      | 0.017 | .0363724             |
| Log TTR      | .3587388           | .1077656           | 3.33                      | 0.021 | .0817185             |
| Log NTR      | .5358558           | .1185744           | 4.52                      | 0.006 | .2310507             |
| Log Foreign  | .0509703           | .1061885           | 0.48                      | 0.651 | -.2219958            |
| Constant     | 1.071622           | .2253584           | 4.76                      | 0.005 | .4923197             |

Source: Computation using STATA / SE Version 11.0

Based on the data under study, as it is often claimed that taxes on consumption are better for growth, the economy of Ethiopia is highly supported by VAT. This may be attributed to its exclusions of savings that through the process is expected to encourage capital accumulations and leading to increment of investment and economic growth. This provides support for the findings of Ruebling (1973) that shows as the objectives of taxing system was encouraging or at least not impairing the country's potential for economic growth. Therefore, the VAT system should not impede or reduce the productive capacity of the economy rather; it must encourage national economic goals such as capital accumulations and economic growth in general.

**CONCLUSIONS**

This paper investigated both theoretically and empirically the role of VAT on economic growth of Ethiopia using time series data from the time of its inception 2003 to 2012. Ethiopian government introduced VAT to replace the out dated general sales tax in 2003 with the aim of increasing the revenue base of government and make funds available for developmental purposes that will accelerate economic growth. This work is both descriptive and inferential in nature that uses data on five economic variables: the gross domestic product (GDP), VAT, total tax revenue (TTR), non-tax revenue (NTR) and foreign revenue (FR). Such time series data's were sourced from Ethiopian Revenue and Custom

Authority (ERCA), Ministry of Finance and Economic Development (MOFED), and Ethiopian Economic Associations (EEA). The data were analyzed using both descriptive statistical tools and multiple regression methods.

Findings revealed that the Ethiopian VAT system was regressive in context and these goods and services which are exempted from such tax system were not in the favors of poor peoples and even it is not clear by itself. So it is preferable if the taxing authority considers such complex issues and provides some additional regulations where appropriate.

The descriptive analysis of the study had shown as the ratio of VAT to GDP in average was 2.95%. In addition, the finding also reveals that the growth rates of VAT from 2003 to 2012 were 66.27% in average. Likewise, the average growth rates of the government revenue were 22.82%. Generally, when we compare the GDP growth rates during the periods of Value added tax (2003 to 2012) with the periods of general sales tax (1993-2002), it was after the implementations of VAT that GDP was alarmingly grown. During the sales tax periods, the average growth rates of GDP were only 2.53%. However, after the executions of VAT, the average GDP growth rate reached 21.9%. This reveals that, during the periods under review (2003 to 2012), the revenue generated from VAT contributed for the country's economic growth in general.

The regression findings of the study showed that all variables of VAT, TTR and NTR except the FR, were significant at 5% level of significance but all of them including FR were positively contributed for economic growth during the periods under review. In general, the finding of the study reveals as VAT enhances the country's economic growth during the periods under review. However for continuity of such contributions and further improvement of the country's economic growth in general, it is desirable if taxing authority and the government create strong cooperation's with tax payers supported by strong and efficient administrations of tax systems.

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