

**The Impact of Government Expenditure on  
Economic Growth in Ethiopia**

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***Abstract***

*The goal of this research was to investigate empirically how government expenditure contributed to economic growth in Ethiopia. Most existing studies examining the relationship between expenditure and economic growth show conflicting results and mainly focused on aggregate expenditure. Hence, this study focused on disaggregated expenditure over the period from 1985 to 2008. The objective of the study was to establish these expenditures that had effects on growth using multi regression model. The findings showed that expenditures on agriculture, education, energy & mining to be positive and statistically significant effect on Ethiopian economic growth. In contrast, urban development and housing expenditure have negative and insignificant impact on Ethiopian Economic growth. Transportation and communication have positive and insignificant impact on Ethiopian economic growth. This study recommends the government of Ethiopia to give more emphasis on the agriculture, education, training, and mining & energy and appreciable to spent more fund in these sectors. In addition to this, the researchers recommend that the government of Ethiopia to minimize its expenditure on urban development and housing.*

**Key Words:** Impact, Government Expenditure, Economic Growth in Ethiopia

**1. Introduction**

**1.1 Background of the Study**

The level of economic growth, which is measured as the annual rate of increase in a nation's GDP, is the main prerequisite for development of a country. An economic output of goods and services called GDP depends on two things. The first is on the quantity or availability of inputs called the factors of production- mainly capital and labor. The second is the efficiency to change the two inputs into output called production function.

In developing countries of which Ethiopia is not an exception, among the factors of production, capital is a scarcely available resource that its

distribution and allocation needs high consideration in order to attain the desired level of economic growth. Now a day's, allocating this resource to public sectors and government's participation in production by providing goods and services is becoming a common phenomenon in developing countries. One major concern of public finance studies is directed towards gauging the impact of the growing public sector on country's economy (Teshome, 2006).

The role of the government in a country's economy will mount with the increase in the level of public spending. The Ethiopian government set GTP plan to achieve the following goals: maintaining broad-based and double digit economic growth within a stable macroeconomic environment, increasing the share of gross domestic saving (GDS) in GDP to 15 percent and increasing the share of export in GDP to 22.5 percent. The GTP<sub>1</sub> had set a goal to sustain the rapid growth performance registered during the last seven consecutive years before 2010/2011. Built on the remarkable growth achievements of the preceding seven years, real GDP growth averaged 10.1% per annum during the period of GTP<sub>1</sub>. A one percentage point shortfall from the base case scenario of 11 percent annual real GDP growth targets for the plan period. The growth performance during the GTP<sub>1</sub> period was built on the fast and sustained growth achievement during the preceding 7 years. As a result, real GDP growth during the last 12 years averaged 10.8 percent per annum. This is more than double the SSA average of about 5 percent during the same period (National Planning Commission, 2016).

With focus on key sectors that have significant bearings on growth and structural transformation, the assessment exercise on GTP<sub>1</sub> implementation has been identified thoroughly (National Planning Commission, 2016).

The assessment exercise has also brought up best practices, opportunities, challenges and constraints that have been witnessed during implementation. The lessons drawn have been used as inputs in the formulation of the second Growth and Transformation.

The second Growth and Transformation Plan (2015/16-2019/20) is considered to be an important vehicle for Ethiopia's renaissance. Accordingly, the government as a developmental state is fully committed to mobilize the necessary resources including capacity for implementation of the Plan.

In the last decade the Ethiopian government expenditure dramatically has grown by about 19 percent per annum since 2003/04. The share devoted to pro poor sectors in the total increased from about 26 percent in 1999/00 to about 43.3 percent in 2002/03 and 64 percent in 2008/09, up by 26.7 percent per annum since 2003 (ADB, 2010).

The public expenditure is concentrated on infrastructure and human capital development. In particular, there has been a major expansion in social services through the construction of new primary schools and health centers. The increase in government expenditures has its own impact on the economic growth but it should be supported by effective fiscal policy because fiscal policy is one of the most important instruments for the government economic policy. Traditionally, the normative theory of public finance starting with Musgrave identifies three main functions of fiscal policy. They are defined as allocation, distribution and stabilization. By means of fiscal policy any government can ensure effective utilization of available resources, equitable distribution of income and stability of economic development (counter-cyclical policy). Following the logic of fiscal policy, it also influences the growth of the economy (Alexander, 1998).

The purpose of this paper was to analyze the compositions of government expenditure to the growth of the Ethiopian economy. This has provided important information for the usages of limited public resources properly.

### **1.2 Statement of the Problem**

The vision of ensuring sustainable development and reduction of mass poverty at a meaningful magnitude is enshrined, in one way or another, in the governments' development strategy document of virtually all developing countries. In this respect, Economic growth which is usually measured as the annual rate of increase in a nation's GDP is taken as a main objective for overcoming persistent poverty and offering hope for the possible improvement of society (M. Kaleb, 2005). The abandonment of growth as an important objective would be a tragic mistake that condemn a large proportion of the population of the developing countries to a life of misery even if that were accompanied by full employment, stable prices and income, and an even income distribution. Only growth can create, if not the certainty, at least the option of a more comfortable life for the masses (Teshome. k, 2006).

This study was design to address the impact of government expenditure on economic growth in Ethiopia by examining composition of government expenditure on education, training, transportation, communication, mining and energy, agriculture and urban development and housing within the study period of budget year starting from 1985 to 2008. In doing so, it tested a research hypothesis. Currently, it is important to examine the composition of government spending because:

- There is no clear insight on the notion of the impact of the government expenditure on economic growth in Ethiopia.
- The previous researches, conducted in this topic in Ethiopia, were very general. That means the researchers haven't examined specific government expenditure instead they have examined government expenditure in aggregate manners.

### **1.3 Literature Driven Hypothesis**

The study by Gabriel, (2014), Modeb, (2012), Adeyemi, (2010), and Serka, (2015) indicates that government expenditure on education & training has positive and significant impact on economic growth. On the other hand, the study by Njenga, (2013), Mwafaq, (2011) and Ibrahim (2012) shows that government expenditure on education & training has negative and non-significant impact on economic growth. Therefore, based on literature analysis the following hypotheses were raised.

**Hypothesis 1:** Government expenditure on education and training has a negative and significant impact on economic growth in Ethiopia.

The finding of Modeb, (2012) and Adeyemi, (2010) indicate that government expenditure on transportation & communication has positive and significant impact on economic growth. On the other hand, the study by Naftaly, (2014) Ibrahim, (2012) shows there is negative and non-significant impact on economic growth. Therefore, based on analysis of relevant literature, the following hypothesis was raised.

**Hypothesis 2:** Government expenditure on transport and communication has positive and significant impact on economic growth in Ethiopia.

The study by Naftaly (2014), and Abu .N, (2010) indicates that government expenditure on agriculture has significant and negative impact on economic growth. Based on the analysis of literature, the student researcher has raised the following hypostasis:

**Hypothesis 3:** Government expenditure on agriculture has negative and significant impact on economic growth in Ethiopia. The research by Massme (2010) and Gabriel (2014) indicates that government expenditure on mining & energy has significant and negative impact on economic growth. Based on this literature, the following hypothesis was raised.

**Hypothesis 4:** Government expenditure on mining & energy has negative significant impact on economic growth in Ethiopia.

According to Masoome (2010) and Bol .Y, (2016) government expenditure on urban development & housing has significant and positive impact on economic growth. As a result, the following hypothesis is raised:

**Hypothesis 5:** Government expenditure on Aruban development and housing has positive and significant impact on economic growth in Ethiopia.

## **1.4 Objectives of the Study**

### **1.4.1 General Objectives**

The general objective of this study was to explain the impact of government expenditure on economic growth in Ethiopia.

### **1.4.2 Specific Objectives**

For the achievement of the general objective, the study attempted to accomplish the following specific objectives;

- To explain the impact of government expenditure on education and training towards the Ethiopian economy within the study period.
- To explain the impact of government expenditure on transport and communication towards the Ethiopian economy within the study period.
- To examine the consequence of government expenditure on agriculture towards the Ethiopian economy within the study period.

- To examine the consequence of government expenditure on mining & energy towards the Ethiopian economy within the study period.
- To explain the impact of government expenditure on urban development & housing towards the Ethiopian economy within the study period.

### **1.5 Significance of the Study**

The major importance of this study is that it has incorporated the most recent data and employs both quantitative analysis and multiple regression models to study the impact of government spending on economic growth. This study collected updated information and the findings of this study can be used as a guide for policy makers and provide important information on the current performance of the public sectors for budget allocation. In addition to this, the study could be as a useful resource for further researches on this area and for the student researchers to employ theoretical knowledge of research into practice.

### **1.6 Delimitation of the Study**

The study has examined the effect of government expenditure on economic growth in the cases of Ethiopia for time series starting from 1985 to 2008. Specifically, it has examined the government expenditure on education, transport & communication, agriculture, mining & energy, urban development & housing.

### **1.7 Research Design and Methodology**

#### **1.7.1 Research Design**

The research design which was used in this study was explanatory which was useful in order to explain the relationship between dependent and independent variables. Therefore, explanatory research design has helped the researcher to give details about the influence of explanatory variable on economic growth in Ethiopia.

#### **1.7.2 Population and Sampling Techniques**

The total population included in this study was the Ethiopian government expenditure from year 1985- 2008. The student researchers judgmentally selected Ethiopian government expenditure on education & training,

transportation & communication agriculture, urban development & housing and energy & mining.

### **1.7.3 Data Type and Sources**

The type of data used in this study was quantitative data. The secondary data was taken from the budget period from 1985 to 2008 from Ministry of Finance and Economic Cooperation (MOFEC) and National Bank of Ethiopia (NBE).

### **1.7.4 Method of Data Analysis**

After relevant data were collected, the researcher used the statistical package for social science (SPSS) to analyze the data obtained from secondary source. A multiple regression model which best fitted the analysis for impact of government expenditure on economic growth was employed. The multiple regression models that were tested in this study were further explained as follows:

$$\text{GDP} = f[\text{EDU\&TRI}, \text{TRS\&COM}, \text{AGR}, \text{MIN\&ENE}, \text{ARBD\&HOU} \dots \dots \dots] \quad (1)$$

$$\text{GDP} = \alpha + \beta_1 \text{EDU\&TRI} + \beta_2 \text{TRS\&COM} + \beta_3 \text{AGR} + \beta_4 \text{MIN\&ENE} + \beta_5 \text{ARBD\&HOU} \dots \dots \dots \quad (2)$$

The model used in this study has been adopted from various studies: Mwafaq (2011), John (2013), Njenga (2013), Ibrahem, (2012)] which are in published on deferent journals.

**Table 1.1 Dependent and Independent Variables of the Study**

No.	Variable Name	Represent	Expected Result
	Dependent Variable	Economic Growth of Ethiopia	
1	GDP	Economic growth of Ethiopia	
	Independent variable		
1	EDU&TRI	Education and training	+ve sig.*
2	TRS&COM	Transportation and communication	-ve sig
3	AGR	Agriculture	+ve sig.*
	MIN&ENE	Mainlining and energy	-ve sig
4	ARBD&HOU	urban development and housing	-ve sig

\*: represents positive and significant relationship, \*\* represents negative and significant

Source: Researcher own reflection

### **1.8 Limitation of the Study**

Limitation of this study arises from lack of experience in conducting research and low technical skill in operating SPSS software as well as time constraints.

## **1.9 Organization of the Study**

The study is organized into four chapters: Chapter one explains the introduction, chapter two presents review of literature and empirical review, Chapter three deals with model estimation and interpretation of results and Chapter four discusses the conclusions and recommendations of the study.

## **2. Data Analysis, Presentation and Interpretation**

### **3.1 Introduction**

The third chapter of the study presents the analysis and interpretation of the survey data using secondary data sources collected from NBE and MOFEC. It is organized in to four major sub sections. The first section describes the independent variables and the second subsection discusses about different assumptions that should have to be fulfilled before running multi regression. Next to that, the second subsection presents little descriptive analysis. The final subsection, section four, discusses the output of multi regression model.

### **3.2 Descriptive Analysis of Independent Variables**

**Table 3.1 Descriptive Statics**

	<b>Range</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>
Agriculture	16,814.76	173.57	16,988.33	3,348.4438
Education & Training	39,308.74	604.00	39,912.74	8,768.8270
Growth domestic Product	662,690.34	145,798.55	808,488.89	347,563.5912
Mining & energy	1,981.70	85.60	2,067.30	727.3667
Transport & Communication	512.20	10.50	522.70	143.6925
Urban development & housing**	8,029.56	24.80	8,054.36	1,418.9066

Source: SPSS out put

#### **3.2.1 Descriptive Analyses in Relation to Growth Domestic Product**

For the last 24 years, Ethiopian GDP shows growth, however, the growth was not steadily continued that means in one year there was growth in other year there was decline in growth. The largest growth recorded for the last 24 years was in 2008 E.C, and the minimum was recorded in 1985 E.C. The difference between the largest and the smallest range was 81.9%. The change in average was high for the last 24 years. The average in the country's GDP was 347,563.5912 Birr.



### **3.2.2 Descriptive Analysis in Relation to Transportation and Communication**

On transportation and communication sector, the government of Ethiopia spent around 143.6925 million Birr each year for the last 24 years. The minimum expenditure spent in 1987 E.C was Birr 10.5 million. And the maximum expenditure of Ethiopia government spent in 2007 E.C was Birr 522.70 million.

### **3.2.3 Descriptive Analysis in Relation to Mining and Energy**

The expenditure of Ethiopia government on mining and energy for the last 24 years was around 727.3667 million Birr each every year. The minimum expenditure was 85.60 million Birr in 1997 E.C and the maximum was 2,067.30 million Birr in 2008 E.C.

### **3.2.4 Descriptive Analysis in Relation to Agriculture**

Ethiopian government expended on agriculture sector around 3,348.4438 million Birr each year for the last 24 years. The maximum expenditure made in 2008 E.C was 16,988.33 million Birr and the minimum expenditure in 1985 E.C was 173.57 million Birr.

### **3.2.5 Descriptive Analysis in Relation to Urban Development and Housing**

Expenditure in urban development and housing is 1.4189066 million Birr each year for last 24 years. The maximum expenditure spent in 2008 was 8.05436 billion Birr. In 1985, the minimum expenditure was 24.8 million Birr. The range shows that the growth in expenditure with base year 1985 to 2008 was 8.02956 billion Birr (Ntomunis, 2001) (Garson, 2012).

### 3.3 Verifying Assumptions

#### 3.3.1 Verifying Assumptions of Collinearity

Table 3.2: Collinearity Diagnostics

Condition Index	Education & Training	Mining & energy	Urban dev't & housing**	Transport & Communication	Agriculture
1.000	.00	.00	.00	.00	.00
2.902	.00	.01	.01	.00	.00
6.191	.00	.12	.05	.42	.01
7.883	.00	.47	.00	.10	.09
10.576	.16	.12	.57	.09	.02
14.502	.83	.28	.38	.39	.87

Source: SPSS out Put

Collinearity refers to the assumption that the independent variables are uncorrelated. The researcher was able to interpret regression coefficients as the effects of the independent variables on the dependent variables when collinearity is low. This means that we can make inferences about the causes and effects of variables reliably. Multicollinearity occurs when several independent variables correlate at high levels with one another. As multicollinearity diagnose table shows that there was no multicollinearity. If condition index over 15 indicates presences of collinearity if Condition Index above 30 indicts series multi collinearity (Daved, 2012).

#### 3.3.2 Verification Normality Assumptions

Multiple regressions assume that variables have normal distributions. This means that errors are normally distributed, and that a plot of values of the residuals will approximate a normal curve. The assumption is based on the shape of normal distribution and gives the researcher knowledge about what values to expect. Once the sampling distribution of the mean is known, it is possible to make predictions for a new sample. When scores on variables are skewed, correlations with other measures will be attenuated, and when the range of scores in the is restricted relative to the population, correlations with scores on other variables will be attenuate. Non-normally distributed variables can distort relationships and significance tests. Skew should be between 2 and

2 rang when the data is normally distributes (David, 2012) therefore the histogram shows normally distribute.

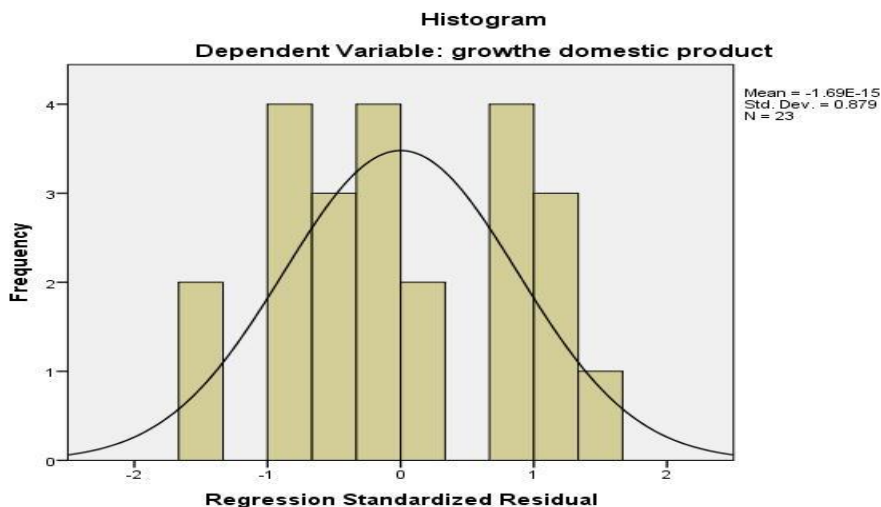


Figure 3.1 Source: SPSS out put

### 3.3.3 Verification Linearity Assumptions

Some researchers argue that this assumption is the most important as it directly relates to the bias of the results of the whole analysis. Linearity defines the dependent variable as a linear function of the predictor (independent) variables. Multiple regressions can accurately estimate the relationship between dependent and independent variables when the relationship is linear in nature. It is essential to examine the analyses for linearity. If linearity is violated all the estimates of the regression including regression coefficients, standard errors, and tests of statistical significance, might have been biased. If the relationship between the dependent and independent variables is not linear, the results of the regression analysis will under- or over- estimate the true relationship and increase the risk of type i and type ii errors to taste this assumption the researcher adopts. In ANOVA test, if f-value significant for the non-linearity component below the critical value ( $p\text{-value} < 1\%$ ), there is significant non linearity that means if the  $p\text{-value}$  is greater than the critical value of 1% there is linearity.

**Table 3.3: ANOVA Test for Linearity**

		<b>F</b>	<b>Sig</b>
Growth Domestic Product	(Continued)	3.50	.402
Transport & Communication	Linearity	5.40	.083
Education & Training	Linearity	4.3	.084
Mining and Energy	Linearity	7.94	.081
Urban Development and Housing	Linearity	2.54	.017
Agriculture	Linearity	5.18	.064

Source: SPSS out put

### 3.4.1 Model Fit Summary

**Table 3.4: Models Fit Summary**

<b>Model</b>	<b>R</b>	<b>R Square</b>	<b>Adjusted R Square</b>	<b>Std.Error of the Estimate</b>
L	.981 <sup>a</sup>	.963	.952	45,585.94635

Source: SPSS multiple regression out put

The modal summary shows that 0.992 (99.2%) of the total variation observed in the GDP is explained by this multiple regression model. The remaining 0.008% is unexplained by the multiple regression model. Therefore, the multiple regressions fit to explain the variations in the dependent variables in convenient manner by using appropriate variables (Nikos Ntoumanm, 2001).

### 3.4.2 Hypothesis Testing

**Table 3.5 ANOVA**

	<b>Model</b>	<b>Sum of Square</b>	<b>DF</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig</b>
<b>1</b>	Regression	908348423014.612	5	181669684602.922	87.422	.000 <sup>b</sup>
	Residual	35327334619.264	17	207807850.016		
	Total	94375757633.876	22			

Source: SPSS multiple regression out put

There is relationship between government expenditure and economic growth in Ethiopia. To test this hypothesis, the study adopted ANOV in the regression and presented the result above, the F- Value of 87.422 Prob (0.000) less than 5% significant level (Nikos, 2005). This implies that the variables in the module are significant, and the null hypothesis is rejected. Therefore, the researchers concluded that there is a relationship between government expenditure and economic growth in Ethiopia.

### 3.4.3 Regression Result out Put

Table 3.6 Coefficient of Regression

Model		Unstandardize d coefficient	Standardized coefficient	t	Sig	Sig
		<b>B</b>	<b>Std.Error</b>	<b>Beta</b>		
1	(Constant)	156161.349	19953.858	7.826	.006	.006
	Education & Training	9.400	4.272	.128		.042
	Transport and Communication	9.400	4.272	.128	2.200	.952
	Mining and Enjoying	9.487	156.652	.007	.061	.051
	Agriculture	20.381	9.727	.483	2.095	0.051
	Urban Development and Housing	23.687	18.123	.224	1.307	.207

Source: SPSS multiple regression out

These are the variables we used to design ordinary list square (OLS) equation:

$$\text{GDP} = 156160.349 + 9.4\text{EDU} + 9.487\text{TRA} + 9.149\text{MIN} + 20.381\text{AGR} + 23.687\text{URBD} + \text{HOU}$$

#### 3.4.3.1 Regression Output with Reference to Education & Training

The empirical result from the equation indicates that government expenditure is significant and has positive relationship between government spending on education & training and economic growth. The t-value shows 0.042 degree of significant. There is positive and significant relationship between education & training and economic growth under significant level 5%. This result is consistent with the proposed hypothesis of Gabriel (2014), Modeb (2012), Adeyemi (2010), and Serka, (2015) findings. This result implies that if the government increases expenditure on education & training at the same time the GDP will increase.

#### 3.4.3.2 Regression Output with Reference to Transportation

##### & Communication

According to table 3.3 transportation & communication has positive and insignificant impact on Ethiopian economic growth under significant level of (p=0925 sig 1%, 5%, and 10%). This finding is inconsistent with the proposed hypothesis but consistent with Abdu .M, (2010) findings. The implication of

the result is that the government increase in expenditure in the sector doesn't have contribution for the economic growth.

#### **3.4.3.3 Regression Output with Reference to Mining & Energy**

Expenditure on mining & energy has positive and significant impact on Ethiopian economic growth under significant levels of 5%. This result is consistent with the proposed hypothesis and inconsistent with the finding of Masoome F, (2010) and Gabriel, (2014). The result shows that more government expenditure on mining & energy has significant contribution for economic growth. As a result, investing in this sector is economically profitable.

#### **3.4.3.4 Regression Output with Reference to Agriculture**

The table 3.3 shows that government expenditure on agriculture sector has positive and significant impact on Ethiopian economic growth under the significant level of 10%. This result, is in consistent with the proposed hypothesis of Naftaly (2014), and Abu .N, (2010) findings. Based on this result, if the government spent more in this sector, there will be visible economical change in Ethiopia. As a result, the government spending in this sector is appreciable.

#### **3.4.3.5 Regression Output with Reference to Urban Development & Housing**

Government expenditure on urban development & housing has negative and in significant impact on the economic growth of Ethiopia. This finding is inconsistent with proposed hypothesis of Masoome (2010) and Bol Yor, (2016). This implies that the government expenditures on urban development & housing have no significant impact on Ethiopia's Economy. Other country researches show that urban development and housing have positive impact on economic growth whereas in Ethiopia the study shows negative and insignificant impact on the country's economy. The reason may be due to the negative relationship that happened in the country. The government didn't get return money more than the invested amount of money or it might be highly venerable area for embezzlement. To know the exact reasons conducting more research is required.

#### **4. Summary of Major Finding, Conclusions and Recommendations**

##### **4.1 Summary of Major Findings**

The study focused on the impact of government spending on economic growth using multi regression model and least square techniques. Critical government expenditure is included in the model to avoid the miss-specification of the model and also these variables seem to work together with government spending to influence the economic activity of the country:

- The government expenditure on education & training and mining & energy has positive and significant impact on Ethiopian economic growth under significant level of 5% and 10%.
- Government expenditures on urban development and housing have negative and insignificant impact on economic growth of Ethiopia.
- Government expenditure on transportation and communication has positive and insignificant impact on economic growth of Ethiopia
- Government expenditures on agriculture have positive and significant impact on Ethiopian economic growth under significant level of (10%).

##### **4.2 Conclusions**

This study has examined the effect of government expenditure on economic growth in Ethiopia for the years 1985 – 2008. As the data analysis revealed, there is a relationship between government expenditure and economic growth. Some components of government expenditure exerted negative effect on growth while others exerted positive effect. Based on major finding of the study, the following points have been identified.

- Expenditures on urban development and housing exert negative but insignificant effect on Ethiopian economy growth.
- Expenditure on Education & Training, mining and energy exerted significant and positive effect, on Ethiopian economy under significant level of 5%.
- Expenditures on Agriculture have significant and positive effect on Ethiopian economic growth. Under significant level of 10%
- Government expenditure on Urban dev't & housing\*\* has insignificant negative impact on Ethiopian economy

- Expenditures on transportation and communications have positive and insignificant impact on Ethiopian economy.

#### **4.3 Recommendations**

In the light of the researcher findings, the following points have been recommended:

- The government of Ethiopia should give more emphasis on agriculture, mining and energy sector because these sectors have significant impact on the Ethiopian economy since around 80% of the population directly engages in agricultural sectors.
- Ethiopian economic policy is agricultural leading industrialization. Thus to implement this policy, giving more emphasis in the area is so important.
- The government of Ethiopia should make effort to increase government funding on education sector because education is critical to increase the level of our economy. The impact of education in economic growth is visible because having well educated society helps ones country to carry out their activity by own skilled man power. This invaluable wealth for one's country.
- And the researcher recommended the government of Ethiopia to amend the spending policy on urban development and housing sectors.

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