EFFECT OF EDUCATION SECTOR EXPENDITURE ON ECONOMIC GROWTH IN TANZANIA

[1]Bikiombe Kachunga, [2]Dr. Mwaitete Cairo

[1]MScPPM student [2]Rector and Lecturer at the Institute of Accountancy Arusha- Tanzania
[1]Department of Accounting and finance.
[1]Institute of Accountancy Arusha- Tanzania

Abstract: **The study has examined the relationship of education sector expenditure and per capita income on economic growth in Tanzania using annual data obtained from the Ministry of planning and finance, BOT, and NBS, the study uses secondary data spanning the period between 2000 and 2019. In the study, preliminary test such as the unit root test (Augmented Dickey-Fuller test applied and later Johansen tests for cointegration checked whereby short and long-run effect observed on both variables as the data analysed through Stata and Microsoft excel, The objectives of the study was to examine the relationship of education sector expenditure with economic growth in Tanzania as well as to examine if education sector expenditure can forecast per capita income and economic growth in Tanzania to recommend Ministry of education on allocation of government fund to realize the strong and competitive economy in Tanzania whereby finding show that economic growth explained by 78.69% with education sector expenditure and per capita income since education expenditure was significant to the model since t-test statistics was 3.956 which is above 1.96, By concluding the study open the room to other study to address much information on education sector expenditure in relation to economic growth in Tanzania, also will enable the government before planning for education sector spending to rethink on the positive return on economic growth so decide exactly figure to spend in education sector for economic growth in Tanzania.**

Key terms: Education expenditure, Economic growth, Per capita income, and Education.

1. INTRODUCTION

The role of education in Tanzania regarded as an important determinant for economic growth not only to individually level, family level but also national level, the purpose of this study was to judge the relationship between the economic growth of the country in Tanzania with education sector expenditure if there are correlation between one another since education increased the human capital of the labour force and improved labour productivity growth and higher levels of economic growth, also education can created a class of educated leaders to fill vacancies in governmental services, public corporations, private domestic and foreign businesses and professions (Liao, 2019), The slowdown of the economy was associated with reductions in the amount of public and private funds available invested for education sector which eventually the conditions affect children's educational outcomes and economic growth of the country (Shafiq, 2010), the education system of any country is a major factor in determining how well the country's economy performed since education created facilities to train workers with more skilled workforce in competitive advantage in all industries, this make the differences between the developed country and developing country due to their training mode and investment made in different level of education referring to Tanzania education sector performance report.

Table 1.1 Annual Education Sector Performance Report (AESPR)

Year	Total Budget (in million TZS)	Budget for Debt Servicing (CFS)	Government Budget excluding budget for Debt Servicing (CFS)	Education Sector Budget (in million TZS)	Education Sector as % of the Total Budget excluding CFS
2014/15	19,649,500.00	4,354,730.00	15,294,770.00	3,465,101.00	22.7
2015/16	22,495,500.00	6,396,602.00	16,098,898.00	3,870,178.00	24
2016/17	29,500,000.00	8,000,000.00	21,500,000.00	4,768,358.00	22.2
2017/18	31,711,986.00	9,472,122.00	22,239,864.00	4,706,362.00	21.2
2018/19	32,475,950.00	9,628,437.00	22,239,864.00	4,641,498.00	20.9

The table above helped the study to realize the truth behind education expenditure and economic growth of Tanzania from 2000 up to 2020 through observation of the education sector performance and education budget allocation how it fluctuates with its relation to economic growth in Tanzania, Therefore, the current research investigated on whether increased education expenditure can significantly relate with economic growth in Tanzania, furthermore whether education expenditure increased used as a tool to predict economic growth in Tanzania, based on Tanzania development Vision 2025 it showed that the engine to the strong economy of Tanzania is education and much effort have been done by the government to prove so through making much emphasize on the budget sector on education as shown on table 1.1 from Education sector performance report 2018/2019 mainland (AESPR).

2. LITERATURE REVIEW

Education as a public investment, the fundamental argument is that investing in education leads to economic growth through increased productivity, social stability, and healthier lifestyles while on the other hand education as a private investment choice so investing in education leads to increased lifetime earnings for those with more years of schooling access to better paying jobs, reduced time spent in the unemployment market, and speedier transitions to enhanced career prospects (Maringe, 2015), Linking to this study show how education sector expenditure can relates with economic growth of the country, Derick and Elisha together addressed a topic with title of education and economic growth a co-integration approach where by the focus was policy makers and economists assert that for income to increase significantly and the economy of a country to be strengthened so paper suggested that countries need to spend a significant amount on education for their population whereby secondary data gathered from the World Bank Development Index (WBDI)data with a reference period of 1980–2016 in Ghana as the representative to other African countries, the study provides evidence that education is a driver for economic growth but at different levels of education in the short-run and long-run but the primary education was found to have a positive and significant impact on economic growth the same applied to secondary education had a positive impact on economic growth only in the long-run so that study recommend government of Ghana should bring out policies entreat every citizen of the country to attain at least primary or secondary education for economic growth to increase both in the short-term and long-term but the government should focus to direct education expenditure allocated towards quality and not only on quantity to realize economic growth (Derick Taylor, Elisha Kwaku, 2017), Currently study carried by Xu with title, Can Higher Education, Economic Growth and Innovation Ability Improve Each Other? Addressing China's economic development critical period of reform whereby the economy is driven by innovation instead of conventional input and investment since innovation has become a crucial driving force of economic growth Chinese economy as the result of improved developing higher education which directly support economic growth of the Chinese economy (Xu, 2020) so this study show education as accelerating factor to the innovation which influence positive economic growth of the country, The study done by Otieno on role of education investment on economic growth and development in Kenya stated that the Government of Kenya spends 30% of its budget on education while assuming the education investment to contribute positive on economy but the result show weak correlation since the findings show that an increase of 1% of education per worker raises output by 0.5% in the long run, a 1% increase in fixed capital formation raises output by 0.15% also, a 1% increase in labour leads to 0.21% decrease in output in the long run as the data analysed through granger causality test, (Otieno, 2016), also Kimea and Kiangi (2018) suggested that there is positive relationship between economic growth and government spending, the study were too general since government spending done in different sector and these two local studies not addressing the existing research gap on how education expenditure relates with economic growth of the country, hence this left a research gap that the current study seeks to bridge.

3. METHODOLOGY

The study covers time-series data from 2000 to 2019 whereby regression was applied to validate the study for the named period and the modal was developed. The researcher collected data on the economic growth (GDP) and data for education expenditure were obtained from the ministry of planning and finance database. But for the real gross domestic product (GDP) data were obtained from the National Bureau of Statistics database, covering 20 years from 2000 to 2019. The collected variables were treated for stationarity at their first difference and the researcher used the stationarity data for predicting the model and analysis, the researcher examined the education sector expenditure and its relationship to economic growth with the time series data so that data generated assisted the researcher to run the Regression analysis to examine the level of relationship and significance of the variables in the model, Economic growth was identified by the researcher as the dependent variable in this study while education expenditure and per capita income identified to be independent variables hence variables were tested to examine the level of significance at 5% decision criteria and the developed model was also tested for cointegration and serial Correlation, normality, heteroskedasticity, multicollinearity, Johansen and Unit root test was also applied to validate the model.

4. FINDING AND DISCUSSION

Here the researcher presents summary statistics for variables, unit root tests, Economic growth as the dependent variable on this study were measured on the continuous scale-interval which was linear and got trend while independent variables such as education expenditure and per capita income all were continuous so this made the data be analyzed through multiple regression.

4.1. Descriptive Statistics

Table 4.1 reports descriptive statistical coefficients for education expenditure and per capita income variables to which shows the statistic means of 6483637.47 for d-GDP, 95096.8413 for d-per capita income, and 230170.4947 for d-Education expenditure while meaning standard error is 2845148.692 for d-GDP, 52962.54062 for d-per capita income and 128253.77995 for d-Education expenditure but also the descriptive statistics shows that per capita income and education expenditure deviate more based on their standard deviations.

4.1 Descriptive statistics

		d-GDP	d-per capita	d-Ed expenditure
N	Statistic	19	19	19
Range	Statistic	53117088	986009.98	2695192.10
Minimum	Statistic	864	-8365.26	-285652.00
Maximum	Statistic	53117952	977644.72	2409540.10
Sum	Statistic	123189112	1806839.98	4373239.40
Mean	Statistic	6483637.47	95096.8413	230170.4947
	Std. Error	2845148.692	52962.54062	128253.77995
Std. Deviation	Statistic	12401715.628	230858.36236	559045.26595
Variance	Statistic	153802550523533.000	53295583470.678	312531609376.578
Skewness	Statistic	3.328	3.561	3.605
	Std. Error	.524	.524	.524
Kurtosis	Statistic	12.120	13.230	14.441
	Std. Error	1.014	1.014	1.014

4.2 Tests for stationarity of time series data**.**

It was significant to verify the stationarity properties of the variables for the study to avoid the risk of unreliable results and spurious which lead to poor understanding and forecasting in regression analysis so the Augmented Dickey-Fuller (ADF) method is conducted to check for a unit root for all variables in both levels and first differences. In carrying out the stationary tests we considered drift and trend in the series. The results of this test are presented in Table 4.3, which indicates that the hypothesis of a unit root cannot be rejected in all variables in levels. It is therefore concluded that all variables are non-stationary at their levels.

4. 1. ADF Unit Root Tests for Stationary: Level Variables(trend)

	z(t)	test-Statistic	Critical value			Decision
			1%	5%	10%	
d-GDP	0.0987	-3.133	-4.38	-3.6	-3.24	Accept H_O
d-Capita	0.1067	-3.098	-4.38	-3.6	-3.24	Accept H_O
d-Ed expenditure	0.0008	-4.654	-4.38	-3.6	-3.24	Accept H_O

Table 4. 1 ADF Unit Root Tests for Stationary: Level Variables(trend)

Hypothesis:H_0: Series is non-stationary/has a unit root., H_1: Series has no unit root.

However, the hypothesis of a unit root is rejected in the first differences which indicates that all variables are stationary (Table 4.4). This also suggests that further estimations could be carried while in the first difference to avoid spurious correlation.Table 4. 2. ADF Root Tests for Stationary: First Difference (drift)

	z(t)	test-Statistic	Critical value			Decision
			1%	5%	10%	
d-GDP	0.0049	-2.927	-2.583	-1.746	-1.337	Rejects H_o
d-Capita	0.0051	-2.912	-2.583	-1.746	-1.337	Rejects H_o
d-Ed expenditure	0.0012	-3.587	-2.583	-1.746	-1.337	Rejects H_o

Hypothesis:H_0: Series is non-stationary/has a unit root., H_1: Series has no unit root.

4.4 Regression Results

The results of R square = 78.69% is a suitable fitted level to explain the model. This is interpreted as that; the GDP can be affected by the education expenditure and per capita income so independent variables that are education expenditure and per capita income explain the dependent variable GDP to the extent of 78.69% and other unidentified factors can explain the GDP for only 21.31%. The value of Durbin-Watson d-statistic (2, 19) = 2.025239 indicates there is no autocorrelation and there is a positive relationship among the variables included in the model.

4.5 Regression results

Source	Ss	Df	MS	Number of observations = 19	
				F (1, 17) = 360.01	
				Prob > F = 0.0000	
Model	2.64E+15	1	2.64E+15	R-squared = 0.7869	
Residual	1.25E+14	17	7.34E+12	Adj R-squared = 0.7432	
Total	2.77E+15	18	1.54E+14	Root MSE = 2.7e+06	
					Conf. Interval]
D-GDP	Coef	Coef. Std.	T	P>t	[95% conf. interval
D-per capital	53.8867	2.607579	20.67	0.000	48.38519 59.38821
d-edexpendi~e	2.062534	1.076885	3.956	0.001	0.2094937 4.334562

Table 2.5 Regression results

Based on the table of coefficient of the variable as analyzed under multiple regression analysis using Stata software, since the variable was organized in the following function GDP = f (Education expenditure, Per capita income), The researcher used the above function and run a model were GDP = 1179905+ 2.062534X_1 + 53.8867X_2 + ε. Where, X_1 =Education expenditure, X_2= per capita income, and ε = Error term.

Per capita income represented by X_2 in regression equation model with the positive sign which signifies there was a positive relationship between a dependent variable that is Economic growth measured by GDP to this study and independent variable per capita income so one unit increase of per capita income of the people in the nation leads to the increase of 53.8867 unit of GDP of the Country.

Diagnostics checking for Regression Results Model, Regression model passed through different diagnostic test including serial correlation test and observed that there is no serial correlation through Durbin's alternative test for autocorrelation as indicated on the table below

4.5 Durbin alternative test for autocorrelation.

Durbin's alternative			
lags(p)	chi2	df	Prob > chi2
1	0.039	1	0.8436
H0: no serial correlation			

Based on table 4. 5 Durbin alternative test for autocorrelation results showed that the model also appears to be free from heteroskedasticity as it passes all the heteroskedasticity tests, also different tests for normality were checked like the Shapiro-will test, and value for all variables was above 0.05 which data a normal distributed.

4.6 Shapiro-Wilk W test for normal data

Variable	Observation	W	V	Z	Prob>z
d-GDP	19	0.52761	10.784	4.777	0.000
d-per-capital	19	0.43364	12.93	5.141	0.000
d-ed-expendi~e	19	0.54844	10.309	4.686	0.000

Table 4. 6 Shapiro-Wilk W test for normal data

4.7 VIF test for multicollinearity.

Variable	VIF	1/VIF
d-edexpendi~e	1.01	0.994845
D-per capital	1.01	0.994845
Mean VIF	1.01	

Table 4.8 Skewness/Kurtosis tests for Normality

Variable	Observation	Pr(Skewness)	Pr(Kurtosis)	Adj	chi2(2)	Prob>chi2
d-GDP	19	0.0000	0.0001	24.88		0.0000
D-per capital	19	0.0000	0.0000	26.43		0.0000
dedexpendi~e	19	0.0000	0.0000	27.19		0.0000

The multicollinearity was further performed by VIF, this test uses a rule of thumb that if a variable's VIF value exceeds 5, it is signal multicollinearity and, in that case, some variables have to be adjusted from the model. The results as being shown in table 4.7 reveal the model has not affected by multicollinearity, but also table 4.8 showed that data are normally distributed due to the presence of zero mean in all variables.

5. DISCUSSIONS
5.1. Contribution of the education expenditure on economic growth.
Based on the finding observed after analysis on education expenditure against economic growth proved a positive relationship between education expenditure and economic growth since one unit increase of education expenditure in the education sector in-country lead to the increase of 2.062534 units of GDP of the country since data analyzed has the common increasing trend with economic growth of the country, In addition, the t-test of education expenditure as an independent variable to economic growth as the dependent variable was 3.956 which is above 1.96 and signify the education expenditure was a significant factor to economic growth for the long-run effect. 5.1 Johansen tests for cointegration.

				Johansen tests for cointegration		
Trend: constant				Number of obs = 18		
Sample: 2002 - 2019				Lags = 2		
maximum rank	Parms	LL	Eigenvalue			
maximum rank 0	Parms 12	LL -798.776	Eigenvalue .	trace statistic	5% critical value	
1	17	-749.6	0.99576	114.3617	29.68	
2	20	-742.387	0.55132	16.0102	15.41	
3	21	-741.595	0.08424	1.5840*	3.76	
maximum rank						
maximum rank 0	Parms 12	LL -798.776	Eigenvalue .	max statistic	5% critical value	
1	17	-749.6	0.99576	98.3516	20.97	
2	20	-742.387	0.55132	14.4261	14.07	
3	21	-741.595	0.08424	1.584	3.76	
Rank	Parms	LL	Eigenvalue			
0	12	-798.776		SBIC	HQIC	AIC
1	17	-749.6	0.99576	90.67979	90.16806	90.08621
2	20	-742.387	0.55132	86.0187	85.29374	85.17779
3	21	-741.595	0.08424	85.69898*	84.84608*	84.70967
				85.77155	84.87601	84.73278

Table 5.1 Johansen tests for cointegration.

The educational sector is a means and instrument for the development of the nation so education expenditure is, therefore, an essential factor for economic growth, social and even political change (Adel Ifa and Imène Guetatb, 2018) also supported by the study employed the ARDL bounds testing methodology for the period 1976 to 2016 in Mauritius whereby the study found education expenditure Granger causes economic growth in Mauritius in the short run, also found that economic growth does not Granger cause education expenditure in Mauritius in the short run. However, in the long run, the study found that there are long-run relationships between education expenditure and economic growth in both equations that mean an increase in either of the education

sector expenditure will eventually lead to an increase in the economic growth of the nation, (Sunde, 2017), this verified from graph below which showing relationship of education sector expenditure on the economic growth of the nation.
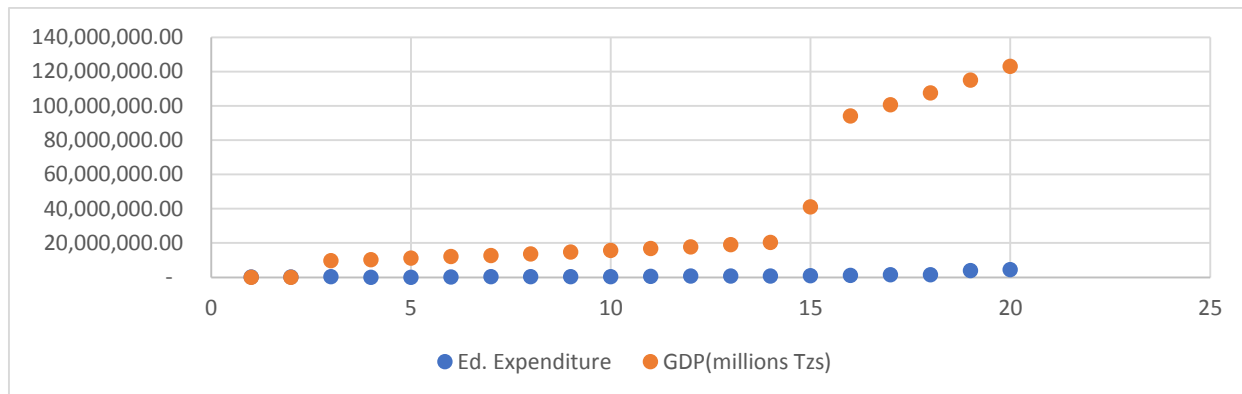

Figure 5. 1 Graph showing relationship between education expenditure and GDP

From the graph above, it observed that there is common increasing trend as the education sector expenditure increase with GDP so as the nation increase investment in education sector created the environment for the economic growth, there is great change for GDP from 2014/2015 due to the change of the policy in education system during the reign of late President John Magufuli on free education for all for primary schools and ordinary secondary schools which increased numbers of student in government schools and create demand for the investing more money on education sector which encounter high education sector expenditure, The result supported by other study in China addressing public education expenditure and economic growth in China whereby paper holds that public education expenditure has a positive effect on economic growth, and secondary education accounts for the largest contribution to economic growth, followed by higher education and primary education (Yao Liu, Ziru Tan and Xiaohua Ning, 2019), based on this fact from China, it true education expenditure has positive effect on economic growth but primary education contribute in large proportion followed by secondary education, pre-primary education, higher education to the economic growth as shown in the graph below

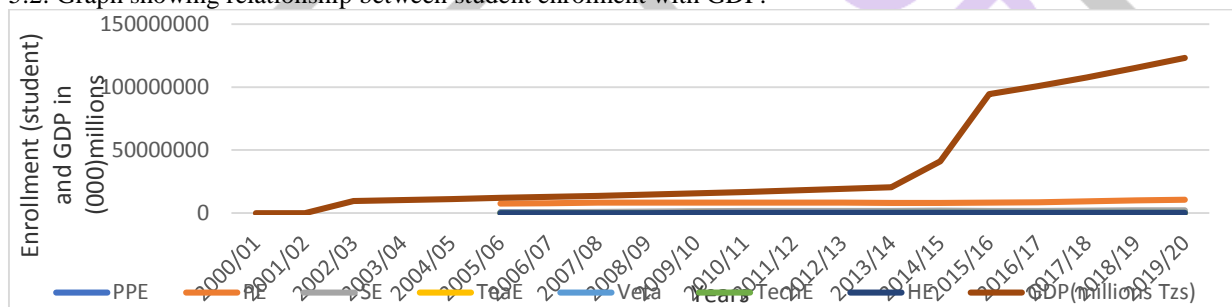5.2: Graph showing relationship between student enrolment with GDP.

Figure 5. 2 Graph showing relationship between student enrolment with GDP

Based on the policy change in Tanzania which created high demand for the government to invest more in the education sector since enrolment was increased the lead to the demand on classrooms, toilets, employment of new staff to meet with the number of students enrolled in the level of education sector since education contributing to economically sustainable development, owing to its potential for improving cognition and skill levels and enhancing worker productivity.

The crowding-out or crowding-in effect of natural resources depends on public education expenditure which has been identified as the key mechanisms of the resource curse or blessing based on an understanding of resource utilization and life transformation through the available resource (Edziah, 2018)

Education expenditure depends on the economic development level of this country so GDP is a kind measurement of the total value of all economic activities during a period at the country level, and as an index, it can reflect integrated national economic development condition which computed by three ways production method, revenue method, and expenditure method, expenditure method is much helpful since could show constitution and structure of utilization. Using the expenditure approach, GDP represents the total value of consumed and expended final product and service, including consumption, investment, government purchases, and net export, education is regarded as a part of consumption or investment, when GDP is computed as an effective way to estimate educational investment proportion and reflect the degree of importance government attached to human capital that is one of the important factors in terms of economic development and can boost the economy by improving quality of labor as well as productivity (LI, 2017).

5.2 Contribution of per capita income on Economic growth (GDP)

Per capita income represented by X_2 in regression equation model with the positive sign which signifies there is a positive relationship between a dependent variable that is Economic growth measured by GDP to this study and independent variable per

capita income so one unit increase of per capita income of the people in the nation leads to the increase of 53.8867 unit of GDP of the Country as illustrated in the figure below.

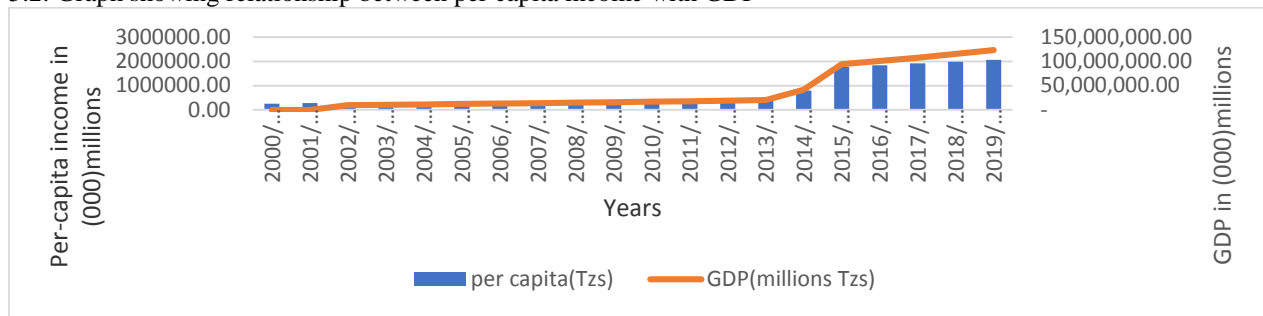5.2: Graph showing relationship between per capita income with GDP

Figure5. 3 Graph showing relationship between per capita income with GDP

The figure above shows the strong positive relationship between per capita income and economic growth that is GDP, per capita income is the result of education expenditure to the people within the nature gaining skills and knowledge to utilize the available resource for surviving as illustrated in the figure below which show how education expenditure influence per capita income of the people...

6. CONCLUSIONS

As the study examined the effects of education expenditure and per capita income in the economic growth of the country through GDP using yearly secondary data from July 2000 to June 2019. Johansen Maximum Likelihood Co-Integration Test and Error Correction Regression Results models show a short-run and long-run relationship which means education expenditure and per capita income of the people has essential importance for the growth of the economy, so any reduction of monetary investment in the education sector has a short and long-run effect on the economy of the country also the results shows that education expenditure plays an important role in determining economic growth of the Tanzania nation since has a positive and significant influence on economic growth.

The results from the analysis show that in both the short-run and long-run, economic growth is impacted by education expenditure and per capita income. Moreover, the empirical results demonstrate the significant positive impact of education expenditure on the economic growth of the country when per capita income of the people also is positive to increase Tanzania economy, so based on the above analysis it concludes that two selected macroeconomic variables are relatively significant and likely to impact the economic growth of Tanzania based on their coefficients and their significance relationship both in short and long-run impacts of which its consistency with theories.

7. RECOMMENDATIONS

Due to the positive relationship that exists between education sector expenditure, per capita income, and economic growth in Tanzania it is highly recommendable that government should increase the amount of monetary value investing in the education sector directly by creating an environment to the community enhancing earning capacity of the individual persons in the nation but also policymakers should consider education sector budget allocation and expenditure should be equal and should be considered as the engine of all other sectors to realize economic growth of the country through a clear focus on budget allocation issues related to education sector expenditure to ensure that budgetary allocated is properly spend as per original plan and avoid any failures to meet plan to realizes better economic growth.

REFERENCES

A. z. nowak, gangadhar dahal, 2016. the contribution of education to economic growth: evidence from Nepal. *International Journal of Economic Sciences,* pp. Vol. V, No. 2 / 2016 page 22-34.

Abiodun Moses Adetokunbo and Ochuwa Priscillia Edioye, 2020. Response of economic growth to the dynamics of the service sector in Nigeria. *Future Business Journal.*

Adel Ifa and Imène Guetatb, 2018. Does public expenditure on education promote Tunisian and Moroccan GDP per capita? ARDL approach. *The Journal of Finance and Data Science,* 4(4), pp. 234-246.

BO, E., 2017. *The service sector in Nigeria: an escalator for new economic growth. ,* s.l.: Economic development, School of Economics and Management, Lund University...

Derick Taylor, Elisha Kwaku, 2017. Education and economic growth: a co-integration approach. *Department of Agricultural Economics and Agribusiness, University of Ghana.*

Eggoh, J. H., 2015. 'Education, health and economic growth in African countries. *Journal of Economic Development,* pp. Vol. 40, No. 1, pp.93–111.

ESDC, 2018. Education sector development plan (2016/17 – 2020/21). *ministry of education, science, and technology.*

Guangyou Zhou and Sumei Luo, 2018. Higher Education Input, Technological Innovation, and Economic Growth in China. *School of Economics, Fudan University, Shanghai 200433, China.*

Hanif, N. and Arshed, N., 2016. 'Relationship between school education and economic growth. *International Journal of Economics and Financial Issues,* pp. Vol. 6, No. 1, pp.294–300.

Holger Seebens, Peter Wobst, 2015 . *The Impact of Increased School Enrollment on Economic Growth in Tanzania,* s.l.: ZEF – Discussion Papers on Development Policy, Bonn.

Ilkhom, S., 2015. Contemporary Economic Growth Models and Theories: A Literature Review. *Centre for European Studies, Alexandru Ioan Cuza University.*

Jose, S. and Chacko, J., 2017. Building a sustainable higher education sector in the UAE. *International Journal of Educational Management.*

Kimea, A.J. and Kiangi, R.F, 2018. Economic Growth and Public Spending on Selected Sectors in Tanzania. *International Journal, 6(1), pp.7-16.*

Komba, S., 2017. Issues on Financing Higher Education in Tanzania. In The Future of Accessibility in International Higher Education (pp. 125-138). *IGI Global.*

Liao, L., 2019. The Impact of Educational Investment on Sustainable Economic Growth in Guangdong, China: *Department of Economics, Jinan University, Guangzhou 510632, China.*

Maringe, F., 2015. *Higher Education Market, The Investment Theory of Higher learning and human capital theory,* s.l.: International Encyclopedia of the Social & Behavioral Sciences (Second Edition),.

Muhammad Afzal and Muhammad Shahid Farooq, 2010. Relationship between school education and economic growth in Pakistan. *Pakistan Economic and Social Review,* pp. Volume 48, No. 1 (Summer 2010), pp. 39-60.

NFYDPII, 2016. National Five Year Development Plan 2016/17 – 2020/21"Nurturing Industrialization for Economic Transformation and Human Development". *Ministry of Finance and Planning.*

Otieno, O. D., 2016. Role of Educational Investment on Economic Growth and Development in Kenya. *Journal of Education and Practice,* pp. ISSN 2222-1735 (Paper) ISSN 2222-288X (Online) Vol.7, No.22..

Owusu-Nantwi, V., 2015. 'Education expenditures and economic growth: evidence from Ghana'. *Journal of Economics and Sustainable Development,* pp. Vol. 6, No.16, pp.69–77.

Segun, O.M., Adelowokan, O.A., 2015. Measuring the Impact of Public Expenditure on Economic Growth in Nigeria. *Journal of Social Science Studies 2,* p. 46.

Shafiq, M. N., 2010. The Effect of an Economic Crisis on Educational Outcomes: An Economic Framework and Review of the Evidence. *© 2010 Current Issues in Comparative Education, Teachers College, Columbia University.*

Sunde, T., 2017. *Education Expenditure and Economic Growth in Mauritius: An Application of the Bounds Testing Approach.* ISSN 1857- 7431 ed. s.l.: European Scientific Journal.

UNDP, 2015. Making education the gateway in Tanzania's growth. *https://www.un.org/africarenewal/news/making-education-gateway-tanzanias-growth.*

Yao Liu, Ziru Tan and Xiaohua Ning, 2019. Public education expenditure and economic growth: based on panel data from 2009 to 2019 in China. *World Journal of Advanced Research and Reviews.,* 1(1), p. 184–19.