

# Effect of Government Funding to Secondary Schools on Gender Parity in Kenya

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## ABSTRACT

Education is seen as a key driver to any economy because of its ability to develop human capital which is essential to the growth of any economy. In order to achieve the sustainable development goals (SDG'S), the government of Kenya has to ensure inclusive and equitable quality education and promotion of learning outcomes for all. Attaining gender parity measured by gender parity index (GPI) of 1 in enrolment is vital for realizing gender equality in education. Education for all (EFA) goal 5 advocates for eradicating gender disparities in both primary and secondary education. Most of the studies done on the effect of public education expenditure on education outcomes used primary school enrolment, secondary school enrolment, adult literacy rate and secondary school transition rate as measures for education outcomes as opposed to gender parity. The studies also used total expenditure on education as opposed to the expenditure at various levels of education. The purpose of this study was therefore to determine the effect of government funding to secondary schools on gender parity in Kenya. The study was anchored on the human capital theory and on the Musgrave and Rostow's public expenditure theory. The study used a correlational research design based on annual time series data spanning 50 years from 1972-2021 obtained from the world development indicators. The study employed the Johansen Co-integration test to establish the long run relationship between the variables, the Vector Error Correction Mechanism to integrate long run and short run dynamics and Granger causality for directional causality. The study revealed unidirectional causality from public expenditure on secondary education to gender parity. The normalized co-integrating coefficients of 8.94 implied that a one percent increase in public expenditure on secondary education increased gender parity by 8.94% in the long run. In view of this, the study is significant to academia by adding to the existing body of knowledge and useful to the government in coming up with policies that will help increase the gender parity to 1.

## INTRODUCTION

Gender parity refers to equal number of girls and boys relative to their respective numbers in the population (Republic of Kenya, 2015). Attaining gender parity measured by gender parity index (GPI) in enrolment is vital for realizing gender equality in education. Education for all (EFA) goal 5 advocates for eradicating gender disparities in both primary and secondary education. Trend projections for the GPI at both the primary and secondary levels of education among 164 countries showed that only 62 countries (37.8%) achieved gender parity in enrolment for both primary and secondary education by 2015. None of the Sub-Saharan African countries including Kenya achieved gender parity at both primary and secondary levels (UNESCO, 2015). Education is a fundamental human right which is key in accelerating economic growth and development. Through educational development, economies are able to absorb modern technology, develop human capital, improve health outcomes, promote social equality and cultural diversity, increase productivity and create employment opportunities (Republic of Kenya, 2015; Nafziger 2006;

Psacharopoulos, 1988). The goal of the Kenya's vision 2030 blueprint is to transform the country into a globally competitive and a prosperous nation by the year 2030 founded on the social, economic and political pillars. Education, a social pillar is expected to aid in facilitating the process by instilling knowledge, attitudes and skills necessary for transforming Kenya into a globally competitive country and acquiring new knowledge in a systematic way with an aim of improving products and processes (Republic of Kenya, 2007).

Education outcomes which include gender parity in education as noted by Schultz (1981) are key elements in human capital development which are vital in accelerating economic growth and development. In this recognition, the international community through the education for all (EFA) initiative launched in Dakar Senegal in 2000 came up with outcomes focusing on six goals that comprise quality education, adult and youth literacy, gender parity and skill formation. These outcomes have considerably influenced national education policies in developing countries as well as international development cooperation (UNESCO, 2015). The education outcomes were to be attained by 2015. However, one third of 164 countries by 2015 had achieved the literacy goal. Quality education, gender parity and skill formation remained unrealized where 52% of all countries had realized universal primary enrolment, 46% had reached the universal secondary education enrolment, Global Partnership for Education (GPE), (2017); UNESCO, (2015).

## STATEMENT OF THE PROBLEM

In Kenya, learning outcomes are extremely inequitably distributed across counties and gender. For instance, the enrolment of boys in both primary and secondary schools over years has exceeded the enrolment for girls widening the gender inequality gap (Republic of Kenya, 2015). The government's commitment to bridge the gender gap in education has been evident through the enactment of various laws and policies. Nonetheless, lack of information on the factors that might affect the gender parity gap in education such as public expenditure on education and per capita income may render the progressive enactments ineffective. More importantly, it remains unknown how public expenditure on education and per capita income affect gender parity. This study therefore sought to investigate the effect of government funding to secondary schools on gender parity in Kenya that will provide information on the relationship between the factors hence bridging the knowledge gap.

## OBJECTIVE OF THE STUDY

The objective of this study was to determine the effect of government funding to secondary schools on gender parity in Kenya.

## RESEARCH HYPOTHESIS

Government funding to secondary schools has no effect on gender parity in Kenya.

## EMPERICAL LITERATURE REVIEW

Using a panel of 94 developing countries, Baldacci et al. (2003) in their study sought to understand the effectiveness of public spending on health care and education as social indicators. They noted that public spending was positively correlated with school enrolment rates. Additionally, Okodua *et al.* (2014) using a panel of 58 low and middle income countries (excluding Kenya) noted a positive correlation between secondary education spending and educational attainment. Gross secondary enrolment was used to capture the level of educational attainment. Although the studies focused on developing and low income countries, the findings cannot be generalized to Kenya.

Using panel data for 4 African countries from 1990 to 2002, Anyanwo and Erhijakpor (2007) studied the

relationship between government expenditure and school enrolment in South Africa, Algeria, Nigeria and Egypt at primary and secondary school levels. Ordinary least squares analysis showed that government expenditure on education had a positive and significant impact on primary and secondary education enrolment rates. A study on government spending and educational outcomes in Nigeria by Obi et al (2016) using ordinary least squares (OLS) and time series data from 1970 to 2013 revealed that public spending had a positive and significant effect on education outcomes proxied by primary school enrolment rate. Similarly, Dauda (2011) using literacy rates and Adesiyan (2017) using primary/secondary school enrolment in their studies in Nigeria established a significant positive relationship between government spending and primary enrolment rates. A negative relationship existed between government spending and secondary education enrolment.

A study involving 20 African countries excluding Kenya on the effect of education expenditure on enrolments at primary and secondary school levels by Carsamer and Ekyem (2015) showed that educational expenditure positively increases school enrolment at both primary and secondary school levels. Similarly, a study using a panel of 9 provinces of Sri-Lanka another developing country by Mendis and Ichihashi (2014) depicted that there is a positive relationship between government expenditure and school enrolment.

A study by Mbaya (2016) on the effect of public expenditure on education outcomes in Kenya using time series data from 1980-2013 found that public expenditure on education affects education outcomes positively. The study used primary school completion rate and secondary school transition rate as proxies for education outcomes.

## **SUMMARY OF LITERATURE GAPS**

From literature review it has been noted that several studies have been conducted to examine the effect of public education expenditure on education outcomes. However, it is clear that divergent results have been reported; most of the studies including those conducted in Kenya used primary school enrolment, secondary school enrolment, adult literacy and secondary school transition rates to measure education outcomes as opposed to gender parity. Furthermore, the studies used total expenditure on education as opposed specific expenditure at various levels of education. This makes it difficult to make a conclusion as to whether government funding to secondary education influences education outcomes positively or negatively. More importantly, it remains unknown how government funding to secondary schools affect gender parity. This study therefore sought to investigate the effect of government funding to secondary schools on gender parity in Kenya.

## **THEORETICAL LITERATURE REVIEW**

### **The Human Capital Theory**

Human capital theory according to Fix (2018) was put forward in the 20<sup>th</sup> century. The proponents that include Schultz (1961), Becker (1960) and Mincer (1958) in their research work aimed at linking income and human capital. Investment in human capital as noted by Schultz (1972) involves investment in education and training which improves productivity that in turn increases income. According to the theory as noted by Peters (2015) and Smith (2006), individuals choose to invest in themselves through education and training where education is seen to be a vital instrument for enhancing economic growth i.e. the greater the investment in education by people, the better their future welfare and performance of economy.

Since majority of individuals lack adequate resources to entirely invest in their own human capital (education), governments typically intervene with subsidies provided through public expenditure on education (Smith, 2006). Advancement in human capital encompasses the capital and time aspects. Certain

forms of expenditure and incomes such as expenditure on education create productive stocks embodied in individuals for providing services over future periods (Schultz, 1972). This advancement as posited by Mulongo (2012) makes people more productive hence improved social and economic returns for the individuals and the economy as a whole.

### **Musgrave and Rostow's Public Expenditure Theory**

Musgrave – Rostow model postulates that growth in public expenditure is a precondition for economic growth such that at initial stages of economic development, the rate of growth in public expenditure will be very high (Guandong & Muturi, 2016). According to Edame and Eturoma (2014) higher government expenditure at initial stages is due to the desire to provide economic infrastructure that include roads, railways, water supply and sanitation. As the economy grows, public investment shifts towards promoting human capital development realized through increased spending on education, health and welfare services (Guandong & Muturi, 2016). The theory is criticized as it disregards the private sectors contribution to development where government expenditure is assumed to be the sole driver of economic growth (Muthui et al, 2012).

The human capital and Musgrave-Rostow theories as applied to the study show that public spending on education and time are critical in determining the level of investment in human capital. However, as noted it is evident that the theories view public expenditure, time and incomes as the key drivers of human capital development. The theories however disregard other factors such as gender parity, school enrolment, literacy and completion rates which are also key factors in human capital development.

## **METHODOLOGY**

### **Research Design**

The study used the correlational research design to establish the relationship between the independent variable and the dependent variable in the study. The correlational research design helped establish the strength of the relationship between government funding to secondary schools and gender parity in Kenya.

### **Study area**

The study focused on Kenya as an independent nation which is located on latitude of  $0.0236^{\circ}\text{S}$  and a longitude of  $37.9062^{\circ}\text{E}$ . Kenya has a population of forty seven million, five hundred and sixty four thousand, two hundred and ninety six people (Republic of Kenya 2020) and covers  $581,309\text{km}^2$ . The country has a devolved government with forty seven counties each with a county government comprising of a governor, county assemblies and the executive.

### **Data Collection and Sources of Data**

The study used annual time series data for a period of fifty years from 1972-2021 sourced from the world development indicators.

## **RESULTS AND DISCUSSIONS**

### **RESIDUAL DIAGNOSTIC TEST RESULTS**

#### **Normality test**

Residuals are said to be normally distributed when the Jarque-Bera statistic is not statistically significant

(Gujarati 2008). The test involved testing the null hypothesis that the residuals are normally distributed. A probability value of greater than 0.05 would lead to the acceptance of the null hypothesis but a probability value less than 0.05 would lead to the rejection of the null hypothesis of normality.

**Normality test results**

Lag	Jarque-Bera	Df	Prob.
1	4.303596	2	0.1163
2	2.546887	2	0.2799
3	3.085839	2	0.2138

**Note:** G- Gender parity, S- Expenditure on secondary education. **Source:** Author’s computation using e-views

From the normality test results, the Jarque-Bera probability values were greater than 0.05 at the various lags. This indicated that the null hypothesis that the residuals were normally distributed could not be rejected at 5 percent level of significance.

**Autocorrelation test**

The test involved establishing whether in the linear classical model the error term at time t was correlated with the error term in time t-1 or in any other time period. The null hypothesis of no first order autocorrelation was tested.

**Auto correlation test results**

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.6932	Prob. F(2,26)	0.2036
Obs*R-squared	5.3009	Prob. Chi-Square(2)	0.0706

**Source:** Author’s computation using e-views

The auto correlation test results indicated an observed with a probability value of 0.0706 which was more than 0.05. This implied that the null hypothesis of no first order autocorrelation could not be rejected at 5% level of significance hence there was no problem of serial correlation.

**Heteroscedasticity**

Heteroscedasticity sets in when the variance of residuals is unequal over a range of measured variables and results to unequal scatter of the error term (Gujarati 2008). The test involved testing the null hypothesis that the residuals are not heteroscedastic against the alternative hypothesis that the residuals are heteroscedastic.

**Heteroscedasticity test results**

VEC Residual Heteroskedasticity Tests (Levels and Squares)

Chi-sq	Df	Prob.
270.8122	280	0.6422

**Source:** Author’s computation using e-views

The observed chi-square value of 270.8122 with a probability of  $0.6422 > 0.05$  from the heteroscedasticity test results suggested that the null hypothesis could not be rejected at 5 percent level of significance. It was therefore concluded that the residuals did not in any way suffer from heteroscedasticity.

## DESCRIPTIVE STATISTICS

The descriptive statistics involved maximum, minimum, standard deviation and the Jarque-Bera test which were designed to reveal the distribution of data under consideration in terms of minimum, maximum and mean. The mean was meant to give the overall average of each variable. The dispersion within the distribution was defined by the standard deviation. The Jarque-Bera test was meant to test the normal distribution of the data set.

### Descriptive Statistics results

Aspect	$G_t$	$S_t$
Mean	0.9164	26.12
Maximum	0.9704	43.12
Minimum	0.7127	15.47
Std. Dev.	0.0582	9.59
Jarque-Bera	1.9156	4.0293
Probability	0.0610	0.0581
Observations	50	50

**Note:** G- Gender parity, S- Expenditure on secondary education. **Source:** Author's computation using e-views

From the descriptive statistics results, the average expenditure on secondary education was 26.12%. This implied that for the last 50 years in Kenya, an average of 26.12% of the total public education expenditure was allocated to secondary education. The highest allocation of 43.12% to secondary education was achieved in the year 2014 while the lowest allocation of 15.47% was in the year 1984. The average gender parity index was 0.9164. The maximum value for gender parity index was 0.9704 which was achieved in the year 2000. The minimum gender parity index of 0.7127 was achieved in the year 1972. The standard deviation for expenditure on secondary education and gender parity was less than the mean. This was an indication of no outliers in the data set an initial indicator of normal distribution of the variables. Furthermore, the Jarque-Bera test was used to test for normal distribution of the variables. Based on the null hypothesis that the variables were normally distributed given the Jarque-Bera p-values of greater than 0.05 for all the variables, the null hypothesis was accepted. This implied that gender parity and expenditure at secondary level of education were normally distributed at 5% level of significance. The targeted gender parity index is 1. Kenya on average at a value of 0.9164 implies that we are close but yet to achieve the targeted gender parity index

## UNIT ROOT TEST

The ADF unit root test was conducted to test for stationarity of the variables based on the null hypothesis

that each variable is not stationary. The three models of ADF which included the intercept, trend & intercept and none were employed.

**Unit root test results**

Variable	Model	LEVEL		1 <sup>ST</sup> DIFFERENCE		Inference
		ADF T-Statistic	P- Value	ADF T-Statistic	P- Value	
	Intercept	-3.1763	0.0279	-5.7207	0.0000	I(0)
	Trend & Intercept	-2.3824	0.3831	-5.5072	0.0002	I(1)
	None	0.9959	0.9133	-5.9612	0.0000	I(1)
	Intercept	-0.3365	0.9114	-4.5781	0.0005	I(1)
	Trend & Intercept	-2.3247	0.413	-4.8784	0.0013	I(1)
	None	0.6261	0.8482	-4.5345	0.0000	I(1)

**Note:** G- Gender parity, S- Expenditure on secondary education. **Source:** Author’s computation using e-views

Given the unit root test results, the probability values were less than 0.05 at 1<sup>st</sup> difference for the variables of gender parity and expenditure on secondary education revealed that the variables were integrated of order one – I (1) that is, they became stationary after 1<sup>st</sup> difference. This was an indication that they would not result into spurious regression results hence their applicability in conduction VAR analysis was not questionable.

**CORRELATIONAL ANALYSIS**

The study used the coefficient of correlation (r) to identify the existence or absence of a linear association between the variables under consideration

**Correlational analysis results**

Variable		
	1.0000	
	—	
	0.1960*	1.0000
	-0.0012	—

**Note:** G- Gender parity, S- Expenditure on secondary education. **Source:** Author’s computation using e-views

Correlational analysis results indicated an association between the variables at 5% level of significance. A correlation coefficient of 0.1960 having a probability value of 0.0012<0.05 indicated that there was a significant positive effect of gender parity on expenditure on secondary education. This implied that as expenditure on secondary education increases, the gender parity also increases. This led to the rejection of the null hypothesis that there is no association between expenditure on secondary education and gender parity at 5% level of significance. The result was consistent with the findings by Mbaya (2016) who conducted a study in Kenya and Mendis & Ichihashi (2014) WHO conducted their study in Sri-Lanka.

## LAG LENGTH DETERMINATION

Since vector auto regressive (VAR) involves lagging the variables in a series then it was critical that an optimal lag length be determined. To determine the optimal lag length, the sequential modified LR test statistic, Final predictor error, Akaike information criterion, Schwarz information criterion and Hannan-Quinn information criterion tests were used.

### Standard VAR Lag Order Selection Criteria results

Lag	LogL	LR	FPE	AIC	SC	HQ
0	125.7430	NA	5.91e-08	-5.2932	-5.1342	-5.2336
1	306.6131	322.4208	4.57e-11	-12.461	-11.6664*	-12.164
2	328.1793	34.6934	3.65e-11	-12.704	-11.272	-12.1674*
3	344.2276	23.0258	3.80e-11	-12.706	-10.638	-11.931
4	367.1560	28.9097*	3.06e-11*	-13.0068*	-10.304	-11.994

\* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

**Source:** Author's computation using e-views

Based on the VAR lag order selection criteria results in the Table above, majority of the techniques indicated lag 4 i.e. LR, FPE and AIC. Given the appropriate VECM lag length is given by P-1 according to Gujarati (2008) in relation to the standard VAR the appropriate lag length was therefore 3.

## CO-INTEGRATION ANALYSIS

Test for co integration was carried out to establish the presence of long run relationship amongst the variables. This test involved testing the null hypothesis of zero cointegrating relationships against the alternative hypothesis of one or more co-integrating relationships.

### Co-integration analysis results

Unrestricted Co-integration Rank Test (Trace)

Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.6020	79.8574	47.8561	0.0000
At most 1 *	0.4021	36.5576	29.7971	0.0071
At most 2	0.2049	12.3841	15.4947	0.1394
At most 3	0.0336	1.6085	3.8415	0.2047

Trace test indicates 2 co-integrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level



\*\*MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Co-integration Rank Test (Maximum Eigenvalue)

Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.6020	43.2998	27.5843	0.0002
At most 1 *	0.4021	24.1735	21.1316	0.0181
At most 2	0.2049	10.7757	14.2646	0.1658
At most 3	0.0336	1.6085	3.8415	0.2047

Max-eigenvalue test indicates 2 co-integrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

**Normalized co-integrating coefficients (standard error in parentheses)**

G	S
1	-8.94
	-1.39
	[-6.4317]

**Note:** G- Gender parity, S- Expenditure on secondary education. **Source:** Author’s computation using e-views

Johansen co-integration test results involving the trace test and the Maximum Eigen value indicated two co-integrating equations hence the null hypothesis of no co-integration was rejected. This implied that the variables were co-integrated at 5% level of significance that is, there was a long run effect of expenditure on secondary education on gender parity. Further, the normalized co-integrating coefficients resulted in the long run relationship models 4.1 and 4.2.

$$G_t - 8.94S_t = 0 \tag{4.1}$$

$$G_t = 8.94S_t \tag{4.2}$$

A co-integration coefficient of 8.94 for expenditure on secondary education ( ) having a t-statistic of 6.4317>2 implied that there was a significant positive long run effect of expenditure on secondary education on gender parity in Kenya. That is a percentage increase in expenditure on secondary education increased gender parity by 8.94%. The null hypothesis that government funding to secondary schools has no significant effect on gender parity was thus rejected. The findings conform to the empirical findings of Mendis & Ichihashi (2014) who conducted their study in Sri-Lanka, Carsamer & Ekyem (2015) who conducted their study in 20 African countries excluding Kenya and Anyanwo & Erhijakpor (2007) who conducted their study in 4 African countries (South Africa, Algeria, Nigeria and Egypt).

## ERROR CORRECTION MECHANISM

Economic agents normally take time to adjust to information flow and act accordingly. The Error Correction

Model integrates long-run and short run relationship and majorly attempts to correct deviations from the long run equilibrium.

**Error correction mechanism results**

<b>Error Correction:</b>	<b>D(G)</b>	<b>D(S)</b>
ECT	-0.1061	0.2828
	(0.0516)	(0.1499)
	[-2.0572]	[ 1.8866]
D(G(-1))	-0.6981	0.5565
	(0.1287)	(0.3741)
	[-5.4250]	[ 1.4877]
D(G(-2))	-0.015	0.5487
	(0.1609)	(0.4677)
	[-0.0933]	[ 1.1730]
D(G(-3))	0.3158	0.1746
	(0.1316)	(0.3826)
	[ 2.3999]	[ 0.4564]
D(S(-1))	-0.1081	0.2162
	(0.0680)	(0.1977)
	[-1.5889]	[ 1.0938]
D(S(-2))	0.0397	0.0740
	(0.0617)	(0.1794)
	[ 0.6432]	[ 0.4123]
D(S(-3))	0.0618	-0.0112
	(0.0621)	(0.1807)
	[ 0.9949]	[-0.0618]
C	0.0040	-0.0034
	(0.0017)	(0.0049)
	[ 2.3881]	[-0.6986]
R-squared	0.7229	0.4642
Adj. R-squared	0.5978	0.2222
Sum sq. resids	0.0009	0.0077
S.E. equation	0.0054	0.0158
F-statistic	5.7768	1.9187
Log likelihood	183.6639	134.5744
Akaike AIC	-7.3332	-5.1989
Schwarz SC	-6.7369	-4.6026
Mean dependent	0.0030	0.0039
S.D. dependent	0.0086	0.0179

**Note:** G- Gender parity, S- Expenditure on secondary education. **Source:** Author's computation using

e-views

From the error correction mechanism analysis it can be deduced that an Error Correction Term (ECT) of -0.1061 which was significant at 5% level of significance confirmed existence of short run relationship. The value further implied that any disequilibrium in the short run for gender parity is corrected at the rate of 10.61% in the following year. An value of 0.7229 indicated that 72.29% of variations in gender parity in Kenya are explained by changes in expenditure on secondary education.

Gender parity at the first and third lags had a significant effect on the current year’s gender parity in Kenya. A coefficient of -0.6981 in lag 1 and 0.3158 in lag 3 indicated that a percentage increase in gender parity at lag 1 decreases the gender parity in the current year by -0.6981% but a percentage increase at lag 3 increases the gender parity in the current period by 0.3158%.

Expenditure on secondary education at lags 1, 2 and 3 had an insignificant effect on the current year’s gender parity as indicated by the coefficients -0.1081, 0.0397, and 0.0618 with statistic values of 1.5889, 0.6437, and 0.9949 respectively which were less than 2.

The Vector Error Correction Mechanism resulted in the short run model 4.3

$$G_t = 0.0040 - 0.6981G_{t-1} - 0.0150G_{t-2} + 0.3158G_{t-3} - 0.1081S_{t-1} + 0.0397S_{t-2} + 0.0618S_{t-3} - 0.1061ECT \tag{4.3}$$

## GRANGER CAUSALITY TEST RESULTS

Granger causality test was used to determine the nature of the causality relationship existing between the dependent and independent variables.

### Pair wise Granger Causality Tests results

Null Hypothesis:	Obs	F-Statistic	Prob.
S does not Granger Cause G	47	3.31607	0.0137
G does not Granger Cause S		1.77455	0.1675

**Note:** G- Gender parity, S- Expenditure on secondary education. **Source:** Author’s computation using e-views

Based on the main objective of this study, Granger causality results testing the null hypothesis that expenditure on secondary education does not granger cause gender parity was rejected. This was because the probability value was 0.0137 which is less than 0.05. This implied that a change in expenditure on secondary education will result in a change in the gender parity. However gender parity does not granger cause expenditure on secondary education since a probability value of 0.1675 implied the acceptance of the null hypothesis that gender parity does not granger cause expenditure on secondary education . As such, there is unidirectional causality from expenditure on secondary education to gender parity in Kenya.

## CONCLUSION AND RECOMMENDATIONS

### Conclusion

In general, the findings of this study clearly indicate that the time series variables of gender parity and

expenditure on secondary education have a positive correlation and a long run equilibrium relationship. Also unidirectional causality is established running from expenditure on secondary education to gender parity. In conclusion, there is a significant positive effect of public education expenditure on secondary education on gender parity in Kenya

## Recommendations

The findings from this study reveal that increase in public education expenditure at the secondary level of education led to an increase in the gender parity index. The government should thus seek to increase the budgetary allocations to the ministry of education under basic education. The amount allocated to subsidized secondary education should be increased to enhance enrolment which will in turn bridge the gender parity gap. The government should also consider distributing free sanitary to girls in secondary schools as it has done in primary schools in Kenya. This will have the effect of increasing the enrolment of girls and decreasing the dropout rate of girls in secondary schools. This will in turn help increase the gender parity in enrolment in secondary schools in Kenya.

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