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EFFECT OF FOREIGN DIRECT INVESTMENT ON PRIVATE SECTOR WAGE LEVELS IN KENYA

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ABSTRACT

The average wage growth in Kenya has been growing with a low rate of about 5% per year. Kenya achieved foreign direct investments of 1.55% ($990 m) of the GDP in the year 2014, indicating a small increase from 0.68% achieved in 2013. This study sought to determine the impact of FDI on the private sector wage levels in Kenya. The specific objective was to determine the effect of FDI on wage level in private sector. Purposive sampling method was used to select a sample private sector wage levels for 30 years between 1985 and 2014. Error correction model was developed from the data, which was used to make inferences on the relationship between FDI and private sector wage levels in Kenya. The findings of the study revealed that there existed an insignificant negative relationship between FDI and private wage level with a p – value of 0.2435>0.05. The model was found to be not a good predictor since its R^2 of 0.26<0.5. The study recommended suitable policies to improve economic development and achieve vision 2030 and also help local investors and foreign investors in understanding the circumstances surrounding them. The study will benefit the government as it will recommend suitable policies to improve economic development and revenue generation.

Keywords: Foreign Direct Investment and Private Wage Levels

INTRODUCTION

Background of the Study

In 1990, total world FDI amounted to 176 million dollars. By the year 1992, the figure had multiplied by eight, adding a total of 1433 trillion dollars (UNCTAD, 2011). The developing countries received 20% of world FDI in 1980's. The number increased to 32% during 1992 – 1994. By 1997, the number increased to 37% (UNCTAD, 2011). The level of FDI inflows in developing countries increased from 10 billion dollars to 163 billion dollars between 1986 and 1997. This accounted for about 45% of the total FDI flows to developing countries. The FDI in the world rose to US$1,271 billion in 2000. The FDI inflows in developed countries showed a

ISSN: 2455-8834

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steep increase before current crises indicating a different nature of FDI pattern. This implies that the level of FDI flows in developed countries has been more than in developing countries.

The importance of foreign direct investments has grown in most of developing countries since the past decade. According to Aitken *et al.* (1997), FDI in an economy helps in promoting economic efficiency gains into the economy through the transfer of improved technology, managerial skills, organizational techniques, access to foreign markets through channels for marketing products, increasing employment opportunities and wages and improving standard of living. One of the major benefits of FDI inflows into any economy is the increase of employment levels and wage levels. According to Cagatay (2013) Multinational companies pay higher wages compared to their domestic enterprises even after controlling for sectoral, regional, and plant-level characteristics. A higher level of FDI would then be associated with higher wages. This is explained through two major arguments. The first argument implies that organizational restructuring may increase productivity by exploiting the parent firm's intangible assets, such as branding, technological know-how, marketing, and by introducing new management techniques. Second argument expounds that transfer of physical assets from the parent firm may increase capital intensity at the domestic firm which boosts the marginal product of labour. According to (Mella, 2013) use of higher quality equipment can lead to more productive labour. This implies that jobs that emerge as a result of FDI inflows in the developed countries tend to enhance the aggregate productivity of the labour force in the developing countries.

High wages motivate productivity among workers. According to Antony (2002), the wage levels per employee in Kenya have been stagnant. The wages have been gradually increasing with not more than 5% annually. According to (KNBS report, 2015), in the year 2010, the average earnings in the private sector was 0.39 million per worker. In 2011 the average wages per employee increased to 0.40 million and further increased to 0.42 million in 2012. The level of wages has remained constant at 0.43 million in the year 2013 and 2014. The average earnings in public sector was 0.4 million in 2010, 0.43 million in the year 2011, 0.46 million in the year 2012, 0.48 million in the year 2013 and 0.49 million in the year 2014. Due to rise of massive arguments suggesting that low foreign direct investments may be the cause of low employment and wage levels, this study sought to analyze the influence of FDI on the wages and employment levels in Kenya.

Problem Statement

There has been only a small increase in the wage levels in the private sector. The wage trends indicate only 5% increase in the wages in the public and private sector annually. The average earnings per employee in the private sector have been 0.43 million. Also, Kenya has been experiencing a slow growth of FDI levels of 1.54% since 2010. The slow increase of wage in the

ISSN: 2455-8834

Volume:03, Issue:02 "February 2018"

private sector in the country stimulated this research to determine whether the slow growth of FDI could be the possible cause. This study therefore sought to determine the effect of FDI on private wage levels in Kenya.

Objective of the Study

The objective was to determine the effect of foreign direct investment on wage levels in private sector in Kenya.

Theoretical review

This theory covers on the Hicks theory of wages and the internalization theory of FDI.

The Hicks Theory of Wages

Hick's theory of wages was published in the year 1932. During this time, Hicks believed that there had been little development. In the theory of wages, Hicks presents a model of wages in the presence of strike activity. In Hicks's strike model wages are based on two forces. The first force reflects the wage changes that employers are prepared to make in response to strike activity. The longer the strike, the higher the costs to the firm. The highest wage the employer is prepared to concede to avoid increases with the expected duration of industrial duration strike increases. The second force to the model is the union's resistance curve. This curve indicates the minimum wage that unions are willing to accept. The union's resistance wage represents possibility of low wages in the future and the possibility of unemployment resulting from a wage offer that is too high. An imperfect capital market pays workers to reduce their minimum accepted wage as the expected length of the strike increases. There comes a point where the union's resistance curve hits the wage level that wages would have been had if there was no trade union at all. The highest wage that the union can achieve is the point of intersection of the employer's concession curve and the union resistance curve. Hicks's model thus specifies a deterministic wage solution. Employers and unions may negotiate a settlement of the wages. If they do not agree, then a strike will occur. At this point, dynamic factors occur. The curves shift according long the strike has gone on for. The union's resistance curve shifts inwards.

Internalization Theory of FDI

This theory tries to explain the growth of multinational companies and their motivations for achieving foreign direct investment. The theory was developed by Buckley and Casson, in 1976 and then by Hennart, in 1982 and Casson, in 1983. The theory argued that there exist complex effects of FDI and economic development. From a macroeconomic perspective, the effects of FDI are often regarded as generators of employment, high productivity, competiveness, high

ISSN: 2455-8834

Volume:03, Issue:02 "February 2018"

wages, and technology spillovers. For the developing countries, FDI implies higher exports, access to international markets and international currencies, being an important source of financing and substituting bank loans.

MATERIALS AND METHODS

The study used the longitudinal research design. This is a research design which determines the cause- effect relationship between variables. The research design uses past data in relation to time. The research design involved use of time series data sample of 30 years for the period of 1985 - 2014. This period was chosen because it indicates the period in which Kenya experienced significant FDI inflows. The data was obtained from the Kenya Public Policy and Research Institute (KIPPRA), Kenya national bureau of statistics and World Bank. The KIPPRA, World Bank and Kenya national bureau of statistics head quarters are located in Nairobi. The institutions provide all the required historical data about the FDI and private wage trends.

E-views and ox- metrics were used for data analysis. Non linearlity of data was eradicated by log transforming the data by use of natural logarithm. Unit root test was then conducted using Augmented Dickey Fuller test (ADF) and Phillip Pheron test (PP) to test the stationarity of the data. Subsequent differencing was done to make the data stationary. The Length of the lags in the first differences was based on the Akaike Information Criterion [AIC] and the Schwarz Information Criterion [SIC]. Determination of the optimal length of the lag was based on the minimum value of AIC and SIC. If AIC and SIC differ, AIC is preferred since its superior.

Normality of the data was tested using skewness statistic. Skewness is used to determine whether the frequency curve of the distribution is not a symmetric bell-shaped curve making it stretched more to one side than the other thus rendering the data not to be normal (Aczel&Sounderpadian, 2002). Skewness statistic proves that the bell-shaped curve is stretched or not stretched to one side. According to Aczel&Sounderpadian (2002), data is normal and unbiased when skewness statistic is between the range of -3and 3. Normal data was used to test the Granger causality in order to determine the type of causality that exists between the variables. Long – run equilibrium between the variables was determined by use of Cointegration test. An Error correction model is estimated for variables with cointegration. Diagnostic checks were done to ensure that the assumptions of the Classical linear Regression Model (CLRM) hold. These checks include the multicollinearlity, homoscedasticity and autocorrelation. Multicollinearlity was detected using Variance Inflation Factor. If the VIF is less than 10, then there is no multicollinearlity. In this study, heteroskedasticity was tested by use of residual plots. The plot is a graph of regression standardized residuals against regression standardized predicted variables. Heteroscedasticity is present when the width of the residuals increases or decreases as the predicted variables increases. Autocorrelation is detected by use of Durbin Watson (DW) test. A DW of zero implies

ISSN: 2455-8834

Volume:03, Issue:02 "February 2018"

that there exist positive autocorrelation, while DW equal to four implies high negative correlation level. A DW of value between 2 and 2.5 implies that there is no correlation.

The following error correction model would be developed to reflect on effects of FDI on private wage levels.

$$\Delta \ln(P_V W)_t = \beta_0 + \beta_1 \Delta \ln(FDI)_t + DP_l + DP_s + e_t$$

Where:

β_o : Private wage levels that is independent of FDI levels

$\ln(\text{FDI})$: Natural logarithm of Foreign Direct Investments

$\ln(P_V W)$: Natural logarithm of private wages

DP_l : Dummy variable of plant level controls

DP_s : Dummy variable political instability

RESULTS AND DISCUSSIONS

Descriptive Statistics and Normality Test

The descriptive statistics were computed to determine the mean, median, maximum and minimum values of the variables. The skewness statistic was used to determine whether the FDI and private wage variables had normal data. A skewness statistic outside the range of -3 and 3 would implied abnormality in the data. The results were presented as below.

	FDI	PvW
Mean	1.26E+08	193827.6
Median	54517276	157176.0
Maximum	9.44E+08	459889.0
Minimum	394430.6	19174.00
Std. Dev.	2.09E+08	155138.6
Skewness	2.948397	0.340675
Kurtosis	10.98835	1.566078
Observations	30	30

ISSN: 2455-8834

Volume:03, Issue:02 "February 2018"

FDI had a skewness of 2.948, a mean of 126 Million, maximum value of 944 million and a minimum value of 394,430 while Private wages had a skewness of 0.34, a mean of 193,827.6, a maximum value of 459,889 and a minimum value of 19,174. Since the value of skewness for the data of all the variables was in the range of ±3, it implies that the data of all the variables was normal and unbiased.

Unit Root test

Non stationary time series were differenced by use of ox –metrics. The Augmented Dickey fuller results from e – views were presented as below.

Variable	LEVEL	ADF test statistic Value	Critical value (5% Sig.)	Status
FDI	level	-5.316156	-3.5796	Stationary
Private wage	level	-0.517732	-3.5796	Not stationary
Private wage	Ist Difference	-2.088708	-3.5867	Not Stationary
private wage	2nd Difference	-4.588293	-3.5943	Stationary

From the table above, FDI was stationary at level form since its ADF test statistic was less than the mackinon critical value of the standard Nyman person framework at 5% significance level. Data on private wage had to be difference twice to make it stationary.

Granger Causality Test

The granger causality test was carried out to determine the type of causality which exists between the variables. There exist three types of causality; neutral causality, unidirectional causality and bidirectional causality. Neutral causality exists if there is no relationship between two variables. Unidirectional causality exists if only one variable influences the other (Granger, 1964). . Bidirectional causality exists if each of the two variables influences the other. The probability value of test statistic is compared with the with a critical p- value of 0.05 at 5% significance level. The null hypothesis of absence of granger causality is rejected if the probability is less than 0.05. The granger causality was carried out by use of e-views and the results were presented in the table below.

ISSN: 2455-8834

Volume:03, Issue:02 "February 2018"

Null Hypothesis:	Obs	F-Statistic	Probability
LNPVW does not Granger Cause LNFDI	29	11.0496	0.00264
LNFDI does not Granger Cause LNPVW		1.42511	0.24334

The p values of 0.00264 and 0.24334 indicated that there exist unidirectional relationship between FDI levels and private wage.

Cointegration Test

Cointegration test is done through the use of Engle – granger (EG) approach and the Johansen Juselius approach. This study used Engle – granger (EG) 2 step approach. The test involved estimating the variables using OLS and then testing whether the residuals of the results are stationary. The results were presented as below

Unit root Test for Model Residuals

Variables	Statistic	Lag 0	Lag 1	Lag 2	Status
FDI & PvW	t – ADF	-5.028	-3.622	-2.684	Stationary
	AIC	-6.720	-6.648	-6.572	

ADF tests (T=24, Constant+Trend; 5%= -3.59)

The stationarity test of the residual was done by use of Augmented Dickey Fuller (ADF) test. Results for the relationship between FDI and private wage level indicate that the suitable lag length to be considered is 0 since it minimizes the AIC value. This ADF process involves the test of whether there exist a long-run relationship between FDI and private wages, estimating the two variables using OLS and then testing whether the residuals of the results are stationary. The computed ADF value of the residual was -5.028. Comparing with the critical value of -3.59 at 5%, it implies that the value lies in the rejection region of the null hypothesis of non – stationarity. This implies that there exist stationarity in the residuals of the results, indicating that there exist a long- run relationship between FDI and private wage level. Hence cointegration exists between FDI and private wage variables.

ISSN: 2455-8834

Volume:03, Issue:02 "February 2018"

Diagnostic Tests

Autocorrelation Test

Presence of autocorrelation was eliminated by use of correct specification of functional form of the model. The results produced a Durbin Watson statistic of 2.59, implying that the autocorrelation that existed was insignificant.

Heteroskedasticity Test

Heteroskedasticity occurs when the variance of the error term is not constant in each period and for all values of the independent variable. heteroskedasticity was tested by use of visual inspection on residual plots. The plot is a graph of regression standardized residuals against regression standardized predicted variables. Heteroscedasticity is present if the residuals do not lie along a straight line. The residual plots were depicted below.

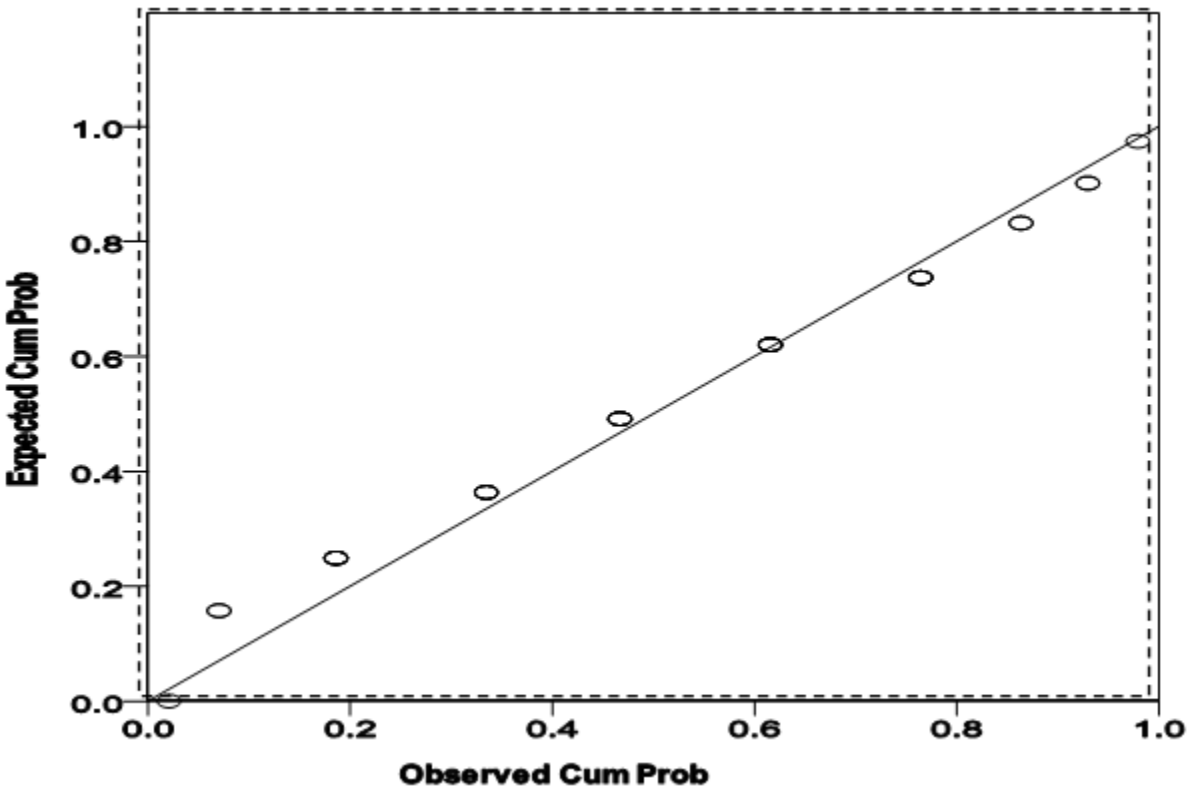

Figure 1: Residual Plot

ISSN: 2455-8834

Volume:03, Issue:02 "February 2018"

A visual inspection of the results presented in figure above indicated that the residual values lied along a straight line. This implies that the variance of the error term was constant.

Multicollinearlity Test

Multicollinearlity is the intercorrelation among explanatory variables. results produced a VIF of 6.14, hence absence of multicollinearlity in the model since the value was less than 10..

Error Correction Model

The error correction model was used for estimating the economic variables. According to (Gujarati, 2003), the model estimates variables that have long – run equilibrium relationship.

TThe dependent variable here was the private wage level and the independent variable was foreign direct investments. A dummy variable was used to represent the structural breaks of the private wage levels caused by plant level controls.

The estimation results of the coefficient values were presented in table below.

Table 1: Coefficient Estimates for Model 2

Variable	Coefficient	Std. Error	t-Statistic	p-value.
C	0.103568	0.076367	1.356187	0.1863
LNFDI	-0.005373	0.004506	-1.192472	0.2435
DPL	-0.012154	0.015243	-0.797363	0.4322
R – squared 0.267949				

The model had a constant of 0.103568, the coefficient of foreign direct investments was -0.005373 and the coefficient of the dummy for plant level control was -0.012154. The value of R-squared was 0.267949 and the adjusted R-squared was 0.046043. This implied that foreign direct investments would predict 26.79% of private wage levels in Kenya. 73.21% of the private wage levels was predicted by the error term, hence this model was not a good predictor of the private wage levels.

The data indicates that there exists an insignificant negative relationship between foreign direct investments and private wage levels with a coefficient of -0.005373 and a p- value 0.2435>0.05. The relationship is insignificant since the p-value of the FDI coefficient is more than 0.05. The relationship was inverse since the coefficient was negative. This implies that the FDI flow into the Kenyan economy does not have any significant impact to the private wage level at 5% significance level. the model was summarized as below.

ISSN: 2455-8834

Volume:03, Issue:02 "February 2018"

$$\Delta\Delta(LNPVW) = 0.103568 - 0.0053731LNFDI - 0.012154DP_l$$

The results were similar to those of Mella (2013) who studied effects of FDI on wages in the manufacturing sector from 2002 – 2008 in 33 different countries. The study found that FDI inflows show inverse relationship with manufacturing wages. The study found that a 1 percentage increase in the FDI inflows decreases manufacturing wages by 0.3 percent.

CONCLUSION

The study also concluded that increase in FDI levels in Kenya have insignificant inverse effect to the wage level earned by employees in private sector and 26.79% of the FDI levels would predict the private wage levels. Therefore, emphasis by government to increase foreign direct investments may not have any significant impact to the private wage levels in Kenya.

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