



RESEARCH ARTICLE

ANALYSIS ON RETURNS TO LEVELS OF EDUCATION AND CHALLENGES FACED BY THE MOTOR SPARE PARTS URBAN SELF EMPLOYED IN KISII COUNTY, KENYA

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ABSTRACT

The self-employment sector provides an avenue for workers to earn a living.. There exists earning differentials among workers with various levels of education worldwide In Kisii county there are worker entering into employment with various levels of education. The return to the self-employed varies. The returns to the self-employed are important in determining individual and government investment in education. The purpose of the study was to establish education returns spare parts self-employment activities in urban Kisii County. The study objectives were to; determine the returns to education of various levels of education of the self-employed in motor spare parts industry, determine the challenges facing the self-employed, determine effectiveness of intervention measures by Kenya government to assist the self-employed in their work. The study used descriptive and correlation design. Human capital theory was used. The population of the study was 11240. That is in computer service industry 6400 and spare parts 4840 workers. The study used Fisher's model to derive a sample of 166 spare parts self-employed workers. Questionnaire and interview schedules were used to collect data for the study. Quantitative data was analyzed using descriptive statistics and regression analysis. Qualitative data was transcribed and analyzed in emergent themes and sub-themes. Government intervention was not effective in the provision of: market stalls, loans and market for finished products, but effective in provision of: security, electricity and infrastructure. In spare parts the results showed that on average; respondents with KC.P.E earned Ksh 16,786.3636, K.C.SE earned 16855.8140; certificate earned 16825.9259 qualifications earned nearly similar amount of money. Diploma graduates earnings were 22584.2105 and bachelors earned 29,150.000. Analysis of Pearson's r indicate; For k.cpe was 0.617, k.c.se 0.009, certificate 0.130, diploma 0.129 and bachelors 0.297. The Pearson's r results were: k.cpe was 0.413, kcse 0.011, certificate 0.016, diploma 0.038 and degree 0.002. The adjusted R results were: k.cpe 0.373. kcse 0.002, certificate 0.002, diploma 0.001 and degree 0.075. The ANOVA results were: For k.cpe (F(1,20)12.282, P=0.002), kcse (F(1,84)0.007, P=0.935), certificate was (F(1,25,) 0.428, P=0.519), diploma was (F(1,17)1.290, P=0.597) and bachelors degree was (F(1,10)0.964, P=0.349). The Pearson's r results were: k.cpe 0.643, kcse 0.104, certificate 0.128, diploma 0.195 and bachelors degree 0.045. The Pearson's r results were: k.cpe was 0.413, kcse 0.011, certificate 0.016, diploma 0.038 and degree 0.002. The r adjusted results were: k.cpe 0.373. kcse 0.002, certificate 0.002, diploma 0.001 and degree 0.075. The ANOVA results were computed as: For k.cpe (F(1,15)10.572, P=0.005), kcse was (F(1,70)0.761, P=0.386), certificate was (F(1,52,)0.868, P=0.356), diploma was (F(1,28)1.031, P=0.319 and bachelor results were (F(1,13)0.006, P=0.874). The model summary indicated that the independent variables (K.C.P.E, K.C.S.E, Certificate, Diploma and Undergraduate levels of education) explained up to 22.6% of the variation of average earnings 77.4% remained unexplained. The study concluded that; there was a significant and positive association between returns to education and increasing level of education, and lack of capital was a challenge to the self-employed. The study recommended government intervention in funding the self-employed in their activities, reduced electricity charges and blackouts. The study is important in formulation of education programmes relevant to the self-employed and government intervention in support of the self-employed.

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INTRODUCTION

Investment in human capital is considered a crucial factor that contributes to economic growth (Idrus and Cameron, 2000). Returns to education have a significant impact in individual earnings. Returns to education in the formal sector can be measured from earnings accruing from monthly wages (Psacharopoulos, 2004, and Soon, 1987). Results from the relationship between education and earnings in self-employment have mixed findings. The mixed findings arise from the nature of self-employment activities which have no

wage structure and are subject to different earnings dependent on varied working variables (You and Giseung, 2008, Donald 2002). Samir and Barry (2013) found little evidence of human capital effects in the earnings determination process in the self-employment sector in Tanzania. Education is also associated with other benefits. Gavan and Pietro, (2011) observed that there are a number of other benefits associated with higher education qualification attainment; such as improved health outcomes and the reduced likelihood of requiring public sector assistance in relation to healthcare or the negative relationship between qualification attainment and

criminal activity. There is also some economic literature on the existence of education-related spillovers, whereby the labour market outcomes of those with lower levels of qualification attainment is augmented by the presence of a greater proportion of more highly qualified workers. Evidence on the relationship between educational background on the other hand and entry to and success in self-employment on the other hand is complex and mixed. Meagre and Martin (2011) observed that the relationship also varies between occupation and sectors. Thus in some sectors and occupations for example skilled trades like construction self-employment is more than a norm than in teaching. Studies suggest that self-employment has tangible positive economic impacts not only on wage and salary employment but also on per capita income growth and poverty reduction. Thus the need for studies to find the dynamics that determine earnings differentials in the self-employment sector, Stepham, Goetz, and David (2012). Education is often given the throne in the pantheon of development (Case, 2006) because of the extensive evidence for high returns at the individual level (Psacharopoulos and Patrinos, 2004). However return to the self-employed sector draws concern because of the unpredictable nature of the sector.

Bowles, Gintis and Osborn (2001) propose alternative view that education gives an indication of whether potential employees match the employee's incentives-enhancing preference, traits that assists in exercise of employees authority. In the self-employment sector there exists no clear cut structure determining earning differentials. Even analysis of earnings in specific self-employment has hardly been examined. Carlos and Herman (2011) did not find clear reasons on the role of education on earnings. Collins (1979) suggested that there was no productivity arguments involved as education was just used as a legitimized means for social closure and exclusion. Although the informal sector has been characterized by several attributes, on compliance with the legal and administrative regulations is often regarded as its most important characteristic. Castells and Portes (1989) state that the most central feature of informal sector activities is that they are unregulated by the institutions of society, in a legal and social environment in which similar activities are regulated. Carlo and Herman (2011) emphasize that it is noncompliance with the legal and administrative regulations rather than with social regulations that is important. The early development literature assumed that in the developing countries the informal sector would disappear over time as it did in the developed countries. Stepham, Goertz and David (2012) estimated the proportion of informal employment for groups of countries at different levels of development and found that the share of informal employment declines as the level of development rises.

The focus of the present study was on the urban self-employed as an alternative to formal employment. The sector is known in Kenya as *jua-kali*. These are enterprises operating outside the industrial sector, employ an average of up to 10 people and concern themselves with activities such as; woodwork tailoring and dress making, metal work, blacksmith, basket making, hotel, eateries, fruits, computer, cybercafés, transport and taxi. The study service and spare parts sectors. The activity is predominant in the urban centres. The study focused on the spare parts self-employment sector. This is the predominant self-employment activity in the areas targeted in the study. There is evidence that returns to education are

rewarded differently across occupations Baum and Payea (2004). The study examined returns to education on the two self-employment activities.

### **Statement of the Problem**

Returns to education in the formal sector are determined by clearly set scales but in the informal sector there are earnings differentials whose variables continue to attract the attention of researchers and scholars. Studies in the formal sector show that the higher the education levels the higher earnings. However in the informal sector other variables intervene leading to earning differentials in the same sector (Wanjohi, 2010). The sector is critical in employment creation and poverty alleviation (I.E.A Report 2010). The sector has attracted people of all levels of education and training. This study investigated the contribution of education to the returns of those in self-employment. Specifically the study examined the spare parts industry. The sector attracts significant number of workers in self-employment

### **Specific objectives**

- i. Determine the returns to various levels of education of the self-employed in spare part service industry
- ii. Establish the challenges facing the self-employed in motor spare parts service industry in their work.
- iii. Determine effectiveness of intervention measures by the Government of Kenya to support the self-employed in motor spare parts industry in their work.

### **Theoretical framework**

The study was guided by human capital theory. The theory was advanced by Shultz (1961) and Becker (1964) to explain the role of human capital in the economic development of United States of America. The theory of human capital postulates that investments in human capital raise earnings (Becker, 1964). This theory states that the more one invests in their education, the more returns they should receive in the form of earnings. The theory of human capital model was further developed by Mincer (1974) and Becker (1975). The model posits that investment in skill through formal educational attainment or through on-the-job training and experience increases the productivity of workers which is subsequently rewarded in the labour market through higher earnings. The model found the returns to schooling were 10% with returns to experience at 8%. The theory of human capital employs various cost-benefit analyses to project earnings from investment in education such as internal rate of return (Boothby and Rowe, 2002; Psacharopoulos 1973, 1975; Thias & Carnoy, 1972). Literature concerning the returns to self-employment has indicated mixed findings. Evans Leighton (1989) found out that returns to self-employment are higher than in the informal sector in the United States of America. The rate of return was 10% per year among the self-employed compared with 7% among the formal employed. Cain (2000) & fairly & Meyer (1996) found higher rate of return to college attendance or completion in self-employment for females. Gavan & Pietro (2011) found varied returns to various university degree and disciplines. Psacharopoulos (2009) found out that returns to education differed between countries in European countries, with returns to education higher in newly established countries in Europe. The returns to education continue to be subject of study.

## Literature Review

The study reviewed literature addressing the role of education in development. The emphasis was on education and productivity of those in self-employment.

### Returns to Various Levels Education of the Self-employed in Spare Parts Industry

Momanyi (2008) examined the benefits of non formal education to jua kali artisans. The study investigated to what extent non formal education provided by the informal sector institute (I.S.B.I) benefited the jua kali artisans in business development services. The study found that jua kali artisan with training exhibited higher levels of performance than those with less or no training. The study recommended inclusion of entrepreneurial skills in formal training. Entrepreneurial skills are critical in the success of those in the jua kali industry. Barasa and Kabwe (2001) researched on fallacies in policy and strategies of skills training for the informal sector. They concluded that the sector was attracting high qualification and 70% of the respondents had passed well in school subjects such as mathematics, science and English. In the study; 62% of respondents had primary education, 36% secondary and 2% formal college education. However the study did not look at earning differentials between various self-employment activities.

### The Challenges facing the Self-Employed

The self-employed sector also known as the informal sector by its nature is unregulated and operates in varied circumstances. Some of the constraints in literature are related to inability to access funds to cater for their needs (Binks, 1979), managerial and business skills deficiencies (Townroe and Mallalieu, 1990). This limitations affects the growth of the self-employed. In Kenya the self-employment sector is beset with constraints such lack of access to credit, absence of clear regulations on operation, harassment by urban centre authorities marketing and related challenges (IPAR, 2000). This factors affect the progress of the self-employed. A world Bank study of vocational education by Psacharopoulos and Loxley (1985) revealed that higher levels of general education are not necessary, but a good general education provides a good foundation for vocational education. The World Bank policy paper on vocational and technical education and training made the same recommendations (Middleton 1991). In India, many of the successful micro entrepreneurs being developed are university graduates. Training in the self employment sector is carried out through traditional apprenticeship system, particularly in spare parts and computer industry. Apprenticeship is the largest source of skill training in the informal sector (Yambo, 1991). A study carried out by World Bank in 1992 estimated that 40% of all trainees acquire their skills through apprenticeship. The popularity of apprenticeship method of learning skills is its cost effectiveness (King, 1996).

A study by Barasa and Kaabwe (2001) on fallacies in policy and strategies of skills training for the informal sector, noted that the informal *Jua Kali* sector is known to suffer from a negative public image due to the perception that the sector consists of people who are school dropouts with low academic qualifications and who only resort to joining the sector after failing to qualify for the formal academic or vocational route. The research found out that 77% of the trainees had qualified

for admission to the next levels of formal education and had passed in all subjects including mathematics, science and languages; 62% were primary school leavers, 36% had attained secondary school education and 2% had formal college level education. Momanyi (2008) established that those who enter the self-employed required relevant skills in the areas they were engaged. Refresher courses are recommended to those in the self-employment. A study by Nyangori and Nyonje (2010) examined the influence of entrepreneur's level of education and training on the performance of micro and small enterprises. The study sampled respondents from urban centres. The study revealed that education and training influenced the success of business enterprise. Those with higher education were exhibited higher performance than those with less. From the study it was recommended to equip those with less education with skills necessary for the world of work. Becker (2004) views the informal economy as too constrained by non competitiveness, limited access to finance, cumbersome bureaucratic procedures in setting up, operating and growing a business, poor state of infrastructure and lack of effective institutional structures. The elimination of these constraints is a huge task that, calls for holistic support from institutions such as government, financial institutions, Non-Governmental Organization (NGOs), and the private sector so as to create an enabling environment for the development of the informal economy. Entrepreneurs in the informal economy must be in a position to respond quickly and efficiently to international market signals in order to take advantage of trade and investment opportunities and reap the benefits of the international trading system. This implies that, they need to be competitive and productive (Becker, 2004). Huysmans (2004) concurs that development of an effective business support system is also a key condition for the success of both trade and investment capacity building. It requires business support agencies which are customer-oriented and which have a demonstrated capability of penetrating this segment of the economy.

The failure by various stakeholders to participate in the informal economy could partly be explained by Ameyia (2007) who found that the Kenyan government was at pains to convince the donors to avail funds for the promotion of the Jua Kali sector but there were issues of governance which had to be tackled before the funds were availed to the economy. This reduced the trust of the donors on government performance on provision of infrastructural structures for the development of the economy. Moreover, the traders voice and opinion was not put into consideration when making any decisions.

### Kenya Government Intervention in the Self-Employment Sector

The Kenya government first attempts to link education to self employment was through the Kamunge report (republic of Kenya 1988). The report recommended that education and training should develop skills which promote self-reliance and self-employment. In the development plans 1989-1993, 1994-1996, 1997-2001, self-employment is credited with employment creation (republic of Kenya, 1997, 2001 & 2002). Education and training are likely to equip on individual with a base for identifying, acquiring and utilizing information on such aspects as the legal basis of operation (Bosire 1999). The information of the sector was later to be highlighted by the Sessional Paper No 1 of 1986 on economic management for renewed growth and the sixth national development plan

(1989-93) as a sector that was to transform Kenya's economy (Republic of Kenya 1986). The sector has grown over years employ millions of Kenyans (Republic of Kenya, 2014). Through various reports development plans and sessional papers the Kenya Government had laid a lot of emphasis on the self-employment sector: The Mackay report (Republic of Kenya, 1982) had given a recommendation that the second university should produce graduates that have the potential for self-employment. The Kamunge Report (republic of Kenya, 1988) too recommended that education and training should develop skills which promote self-employment. In the development plans of 1989-1993, 1994-1996, 1997-2001 self employment sector had been credited with job creation considerably reducing un-employment (Republic of Kenya, 1997; 2001 & 2002). Sessional Papers 1992, 1996 & 1997 on industrial transformation to year 2000 recognizes the importance of self-employment and recommended a linkage between education and needs of the self employment sector (Republic of Kenya, 2002). There have been efforts by the Kenyan government to provide shades for the various juakali artisans in the different urban centres of Kenya. However, the project has been a total failure since it is provided in piecemeal. The donor funding extended to the informal sector in Kenya has been mismanaged. The jua kali workers remain isolated and marginalized at the end while the funds benefit a few in the government. The availability of operating space for the SMEs workers especially the hawkers and street vendors in Kenya is a big problem. The hawkers have been encroaching every available space on the pavements of the urban centres where they display their wares to the population and passerby (Wanjohi, 2014).

### Research Design

The study used correlation research design (Gall and Borg, 1996, Kisilu, Kombo and Tromp 2006). The design enabled an assessment of the degree of relationship between two or more variables. Correlation enabled the testing of the strength of the cause-effect relationship (K.I.M 2009). Correlation allowed the study to analyze the impact of levels of education on the returns to education across various self-employment activities. Correlation coefficient (r) was used to show the magnitude of relationship while multiple regression coefficients (R) allowed the prediction of earnings according to various levels of education. The study assess comparative earnings of self-employment activities and levels of education.

### The population of the Study

The study focused on the self-employed in key urban centres: Kisii town, Suneka, and Ogembo. The target population in these centres was estimated to be 11,240 self-employed in spare parts. They were identified by the type of self-employment activities they are engaged in and levels of education

### Sample and Sampling Techniques

The sample size in this study was obtained using Fishers formulae (Mugenda & Mugenda 2003, Glenn D. Israel 1992)

$$n = \frac{Z^2 pq}{d^2}$$

$$= \frac{(1.96)^2 (0.5)(0.5)}{(0.05)^2}$$

$$= 384$$

$n$  =desired sample size when the desired sample size is greater than 10000

$Z$  = the standard normal deviate at the required confidence level (in our case 95%).

$p$  = the proportion in the target population estimated to have characteristics being measured (in our case 0.5)

$q = 1 - p$ .

$d$  = the level of statistical significance set (in our case 0.05 since the confidence level is 95%).

### The sample of the study

Sample of the study was 166 in the spare parts industry.

### Data Analysis Procedures

Data collected from the field was first coded into research questions and objectives. Qualitative data was reported verbatively. Quantitative data was analyzed use of inferential statistics such as regression and multiple regression. The study sought to determine other variables besides levels of education that influence the returns of those in self-employment activities.

The formula used for the study was ;

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \epsilon$$

Where  $\beta_0$  = constant

$\beta_1$  = correlation coefficient of S

$x_1$  = correlation coefficient of X

$\beta_2$  = earnings

$x_2$  =schooling

Interaction between the dependent variable and independent variables determined the returns to education of the self-employed. Regression analysis was done to determine the extent of relationship between dependent and independent variables.

### Determining the effect of the level of education on average earnings of the self-employed in the spare parts industry

In spare partsthe results showed that on average; respondents with KC.P.E earned Ksh 16, 786.3636, K.C.SE earned 16855.8140; certificate earned 16825.9259 qualifications earned nearly similar amount of money. Diploma graduates earnings were 22584.2105 and bachelors earned 29,150.000. Analysis of pearson's r indicate; For k.cpe was 0.617, k.c.se 0.009, certificate 0.130, diploma 0.129 and bachelors 0.297. The Pearson's  $r^2$  results were: kcpe was 0.413, kcse 0.011, certificate 0.016, diploma 0.038 and degree 0.002. The adjusted R results were :kcpe 0.373. kcse 0.002, certificate 0.002, diploma 0.001 and degree 0.075. The ANOVA resultswere: Forkcpe(F(1,20)12.282,P=0.002), kcse (F(1,84)0,007,P=0.935), certificate was (F(1,25,)0.428, P=0.519), diploma was (F(1,17)1.290, P=0.597) and bachelors degree was (F(1,10)0.964,P=0.349). The Pearson's r results were' kcpe 0.643, kcse 0.104, certificate 0.128, diploma 0.195 and bachelors degree 0.045. The Pearson's  $r^2$  results were: kcpe was 0.413, kcse 0.011, certificate 0.016, diploma 0.038 and degree 0.002. The r adjusted results were :kcpe 0.373. kcse 0.002, certificate 0.002, diploma 0.001 and degree 0.075. The ANOVA results were computed as: For kcpe (F(1,15)10.572,

$P=0.005$ ), kcse was  $(F(1,70)0,761,P=0.386)$ , certificate was  $(F(1,52,)0.868,P=0.356)$ , diploma was  $(F(1,28)1.031, P=0.319)$  and bachelor results were  $(F(1,13)0.006,P=0.874)$ . The model summary indicated that the independent variables (K.C.P.E, K.C.S.E, Certificate, Diploma and Undergraduate levels of education) explained up to 22.6% of the variation of average earnings 77.4% remained unexplained. Regression Analysis of the Relationship between Education Levels and Average Earnings in the spare parts Industry. To determine the effect of education level affects average earnings in the computer service industry, the study used a multiple linear regression model. In the model the unstandardized beta coefficients, the t-values and the significance values were used.  $X_1=KCPE$ ,  $X_2=KCSE$ ,  $X_3=CERTIFICATE$ ,  $X_4=DIPLOMA$ ,  $X_5=bachelors$ ,  $X_6= masters$ .

Based on the un-standardized beta coefficients, the multiple regression equation is of the form  $Y=\alpha +\beta x_1+\beta x_2 + \dots +\epsilon$  and from the analysis the particular equation becomes. Average earnings= $-83047.116+141.990x_1+ 9484.987x_2-9484.987x_3 +9484.987x_4+9484.987x_5$ . The model coefficients indicate that average earnings had a positive relationship with k.c.s.e and bacheloreducation levels whereas it had a weak relationship with K.C.P.E, diploma and masters levels of education. Certificate had a negative relationship. The model coefficients indicated that average earnings had a positive relationship with certificate and bacheloreducation levels whereas it had a negative relationship with KCPE, KCSE diploma and masters levels of education. Michael (2011) estimated the on-farm and off-farm returns to education and qualifications for a sample of farm operators in Northern Ireland found that investment in education pays substantial dividends in terms of higher wage rates. However the negative relationship in KCPE, KCSE diploma and masters remains unexplained.

Through the interview schedules respondents were asked to provide information on their views as whether education had influence on return of their income, An analysis done indicated that 20% of respondents believed that education had influence over returns to their earnings, while 59% of respondent said there was no relationship between their earnings and education and another 20% said in part education influenced return from their self-employment activity. The percentage of respondents (59 %) who said that there was no relationship between education and returns means the education system in Kenya has minimal relationship with the returns of those in self-employment.

### Model summary

The results indicate that a multiple coefficient of determination of 0.226 was obtained. This indicated that the independent variables (K.C.P.E, K.C.S.E, Certificate, Diploma and Undergraduate levels of education) explained up to 22.6% of the variation of average earnings 77.4% remained unexplained. There the combined levels of education are weak to determine the returns of the self-employed, other factors other than education account for 77.4% of the returns to the self employed. This findings agree with earlier findings which had found returns to primary level of education with higher returns than all other higher levels of education (Psacharopoulos 1988, 1994 and 2002). Similar Palmer (2010) had found returns to primary school graduates in sub-saharan Africa at 37.6 higher than secondary at 24.6 and 27.5 for higher education. Investment should be directed more to primary education for

it forms the basis of further learning and feeds higher levels of schooling (Kingdon, 2005). Canagarajah and Portner (2003) found low return from their analysis for primary education as compared to the other higher levels of education, the suggestion being the low quality of primary education and the teaching of an irrelevant curriculum. A world bank report in Ghana (2004) had also found the returns low returns to primary education. The moderate return is an indication that in Kenya primary school education has more returns than other levels of education. This can lead to direct of more resources to primary school education relative to other levels of education. Psacharopoulos (1985, 1995 and world, Bank 1986) had recommended primary school education as priority for investment.

### Challenges faced in motor spare parts industry

The greatest challenge in the spare parts industry was blackout which was rate at 4.8639. Blackouts limit the capacity of the self-employed to test electronic materials nor repair the work they do. Increased electricity rates were cited as the second challenge was rated at 4.7166. The charges reduced profitability level of the self-employed. Through interview schedules the respondents were of the view that the rates needed to be reduced. Weather challenge was rated at 4.4852. Rain was cited as hindrance more so because the spare parts industry is carried in open air or repairs of machines is done in open fields. To militate against weather the respondents recommended making of drainage and market stalls. Lack of infrastructure was rated 3.7278. This was centered on poor roads and drainage systems. The self-employment activities were located in areas that were difficult to access and for the spare industry in muddy areas near motor garages. The government needs to invest in roads and drainage systems in urban centres. In infrastructure planning, Ombura (1997) points that infrastructure networks are useful instruments within network economies. Infrastructure and related services help to make things happen, it feeds and it is fed by trade, it fuels foreign direct investment, it backs up the creation and sustainability of industrial clusters, it cuts costs and raises competitiveness. High license fee was rated at 3.6686. The license fee was for operating the business. The fees discouraged entry to the self-employed in the spare parts industry. Through interview schedules respondents were of the opinion that the fee should be lowered. Becker (2004) viewed the informal economy a cumbersome bureaucratic procedures in setting up, and operating and growing a business, poor state of infrastructure and lack of effective institutional structures. Bank loan rate were rated at 3.6450 as challenge to the self-employed in the spare parts industry. This reduced the profit margins because of high interest rates. The bank rates reduced profitability and were difficult to repay. Respondents recommended reduction of bank rates. Banks operate on the ability to repay the loans based on the scale of business (Licht, 1986). Small scale self-employment is considered risk to lend to. There low earnings and profitability are not attractive to financial institutions to lend funds The self-employed have challenges securing loans from banks because of collateral security requirements (Robert, Michael & Dean, 2010). Banks are cautious when lending money particularly to unpredictable business ventures. Becker (2004) viewed the informal economy as too constrained by limited access to finance. Through interview schedules the respondents were of the view that that the government should revolving fund to assist them easily

access fund. Banks should improve access to finances by better lending terms (Wanjohi, 2014).

Harassment was rated at 2.6686 as hindrance to the growth of the self-employed in spare parts industry. The county reinforcement and licensing officers harassed those in self-employment. The respondents asked for Kisii county reinforcement officer to cease harassing the self-employed.

Lack of security was rate at 2.4615 as a challenge. The property of the self-employed was exposed to burglary. The national government should beef up security to reduce instances of burglary and break-in. Lack of structures was rated at 2.1065. The self-employed mainly operated from temporal structures. There is need to operate from more durable and permanent structures. Through interview schedules respondent wanted the national and county government to construct durable market stalls. The respondents were faced with exposure to both dust and rain. In some instance the self-employed operated from point that was on sidewalks and road reserve exposing them to accidents. The buildings and communication available are inflexible and cannot be expanded in response to growth. Kinyua (2014) recommended construction of structures for those in the jua kali sector. Last the lack of skills was rated at 1.6805. This was attributed to the labour intensive nature of the self-employed in the spare parts industry. Robert (2009) in Ghana had concluded that return to education were higher as the level of education increased. Formal education does not suit the needs of informal workers, and it is not flexible enough. However, vocational and other types of education aimed at the informal sector enhance the skills of those in self-employment. (Adams 2007). Governments need to help change that attitude. Specifically, leaders should push for more literacy programs including training vouchers. Informal education programs should provide instruction in the evenings and weekends. Programs should stress entrepreneurship and strengthen apprenticeships with subsidies. Management skills were key to the growth of the self-employment.

### **Intervention measures to support the self-employed in spare part industry**

The respondents rated provision of loans at 1.000 as a challenge. Effectively the respondents said there was very minimal government intervention to provide them with loans. Growth of self-employment is dependent on the level of capital investment. Marwanga (2015) indicated that 37.5%, constituting the majority of the targeted study groups had not directly benefited from any dedicated State-driven initiatives that would be attributed to informal employment creation while 15% of the artisans had accessed subsidized enterprise funding through programmes such as Women Enterprise Fund (WEF) and Youth Enterprise Fund (YEP). Moreover, there were 6.3% apiece of artisans who had benefitted from negotiated loan facilities, and product marketing thanks to State intervention. Lack of market stall was the second highest challenge rated at 1.0651. The self-employed operated from makeshift stalls and open air. This exposed them to vagaries of nature. There was minimal government intervention to provide them with market stalls. Government should facilitate construction of storied shades as the ones that are there are too few, the artisans end up constructing temporary shades which the county government demolishes as they are builds on road reserves. Marwanga (2015) had suggested that government

should gear towards providing land and build Jua Kali sheds for their artisans to ensure that, businesses run uninterrupted.

Provision of market for the spare part industry was rated at 1.1006. This meant that largely the self-employed have to seek their own market. The government should fund research on new innovations so that the artisans can produce quality products besides assisting in the marketing of *Jua Kali* artisan's products. The government should create a *Jua kali* information centre to advertise the self-employed artisan's products as most people nowadays prefer buying imported products even if they are of poor quality. Government protection of the self-employed and coordinated action. On provision of courses the respondents rated government intervention at 1.01893. This meant that the government wasn't supporting the self-employed with relevant refresher courses to enhance their business skills. In response to skill needs (Monk & Francis, 2007) had suggested that apprenticeship training was critical in equipping the self-employment skills necessary for their work. Glewwe (1996) calculated the private rate of return for additional years of schooling cognitive skills found that it is cognitive skills not years of schooling which determine wages in self-employment. (Momanyi, 2008) noted a serious neglect of training *Jua Kali* artisans in skills relevant to their work within the informal sector through apprenticeship and in the vocational institution training system. The assumption is that the informal sector doesn't require any skills or had already acquired the skills. As a result of this assumption *Jua Kali* artisans have practical skills which they have acquired either by apprenticeship training in the *Jua Kali* sector or by attending vocational training institutions but the self-employed needs skills in the activities they carry. Marwanga (2015) found that the highest beneficiary proportion of 27.5% had been hosted at least once by a State agency for entrepreneurial skill upgrading. Provision of security was rated at 1.1893. An interview schedule indicted that there were incidents of break-ins and lose of property. The government should improve security as there is a lot of insecurity, most self-employed fear installing expensive items as they may be stolen.

The respondents responses for government intervention in reduced taxes were rated at 1.9763. This indicted minimal government intervention to cushion the self-employed in reduced taxes. High taxes made the cost of spares unreachable for majority of their customers. An interview schedules indicate that customers did prefer original spares which were more expensive than second and generic. The respondents rated provision of infrastructure at 1.9763. This was lowly rated and meant poor roads and drainage affected their operations. Interview schedules report indicated that there were no provisions for disposals of waste from the spare parts industry. The provision of electricity was rated at 3.7515. This indicated that the government had made an attempt to make electricity available to the self-employed in spare part industry.

### **Conclusion**

Returns to various levels of education of the self-employed in spare parts industry. On average; respondents with KCPE, KCSE and certificate qualifications earned nearly similar amounts of money. Those with diploma, undergraduate and graduate earned more incomes with graduates earning the highest in this industry. Whereas the relationship between levels of education and average earnings was found to be significant for KCPE, it was generally weak for all the other

levels of education. The average earnings had a positive relationship with the independent variables of certificate and undergraduate levels of education while this relationship was negative for KCPE, KCSE, diploma and masters levels of education. The negative relationship between average earnings and the graduate level of education was statistically highly significant. Graduate level of education had the least significant effect on average earnings. The challenges facing the self-employed in spare part industries. The greatest challenge in the spare parts industry was blackout which was rated at 4.8639. Increased electricity rates were cited as the second challenge was rated at 4.7166. Weather challenge was rated at 4.4852 as machine work is done in open fields. Lack of infrastructure was rated 3.7278. High license fee was rated at 3.6686. Bank loan rate were rated at 3.6450 as challenge to the self-employed in the spare parts industry. Harassment was rated at 2.6686 as hindrance to the growth of the self-employed in spare parts industry. Lack of security was rated at 2.4615 as a challenge. Lack of structure was rated at 2.1065. Last the lack of skills was rated at 1.6805.

### Recommendations

From the findings and conclusion the study made the following recommendations

- i. Tailor education to meet the needs of the self-employed to enhance their earnings
- ii. The government and financial institution increase loans to those in self-employment sector to enable them increase level of operations.
- iii. Those in self-employment needed refresher courses to equip them with skills necessary for self-employment.
- iv. The provision of electricity is critical in the computer and spare industry
- v. Reduction of bank interest rate and electricity charge

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