

## Revisiting Bursary Awards, HELB and National Polytechnics in Kenya: The Place of Recipients' Socio-Economic Status

Aliva Luvaso Elphas\*

Masinde Muliro University of Science and Technology, P. O. Box 190-50100, Kenya

Jane Amunga

Masinde Muliro University of Science and Technology, P. O. Box 190-50100, Kenya

### Abstract

The tertiary level of education in Kenya plays a vital role in poverty reduction, curbing inequality and promotion of sustainable economic growth and development. However, financing for students at this level of education still continues to hinder accessibility as it may be linked to challenges such as unemployment. Despite this, the surging number of secondary school graduates as a result of free primary and subsidised secondary education continues to increase demand for TVET programmes. This paper examines the relationship between the socio-economic status of diploma student bursary recipients and the amount awarded. The discussions are grounded on the findings of a study that targeted students in National Polytechnics in Kenya. Anchored on the theory of socialist economics of education advanced by Louis Blanc, the study adopted an ex post facto research design. Eldoret Polytechnic, Kisumu Polytechnic and Kenya Technical Training Collage (KTTC) were the institutions used for the study. With a target population of 8,202 second year diploma students benefiting from bursaries, 330 respondents were randomly sampled. Three Academic Registrars and three Deans of Students in the three polytechnics were also purposively sampled making a total of 336 respondents. Data was collected using a questionnaire, interview guide and document analysis for bursaries disbursements. Face and content validity and test-retest technique at  $r = 0.7$  were performed for validity and reliability, respectively. Data was analysed both descriptively and by inferential statistics. Correlation analysis was carried out using Pearson Correlation technique which revealed that there is a positive significant relationship between the SES and the amount of bursary awarded to the college students ( $r=.001$ ;  $p=.0209$ ). The authors of this paper recommend that HELB should ensure that the socio-economic status of polytechnic students should be considered when disbursing bursaries.

**Keywords:** Bursary, Disbursement, Socio-Economic Status, National Polytechnic, Diploma Students

### Introduction

The Higher Education Loans Board (HELB) has encountered a big outlay in bursary spending on higher learning institution students but there remains no empirical evidence that these bursaries are effective in encouraging low-income students, or indeed students from any background, to go to university. A UK study examined the impact of bursaries on choice of institution during application (Corver, 2010) and found that bursaries have no significant effect on the decisions of students. Students were, in fact, more likely to choose an institution with a low bursary than a high one. In England, the key reform to the system of up-front student support is the creation of a National Scholarship Programme (NSP), replacing the statutory minimum bursary requirement. Under the old system, universities were obliged to provide a bursary of at least 10% of the full fee. Under the new system, the government has contributed £50 million to the NSP to fund a minimum of 16,600 scholarship awards at £3,000 per award. The funding is allocated to Higher Education Institutions (HEIs), which must then match the contribution, from their own resources (Chowdry, Dearden, Jin, & Lloyd, 2012).

Vaiious scholars have tackled the role of financial aid towards higher education. For instance, Dynarski (2000) avers that Georgia's HOPE Scholarship, a merit-aid programme, had a positive impact on students: a \$1,000 increase in aid resulted in a 4 percentage point increase in Higher Education (HE) participation. Dynarski (2003) exploited a one-off policy change whereby financial aid was withdrawn from children with a deceased, disabled or retired father, finding that the reform reduces HE participation by 3.6 percentage points. Kane (1995) looked at the impact of the Pell Grant aid system, finding no impact on participation, while Seftor and Turner (2002) found a small impact of Pell Grant eligibility of 0.7 percentage points per \$1,000 of aid (although on a restricted sample of mature students). More recently, Nielsen, Sorensen and Taber (2010) have exploited a change in aid in the Danish HE system which particularly benefitted higher income students, and found that a \$1,000 increase in grants results in a 1.35 percentage point increase in HE participation.

Under the National Student Funding Aid System (NSFAS) in South Africa, the Ministry of Higher Education and Training provides study loans to academically able but financially needy students. Much of an NSFAS loan can be converted into a bursary, which does not need to be repaid, depending on academic progress. A 100% pass rate would result in a 40% bursary rebate on an NSFAS loan. The size of the initial NSFAS loan ranges from ZAR 2,000 to ZAR 30,000. In 2007, approximately ZAR 2.5 billion was allocated in student

support at South African universities. Support was provided for 120,000 of the 735,000 students in universities and only partly covers the cost of training. The National Student Funding Aid System has recently been reviewed (Puukka, Dubarle, McKiernan, Reddy, & Wade, 2012). Furthermore, in South Africa, the Free State Provincial Government bursary programmes in targets two groups: Grade 12 learners who continue in universities and provincial government employees who develop their skills and qualifications. In 2010, the provincial government provided over 900 bursaries to regional students at the two universities. According to the evaluation of the bursary scheme, albeit many commendable aspects, the bursaries failed to address the Free State's specific skills gaps or retain graduates in the region (Free State Youth Commission, 2009).

A study conducted in Lesotho by Pillay (2010) shows a high level of government expenditure (around 40% of the education budget) on tertiary education by this tiny, landlocked country. The government funds students through a loan/bursary scheme but the loans are actually grants as no recovery has taken place. In addition, there is a high level of bursary expenditure on students outside the country. This is understandable from the viewpoint of developing scarce human resources for the country. Still in Lesotho, National Manpower Development Secretariat (NMDS) tertiary bursaries constitute the largest component under higher education recurrent expenditure. Even though this bursary is supposed to be a 'loan bursary', its recovery rate is so low that it is essentially a grant. The value of NMDS bursaries increased from LSM 65 million in 1998/1999 to LSM 300 million in 2005/2006. The fact that the NMDS is administratively under the Ministry of Finance and Development Planning (MoFDP) has made it very difficult for MoET to monitor expenditure patterns, but it is still part of the education sector expenditure. A very high proportion of tertiary students receive the scholarship and, as long they pass examinations at the end of the academic year, scholarships are renewed automatically. For example, 5,247 students in National University of Lesotho (NUL) were provided with NMDS scholarships out of a total of about 7,000 students in 2003/2004 (World Bank, 2005).

In Kenya, enrolments at TIVET institutions have fluctuated between 2002/2003 and 2006/2007. Enrolments grew from 52,254 to 66,737 students between 2002/2003 and 2003/2004 only to decrease to 29,870 in 2005/2006. Reports from the Ministry of Education indicate that the decrease may be attributed to unaffordability due the high cost of technical education (estimated at KES 110,000 per year) compared to the high poverty levels and lack of scholarships or any form of government support for those who are not able to pay (Republic of Kenya, 2005).

### Methodology

The study adopted an ex-post facto research design which, as postulated by Kerlinger and Lee (2000), Cohen, Manion and Morrison (2000) and Marilyn and Jim (2013), is an empirical enquiry where the independent variables cannot be manipulated. In this case, the HELB recipients' SES is a historical condition that has already occurred naturally so is the amount of bursary awarded. The study targeted National Polytechnics in Kenya among which Kisumu Polytechnic, Eldoret Polytechnic and Kenya Teachers Technical College that existed after the TVET Act 2013 were selected. The study population comprised 8,202 students in the 2014/15 cohort who at the time were second year direct entry diploma students for the academic year 2015/16 and recipients of bursaries. Six polytechnic officers in the three national polytechnics namely, Academic Registrars (3) and Deans of Students (3) were also targeted. Therefore, the sample size of diploma HELB recipients in the three national polytechnics used in the study was determined using the formula cited by Musera (2014):

$$n = \frac{\left( \frac{p(1-p)}{\frac{A^2}{Z^2} + \frac{p(1-p)}{N}} \right)}{R}$$

$$n = \frac{\left( \frac{0.5(1-0.5)}{\frac{0.05^2}{1.96^2} + \frac{0.5(1-0.5)}{8,202}} \right)}{0.9} = 330$$

Where: n = sample size required; N = number of people in the population; P = estimated variance in population, as a decimal: (0.5 for 50-50, 0.3 for 70-30); A = precision desired, expressed as a decimal (i.e., 0.03, 0.05, 0.1 for 3%, 5%, 10%); Z = based on confidence level: 1.96 for 95%, 1.6449 for 90% and 2.5758 for 99%; and R = estimated response rate, as a decimal

In addition, three (3) Academic Registrars and three (3) Deans of Students from the three national polytechnics were purposively sampled to participate in the study. Therefore, the study sample added up to 336 respondents. The study used a questionnaire, interview schedule and document analysis for data collection. Multiple regression analysis was employed in the study to test the null hypothesis that there is no statistically significant relationship between the socio-economic status of recipients and amount of bursary awarded to

diploma students in national polytechnics in Kenya. Three models were employed in the analysis thus; in model 1, the effect of a recipient's socioeconomic status on the amount of bursary awarded was assessed. Model 2 and 3 on the other hand assessed the effect of a recipient's socioeconomic status on the amount of bursary awarded while controlling for recipients' gender, polytechnic and county, and students perceptions on bursary allocations respectively. In all the models, the positive sign of the coefficient indicated increased effect of the independent variable on the bursary award while the negative sign indicated decreased effect of the independent variable on the bursary award. The value of the coefficient of the independent variable signified the magnitude of its effect on the bursary award. The significance of the relationship between the socio-economic status of recipients and the bursary amount awarded was at  $p = 0.05$  on a two tailed test.

## Results

To bring out the findings on the relationship between the socioeconomic status of diploma student recipients and the amount of bursary awarded, the multiple linear regression analysis was done. The study first ran a pair-wise correlation between the outcome variable (amount of bursary awarded) to establish which variables to pursue in the regression model. The results are presented in Table 1.

**Table 1: Correlation Matrix between Bursary Allocation and Its Correlates**

Variable		a52	swi33	a131	a133	a1716	a486	a631
a52		1						
swi33	a	0.152	1					
	b	0.015						
a131	a	0.399	-0.026	1				
	b	0.000	0.682					
a133	a	-0.425	-0.175	-0.511	1			
	b	0.000	0.005	0.000				
a1716	a	0.239	0.119	0.199	-0.427	1		
	b	0.000	0.071	0.002	0.000			
a486	a	0.153	0.062	0.270	-0.179	0.105	1	
	b	0.014	0.326	0.000	0.004	0.112		
a631	a	0.154	-0.052	0.165	-0.102	0.137	-0.018	1
	b	0.020	0.434	0.013	0.124	0.050	0.786	
a652	a	0.187	0.040	0.140	-0.126	0.063	0.009	0.166
	b	0.005	0.544	0.034	0.056	0.365	0.896	0.013
a655	a	-0.164	-0.105	-0.182	0.242	-0.158	-0.098	-0.190
	b	0.013	0.113	0.006	0.000	0.023	0.139	0.004
a662	a	0.150	0.096	0.204	-0.221	-0.052	0.025	0.037
	b	0.026	0.156	0.002	0.001	0.465	0.710	0.587
a674	a	-0.141	-0.037	-0.222	0.039	0.028	-0.050	-0.089
	b	0.038	0.587	0.001	0.566	0.703	0.466	0.201
a691	a	-0.188	-0.069	-0.302	0.345	-0.159	0.008	-0.029
	b	0.006	0.315	0.000	0.000	0.028	0.908	0.680
a694	a	0.159	0.071	0.220	-0.196	0.057	0.085	-0.075
	b	0.021	0.301	0.001	0.004	0.436	0.215	0.282
a6101	a	-0.189	-0.046	-0.228	0.290	-0.082	0.067	-0.040
	b	0.006	0.502	0.001	0.000	0.258	0.329	0.565

Note: a=Pearson correlation coefficient; b=p-values ( $\alpha=0.05$ ); Pair-wise correlation:  $\leq 0.35$  = Weak correlation; 0.36-0.67 = Moderate correlation; 0.68-0.89=Strong correlation;  $\geq 0.90$  = Very strong correlation; Adapted from "Interpretation of correlation coefficient, " by R. Taylor, 1990, Journal of Diagnostic Medical Sonography, 6(1), p. 37

The correlation coefficients of covariates of bursary allocation ranged between 0.141 and 0.399 suggesting a weak correlation between them and the outcome variable. The variables; swi33, a131, a1716, a486, a631, a652, a662 and a694 were significantly positively correlated with the outcome variable at  $\alpha = 0.05$ . The results suggested that the recipients associated with these variables received higher bursary awards. Similarly, the variables; a133, a655 a674, a691, and a6101 were significantly negatively correlated with the outcome variable at  $\alpha = 0.05$  suggesting that bursary recipients associated with these variables received lower bursary awards. These variables were used in the regression model. In addition, Kernel density was used to establish how the variables included in the model were normally distributed. The results ( $F(3, 166) = 2.03, p= 0.1117$ ) in Figure 1 of the Kernel density estimate showed that the curve for the variables fitted well on the normal curve indicating that the variables were normally distributed. Besides, the results of multicollinearity using variance inflation

factor (VIF) test in Table 2 showed that no variable in the regression model had a VIF>10. With a mean VIF of 1.30, the results suggested that the regression model did not experience collinearity problems (Stock & Watson, 2003). Similarly, the results ( $F(3, 159) = 1.48; p = 0.2215$ ) of the link test for hatsq in Table 3 showed that the regression model was correctly specified.

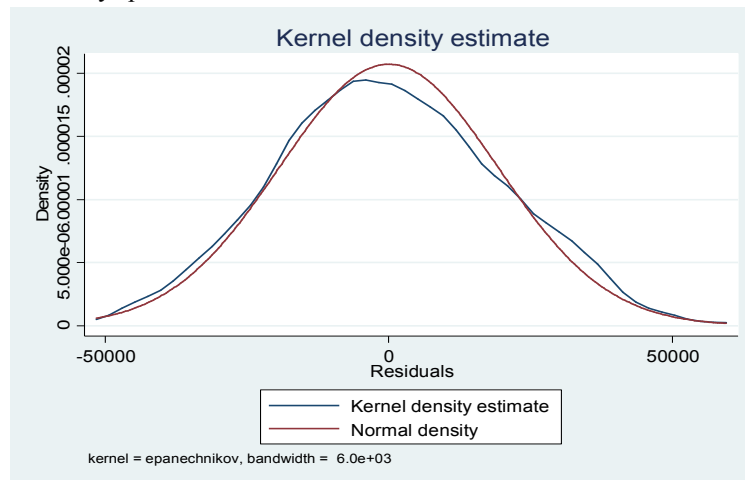


Figure 1: Kernel Density Estimate for the Regression Model for Overall Bursary Allocation

**Table 2: Multicollinearity Test for Covariates**

Variable	Variable label	VIF	1/VIF
a133	Eldoret Polytechnic	1.86	0.54
a691	Strongly Agree	1.6	0.63
a131	Kenya Technical Teachers College	1.43	0.70
a6101	Strongly Agree	1.42	0.71
a1716	Kisumu	1.34	0.74
a655	Strongly Disagree	1.29	0.78
a652	Agree	1.24	0.81
a662	Agree	1.16	0.86
swi33	Low SES	1.16	0.87
a674	Disagree	1.13	0.88
a694	Disagree	1.13	0.89
a631	Strongly Agree	1.11	0.90
a486	Conducting own business	1.09	0.92
Mean VIF		1.30	

*Note.* VIF=Variance Inflation Factor; Variables should ideally have VIF<10

**Table 3: Test of Whether the Regression Model for Bursary Allocation is Misspecified**

Variable	Coef.	Std. Err.	T	P>t	[95% CI]	
_hat	1.72	0.52	3.32	0.001	0.70	2.74
_hatsq	0.00	0.00	-1.42	0.156	0.00	0.00
_cons	-2828.31	2367.58	-1.19	0.234	-7501.38	1844.76

*Note.* n=187; Coef.=Coefficient; Std. Err=Standard Error; CI=Confidence Interval;  $R^2 = 0.1371$ ; Adjusted  $R^2 = 0.1277$ ; Root Mean Squared Error=15.81  
 We test the null hypothesis that the model has no omitted variables. Our results,  $F(3, 159) = 1.48$ ; Prob > F = 0.2215 lead to a failure to reject the null and conclude that our model has no omitted variables

The study therefore used three models to measure the effect of the recipient's socio-economic status on the amount of higher education bursary awarded to diploma students in national polytechnics in Kenya. Model 1, assessed the effect of the recipient's socio-economic status on the amount of higher education bursary awarded to diploma students in national polytechnics in Kenya. In model 2 the study established the effect of recipient's socio-economic status on the amount bursary awarded controlling the recipient's background information (gender, polytechnic enrolled and home County). In Model 3 the study measured the effect of recipient's socio-economic status on the amount of bursary awarded controlling the student's background information (gender, polytechnic enrolled and home County) and students perceptions on bursary allocations.

The significance of the relationship between a given independent variable and the dependent variable is tested at  $p=0.05$ . The result of the multiple regression model is presented in Table 4.

**Table 4: Multiple Linear Regression Coefficients of Socio-Economic Status and HELB Bursary Allocation for 2013/14 & 2014/15 Academic Years**

Variable	Variable label	Model 1 (a51)			Model 2 (a51)			Model 3 (a51)		
		U.Coef	<i>p</i>	B	U.Coef	<i>P</i>	$\beta$	U.Coef	<i>p</i>	$\beta$
swi33	Low SES	3098	0.013	0.15	2720	0.02	0.14	2488	0.07	0.13
a131	Kenya Technical Teachers College				5581	<.001	0.26	5404	<.001	0.25
a133	Eldoret Polytechnic				-4509	0	-0.23	-3210	0.08	-0.17
a1716	Kisumu				1512	0.31	0.07	898	0.59	0.04
a486	Conducting own business				1108	0.52	0.04	2869	0.16	0.11
a631	Strongly Agree							687	0.73	0.02
a652	Agree							2612	0.18	0.11
a655	Strongly Disagree							37	0.98	0.00
a662	Agree							677	0.72	0.03
a674	Disagree							-224	0.88	-0.01
a691	Strongly Agree							359	0.83	0.02
a694	Disagree							1754	0.46	0.05
a6101	Strongly Agree							-2071	0.14	-0.11
Constant		8649	<.001	n/a	7915	<.001	n/a	7647	<.001	n/a
N		257			230			176		
		F (1, 255) = 6.21			F (5, 224) = 18.12			F (13, 162) = 7.25		
R <sup>2</sup>		0.023			0.254			0.2809		
Root Mean Squared Error (RMSE)		9513			8359			8377		

*Note.* U.Coef=Unstandardized Coefficient; RMSE=Standard deviation of the regression model (the closer to zero better the fit)

The results of MLRA in Table 4 showed that the constant of regression was significant for both model 1, 2 and 3 at  $p<0.01$ ,  $p<0.01$  and  $p<0.001$ , an indication that the model captured all the pertinent variables that explained the variations in the amount of loan award. The F-statistic ( $F(1, 255) = 6.21$ ,  $p=0.0134$ ,  $F(5, 224) = 18.12$ ,  $p<0.001$  and  $F(13, 162) = 7.25$ ,  $p<0.001$ ) for model 1, 2 and 3 respectively indicate that the  $R^2$  for the three models were significantly different from zero at  $p=0.05$ . These imply that all the coefficients in the model were significantly different from zero and were important in explaining the variation in the amount of loan awards to diploma recipients in national polytechnics in Kenya.

The results also showed that the student's SES is significantly related to bursary amounts awarded to students. The results indicate that recipients in the low SES tertile are predicted to be awarded up to Kenya shillings 3,097.64 more than those in the other two SES tertiles ( $p=0.013$ ,  $\beta=1.520136$ ). The model's constant is statistically significant, 8649.419 ( $p<0.001$ ). The overall model was statically significant,  $p=0.0144$  explaining 0.0231 or 2.31% of the variation in bursary amounts awarded.

In model 2 controlling for the student's characteristics, SES is still significantly associated with bursary amounts awarded to diploma bursary recipients over the two academic years at the 95% level. Students in the low SES tertile are predicted to score up to Kenya shillings 2,720.475 more than their colleagues in the other two tertiles ( $p=0.023$ ,  $\beta=1.364111$ ). In addition, the results indicate that students enrolled in Kenya Technical Training College (KTTC) are predictively awarded up to Kenya shillings 5,580.5 more than their colleagues enrolled in the other two polytechnics over the two academic years ( $p<0.001$ ,  $\beta=2.630505$ ). Similarly, students in Eldoret polytechnic are predicted to be awarded up to Kenya shillings 4,509.189 lower than their colleagues in the other two polytechnics over the two academic years ( $p=0.003$ ,  $\beta=-.2289251$ ). The intercept/constant predicts Kenya shillings 7,915.168 of bursaries for each student over the two academic years ( $p<0.001$ ). The overall model is significant ( $p<0.001$ ) and explains up 0.2543 or 25.43% of the variation in bursary amounts awarded to diploma students over the two academic years.

In model 3, controlling for the student's characteristics, SES, is now not significantly related to bursary amounts awarded at the 95% level. The results also indicate that students enrolled in KTTC are predicted to be awarded up to Kenya shillings 5,404.321 more than their colleagues enrolled in the other two polytechnics over the two academic years ( $p=0.003$ ,  $\beta=.2469079$ ). The overall model is significant ( $p<0.001$ ) and explains up 0.2809 or 28.09% of the variation in bursary amounts awarded to the students over the two academic years. Using the beta values, the only predictor of bursary amounts is therefore a131 (KTTC) which meets the  $\Rightarrow 0.10$  threshold for standardized coefficients and its p-values meets the 95% level threshold for social sciences.



This study further tested the overall effect of the individual proxies of HELB recipients SES (high SES, middle SES and low SES tertiles) on the amount of bursary allocation to diploma students in national polytechnics in Kenya. The results of the high SES tertile, middle SES tertile and low SES tertiles ( $F(1, 162) = 3.23, p = 0.0744$ ;  $F(1, 162) = 8.97, p = 0.0032$  and  $F(1, 162) = 3.02, p = 0.0844$ ) respectively indicate that a recipient's SES was not important in explaining variations in bursary allocations to diploma students in national polytechnics. Since socioeconomic status is not statistically significant at the 95% level, this study therefore failed to reject the null hypothesis that there is no relationship between the recipient's SES and amount of bursary awarded to diploma students over the two academic years. Indeed, recipient's SES did not explain variations in bursary allocations to diploma students in national polytechnics in Kenya. The findings of the study attest to those of other scholars (Williamson, 1981; Burgess, 1981; Boit, 1998; Odebero *et al.* (2007) who have argued that subsidies in tertiary education tend to favour the rich. Similarly, studies on HELB scheme (Deolalikar, 1999; Otieno, 2004; Ngolovoi, 2008 and Ooro, 2009) have cast doubt on the schemes ability to address equity in access to higher education. The study results are also in agreement with those of the interview with the Dean of Students and Academic Registrars who observed that:

HELB bursary allocation is mainly driven by whom you know. Most of the times, needy students apply for bursaries but they do not benefit at all. They also flawed the bursary allocation process in that this process is purely in the hands of the HELB members and that in this case they can either award bursaries to student who deserve it or not. They also observed that as much as the process of awarding HELB bursaries is very clear and it gives support to the needy students who deserve it at times it's not easy to be sure of how to measure the viability of the needy students from all over the country (Personal Communication, 2017).

However, the results differ with those of Owino's logistic estimation which indicate that family status was significant in explaining the variations in the amount of bursary awards to recipients.

### Conclusion

Controlling for all variables the results of the multiple regression analysis showed that a recipient SES was not significantly related to bursary amounts awarded to diploma students in national polytechnics over the two academic years at the 95% level. Besides, the interviews with the polytechnic officers indicate that HELB bursary allocations were driven by connections while the needy students miss out allocations. A recipient's SES is therefore not important in explaining variations in the amount of bursary award to diploma students in national polytechnics in Kenya and HELB bursaries do not benefit needy students.

### Recommendations

It is therefore recommended that HELB relooks at the criteria of awarding bursaries so as to ensure that only those who qualify receive. This can again be achieved by HELB organising home visits to the prospective bursary applicants to ascertain their level of neediness. Funding organisations such as Equity Bank's Wings to Fly Programme has explored this avenue and only select beneficiaries after conducting home visits.

### References

- Boit, J. M. (1998). *Financing of Higher Education in Kenya: The Case for a Selective Students Loan Programmes*. Unpublished PhD. Thesis, Moi University.
- Burgess, T. (1981). Bias is of Essence. In Piper D.W. (Ed.), *Commission for Higher Education (2005). Universities Coordination of Post-Secondary School Institutions*. Nairobi, Kenya: Government Printer.
- Chowdry, H., Dearden, L., Jin, W., & Lloyd, B. (2012). *Fees and Student Support under the New Higher Education Funding Regime: What are Different Universities Doing?* IFS Briefing Note no. BN134, <http://www.ifs.org.uk/bns/bn134.pdf>.
- Cohen, L. Manion, L., & Morrison, K. (2000). *Research Methods in Education*. New York: Routledge, Taylor and Francis group.
- Corver, M. (2010). *Have Bursaries Influenced Choices between Universities?* Research Paper 2010/06, Office for Fair Access, UK.
- Dynarski, S. (2000). Hope for Whom? Financial Aid for the Middle Class and its Impact on College Attendance. *National Tax Journal*, 53, 629–61.
- Free State Youth Commission (2009). *An Evaluation of Bursary Schemes in the Free State Province*. Bloemfontein: Free State Youth Commission.
- Kane, T. (1995). *Rising Public College Tuition and College Entry: How Well Do Public Subsidies Promote Access to College?* National Bureau of Economic Research (NBER) Working Paper 5164.
- Kerlinger, F. (1973). *Foundations of Behavioural Research* (2<sup>nd</sup> Ed). New York: Holt Rinehart and Winston Inc.
- Kerlinger, F. N., & Lee, H. B. (2000). *Foundations of Behavioural Research* (4<sup>th</sup> Ed). Fort Worth, TX: Harcourt.
- Marilyn, K. S. & Jim, G. (2013). *Ex Post Facto Research Design*. Retrieved June 17 2015 from

- [www.dissertationrecipies.com](http://www.dissertationrecipies.com).
- Musera, G. A. (2014). *Socio-Economic Status and Equity in Higher Education Loans Disbursement to Undergraduate Self-Sponsored Students in Public Universities in Kenya*. Unpublished PhD Thesis, Masinde Muliro University of Science and Technology, Kenya.
- Nielsen, H. S., Sorensen, T., & Taber, C. (2010). Estimating the Effect of Student Aid on College Enrolment: Evidence from a Government Grant Policy Reform. *American Economic Journal: Economic Policy*, 2(2), 185–215.
- Odebero O. S. (2007). *Equity in Access to University Education in Kenya through HELB Loans in Relation to Demand, Supply and Effectiveness in Loan Recovery*. Unpublished PhD Thesis, Egerton University, Njoro.
- Pillay, P. (2010). The Education Sector, Lesotho. *Higher Education Financing in East and Southern Africa*, 63-80.
- Puukka, J., Dubarle, P., McKiernan, H., Reddy J., & Wade, P., (2012). *Higher Education in Regional and City Development: South Africa: The Free State*.
- Republic of Kenya (2005). *Kenya Education Sector Support Programme 2005-2010; Delivering Quality Education and Training to All*. Nairobi: Government Press.
- Seftor, N., & Turner, S. (2002). Back to School: Federal Student Aid Policy and Adult College Enrolment. *Journal of Human Resources*, 37, 336–52.
- Stock, J. H., & Watson, M. W. (2003). *Introduction to Econometrics*. Boston: Addison Wesley.
- Williamson, O. E. (1981). The Modern Corporation: Origins, Evolution, Attributes. *Journal of Economic Literature*, 19(4), 1537-1568.
- World Bank (2005). *Report on Tertiary Education in Lesotho*. Washington, DC: World Bank.