Relationship Between Debt Experiences and Indebtedness of Employees in the Formal Sector in Kenya

Morris Irungu Kariuki PhD.

Lecturer, University of Nairobi, Kenya

Abstract: **This study examined the relationship between debt experiences and indebtedness of formal sector employees in Kenya. Positivism paradigm was used in this study. The study adopted a cross sectional and correlational descriptive research design. The study targeted about 2.4 million employees in the formal sector. Three stage sampling was done, first, cluster sampling and then, stratified sampling and finally random sampling. The study used primary data collected by use of self-administered questionnaires. A pilot test of the questionnaire was conducted on 40 respondents to check its validity and reliability. Using Cockran 1977 formula, 384 questionnaires were circulated. Of the returned 337, 292 questionnaires were considered usable. Cronbach's alpha for likert type items was found reliable (over 0.7). Data analysis used IBM SPSS statistics 21 for descriptive and correlation analysis. Further, OLS Multiple regression models were used to examine the relationship between debt experiences and indebtedness. The findings reveal that debt experiences have a significant effect on indebtedness. The study recommends increased use of debt advice and counselling by formal sector employees in Kenya.**

Keyword: **Debt experiences, Indebtedness, Formal Sector**

I. INTRODUCTION

Personal finance researchers have referred to taking goods and services on credit or borrowing money by individuals by terms such as household debt, consumer debt, personal loan and personal debt. In other cases, personal debt is packaged as a product such as car loan, housing loan, education loan, bank loan, bank overdraft, micro-credit, medical loan and mortgage loan. When individuals take debt of whatever nature, they become indebted to the lender or supplier (Chawla & Uppal, 2012).

Debt experiences refer to the practices individuals undergo in the credit and loan market as they manage their financial resources (Moore, 2003). These debt experiences are encountered when obtaining loans. Suboptimal debt experiences are therefore related to over indebtedness, and the inability to reduce existing levels of debt (Lusardi & Tufano, 2009). Deployment of sound debt experiences ultimately determines the overall financial position (Zakaria, Jaafar & Marican, 2012). Theoretically, individuals with poor debt experience make suboptimal debt decisions, which lead to financial difficulty (Suwanaphan, 2013). Following extensive literature review, the study explored debt experiences such as debt access, credit counselling, and debt advice. The quality of debt experiences significantly predicts financial outcomes.

Specifically, good debt experiences are related to lower levels of financial problems specifically indebtedness and higher levels of financial satisfaction (Zakaria et al., 2012).

According to ILO (2010) formal sector refers to the part of the economy which provided jobs that are subject to national legislation, income tax, social protection or entitlement to benefits such as annual leave, group life and medical insurance, pension and gratuity. The sector have written rules, agreement and job description where employees are required to work known and fixed hour for agreed fixed salaries.

II. RESEARCH OBJECTIVE

The objective of the study was to explain the relationship between debt experiences and indebtedness of formal sector employees in Kenya.

III. RESEARCH HYPOTHESIS

There is no significant relationship between debt experiences and indebtedness of formal sector employees in Kenya.

IV. RESEARCH METHODOLOGY

The study used a positivism research philosophy, since the study was based on both existing theory and hypothesized relationship. A cross-sectional, correlational descriptive research design was used to accept the hypothesised relationship. The population of the study comprised about 2.4 million employees in the formal sector in Kenya (KNBS, 2015). To arrive at the final respondents a threestage sampling was done, First the entire population was clustered into provinces. Three provinces (Coast, Central and Nairobi) were purposively selected while finally respondents were randomly targeted. Using Cochran's 1977 formulae, a minimum of 384 respondents were used. Data analysis was carried out using SPSS version 21.

V. DATA ANALYSIS, RESULTS AND DISCUSSION

384 questionnaires were distributed; only 337 were returned. Of the returned questionnaires, 45 were rejected because they were not satisfactorily complete. Similar studies have sample the same number of respondents. Cronbach's alpha was used to measure the reliability of the data collection instrument (internal consistency) where the emphasis was on all likert scale questions in the questionnaire. Debt advice and counselling questions had Cronbach's alpha of 0.744 which is

good. Cronbach's alpha of less than 0.5 is unacceptable, between 0.5 and 0.6 is poor, between 0.6 and 0.7 is questionable, between 0.7 and 0.8 is acceptable, between 0.8 and 0.9 is considered good while over 0.9 is excellent (George & Mallery, 2003).

Descriptive Statistics on Debt Experiences

Respondents in this study supplied data on debt experiences such as membership to Savings and Credit Cooperatives (SACCOs), number of current commitments and nature of security used. Data was also collected using 15 likert scale questions. A five rating scale was employed.

Table 1: Membership to SACCOs

	Frequency	Percent
Member	258	88.4
Non-member	34	11.6
Total	292	100.0

Finding ensuing from Table 1 show that 88.4 % of the respondents were members of SACCOs. Membership to SACCOs is profitable since they mobilise savings and lend at lower rate of interest compared to commercial banks. Therefore, borrowers planning to use credit in future may be deemed debt literate if they join SACCOs (Gloukoviezoff, 2007). A study by Nguyen (2007) in Vietnam found that debt access was uniformly distributed among the respondents.

Table 2: Mean indebtedness by membership to SACCOs

	DSR	DIR
Member	.3452	8.7178
Non-member	.3016	8.1389
Mean	.3401	8.6504
ANOVA F(1,290)	2.446	.340
Sig.	.119	.560

p<.05

Results in Table 2 show members of SACCOs had highest indebtedness by both dimensions. Further, ANOVA results shown in Table 2 indicate that indebtedness between members and non-members of SACCOs was insignificantly (p>.05) different by both dimension of indebtedness. Gloukoviezoff (2007) contends that joining SACCOs so as to access affordable credit is related with both financial inclusion and finance access. Since majority of the respondents were members of SACCOs (Table 1), then the problem was not financial access but loan products "use difficulty" which ultimately leads to over-indebtedness.

Table 3: Distribution of respondents' loans

Number of loans	Frequency	Percent
1	129	44.2
2	99	33.9
3	43	14.7
4	18	6.2
>5	3	1.0
Total	292	100.0
Mean =1.86	Std deviation= 0.955	

This study targeted employees with debt. Therefore, questionnaires received from respondents without debt were rejected at data coding stage. This was similar to a study by Disney et al. (2014) which targeted indebted individuals only. Study results as shown in Table 3 shows that 44.2% of respondents had one loan while the other 55.8 % of the respondents had more than one loan regardless of provider. A study by Liv (2013) in Cambodia found that respondents had one or more loans because of predatory banking and harsh economic times.

Table 4: Mean indebtedness by multiple loans held by respondents

Number of loans		DSR	DIR
1		.2806	7.2908
2		.3722	8.9460
3		.3761	10.0019
4		.4758	12.8062
>5		.5121	13.0536
Mean		.3401	8.6504
ANOVA	F(4,287)	12.819	6.309
	Sig	.000	.000

p<.05

ANOVA results in Table 4 show that multiple loans significantly (p=.000) predicts indebtedness by both dimensions. In fact as the number of loans increased, indebtedness using both dimensions increased; with those with higher number of loans more indebted. Similarly a study by Liv (2013) in Cambodia found multiple loans to have a positive relationship with over-indebtedness.

Table 5: Distribution of respondents' debts by source

Sources	No. of loans	Percent	Cumulative Percent
SACCOs	280	51.7	51.7
Banks	153	28.2	79.9
Mortgage	8	1.5	81.4
Employers	29	5.4	86.8
Hire purchase	3	0.6	87.4
Insurance	9	1.7	89.1
HELB	29	5.4	94.5
Credit cards	18	3.3	97.8
Others	12	2.2	100.0
Total	541	100.0	

Study results as shown in Table 5 shows that 79.9 % of the respondents had borrowed from either banks or SACCOs. Indeed, 1.5% of respondents had mortgage. In the same breath, a dismal 0.6% of respondents reported hire purchase debts. This supports Njiru and Moronge (2013) who observes that there is low uptake of mortgages in Kenya. In the same line Kariuki (2012) found hire purchase dealers had reduced in number.

Table 6: ANOVA - Debt source

	Df	DSR		DIR	
		F	sig.	F	sig.
SACCOs	4,287	5.501*	.000	2.973*	.020
Banks	3,288	5.157*	.002	8.708*	.000
Mortgage	1,290	3.358	.068	0.304	.582
Credit cards	1,290	2.722	.100	3.332	.069
Employers	2,289	1.123	.327	1.602	.203
Hire purchase	1,290	1.087	.298	0.201	.654
Insurance	1,290	1.117	.292	1.161	.282
HELB	2,289	2.175	.115	0.262	.770

*p<.05

Results in Table 6 show respondents from SACCOs and banks were significantly different by both dimensions of indebtedness. Most of respondents with mortgages were deleted as outliers.

Table 7: Distribution of security of respondents' debts

Frequency	Percent	Cumulative	Percent
Personal Guarantors	204	40.0	40.0
Payslips	193	37.9	77.9
Log books	8	1.5	79.4
Title deeds	17	3.3	82.7
Personal guarantors and security	33	6.5	89.2
Employer guarantees	55	10.8	100.0
Total	510	100.0	

Table 7 shows that 77.9% of the debt facilities were secured by personal guarantors and payslips. Therefore, majority of the loans were unsecured. Loans taken on the strength of personal guarantee are deemed unsecured (Liv, 2013). According to Canada Mortgage and Housing Corporation (CMHC, 2011), secured lines of credit are used for housing, business, investments and student loans while unsecured loans are directed towards consumption and personal transport. Durable goods such as homes and vehicles collateralise debts, says Campbell and Hercowitz (2006).

Table 8: ANOVA-Nature of debt security

	Df	DSR		DIR	
		F	sig.	F	sig.
Guarantors	1,290	5.322*	.022	0.014	.904
Payslip	1,290	2.971	.086	16.160*	.000
Logbook	1,290	0.611	.435	0.127	.722
Title-deed	1,290	11.142*	.001	10.229*	.002
Employer Guarantee	1,290	1.283	.258	3.853	.051

*p<.0

5ANOVA results in Table 4 show that respondents who used personal guarantors and title deeds were significantly (p<.05)

different by DSR. On the other hand, respondents who used payslips and title deeds as security to borrow were significantly (p<.05) different by DIR.

Table 9: Mean indebtedness by respondents' debt security

		DSR	DIR
Unsecured loans		.3321	8.3814
Secured loans		.4346	11.7966
Mean		.3401	8.6504
ANOVA	F(1,290)	9.793	8.585
	Sig	.002	.004

p<.05

ANOVA results in Table 9 confirm findings in Table 8. Respondents with secured loans had higher indebtedness. However, this finding contradicts Disney et al. (2008) who found respondents with unsecured loans more indebted. Yet Liv (2013) found there was no significant relationship between lending methodology (unsecured or secured) and over-indebtedness. This finding also contradicts the hypothesis that providing collateral aids in curbing the borrower's own incentive for moral hazard; meaning collaterized borrowers should have lower indebtedness (Campbell & Hercowitz, 2006).

Table 10: Respondent's debt purpose

Loan Purpose	Mean
Investment /Development	4.04
Car-loan	1.66
Debt repayment	1.75
Education	3.17
Housing	2.33
Business	2.67
Consumption	1.77
Others	2.25
Mean	2.46

Reviewing results in Table 10 show that respondents mainly took debt for investment, development, education and business; since these purposes were above the mean score. Only a meagre amount was use in debt repayment, car purchase and consumption. Other purposes for loan money listed by respondents included medical bills, donations, dowry and funeral expenses. Malaysia (2011) contends that the largest percentage of debt repayment goes to paying off housing loans, personal car loans, personal use, purchase of securities and credit cards. A study by CMHC (2011) found that consumer credit was used mainly for car loan (46%), debt repayment (17%), investment (11%) and student loan (11%). Highly debt capable individuals are more likely to be effective in loan products selections and may prefer home loans, investment loans and education loans (Ajzerle et al., 2013).

Table 11: ANOVA: Loan Purpose

	DSR		DIR	
	F	sig.	F	sig.
Investment	1.365	.238	1.290	.268
Car loan	0.766	.575	0.244	.943
Debt repayment	1.457	.204	2.255*	.049
Education	1.081	.371	1.493	.192
Housing	0.350	.882	1.190	.314
Business	1.074	.375	1.327	.253
Consumption	3.148*	.009	1.835	.106

*p<.05, df = 5,286

ANOVA results in Table 11 show most of the borrowing purposes were insignificantly (p>.05) different by both dimensions of indebtedness. This supports Liv (2013) who found there was no significant relationship between loan use and over-indebtedness. However, debt repayment and consumption were significantly (p<.05) different by DIR and DSR respectively.

Debt experiences was also operationalised using the respondent's practical exposure in the debt market, namely, debt restructuring experiences, interaction with debt advisors and counsellors. Along with other theories, social learning theory provided the theoretical underpinning of this research thesis. All debt experiences will lead to some degree of debt literacy. Data on debt experiences was collected using 15 likert scale questions shown in part B of Appendix 1. A rating scale of five levels was used. The reliability coefficient using Cronbach's Alpha for all the 15 items was 0.627 but after deleting 4 items, Cronbach's Alpha improved to 0.768. The pilot test's reliability Cronbach's alpha was 0.843 (Table 4.1). Cronbach's alpha of between 0.7 and 0.8 is acceptable (George & Mallery, 2003). The debt experiences questions shown as (b), (c), (e) and (o) in part B of Appendix 1 were the ones deleted

Table 12: Responses on debt experiences

Items	VLE %	LE %	ME %	GE %	VHE %	Mean	Std. Dev
Debt restructuring							
(a) I have paid an extra loan instalment so as to reduce my loan burden and loan period	53.8	11.8	16.0	5.9	12.5	2.11	1.433
(d) I have repaid or retired old debt obligation so that i can re-borrow at lower interest rates	62.3	7.7	8.5	10.6	10.9	2.00	1.456
Debt advice							
(f)Before any loan application, I usually seek loan advice from finance experts	50.3	10.1	12.5	7.3	19.8	2.36	1.606
(g)Before any loan application, I usually seek loan advice from the prospective lender(s) e.g. SACCO, bank, etc.	26.8	9.9	20.8	14.7	27.8	3.07	1.560
h)Before any loan application, I consult a member of my family e.g. spouse and children, where applicable	34.6	7.8	17.0	14.1	26.5	2.90	1.632
(i)Before any loan application, I consult my close friends	57.8	18.4	13.8	2.8	7.2	1.83	1.202
(j)Before any loan application, I consult my parents or guardian	78.5	7.4	6.7	3.9	3.5	1.46	1.020
Debt counselling							
(k)When I have problem with my debts, I usually seek debt counselling services from a finance expert	72.0	8.4	7.7	4.2	7.7	1.67	1.247
(l)When I have problem with my debts, I seek solutions from my lender(s). e.g. SACCO, bank, etc.	40.1	11.6	20.5	7.9	19.9	2.56	1.551
(m) When I have problem with my debts, I consult a member of my family e.g. spouse and children, where applicable for counsel	40.4	9.5	14.7	10.5	24.9	2.70	1.653
(n)When I have problem with my debts, I consult my close friends	67.4	13.1	11.7	3.9	3.9	1.64	1.082

n=292, Cronbach's alpha=.768; VLE=Very Low Extent, LE=Low Extent, ME=Moderate Extent, HE=High Extent, VHE=Very High Extent

Results in Table 12 show that majority of the respondents had very minimal debt experiences (*M*=2.19, *SD*=0.6872). The respondents scored higher in debt advice (*M*=2.35, *SD*=0.9165), followed by debt counselling (*M*=2.15, *SD*=0.8807) while debt restructuring (*M*=2.07, *SD*=1.1447) trailed. The low debt restructuring experiences is disadvantageous since borrowers are not able to improve borrowing practices and reduces status quo bias. Status quo bias with respect to borrowing is the reluctance to switch from the current loan term structure to another, which would be ultimately cheaper (Finke, 2011). Further, social learning theory proposes that learning occurs because of interaction with the environment (debt market) and that new experiences are evaluated by means of past experiences. This means debt experiences for the respondents are likely to remain low, *ceteris paribus*.

Results in Table 12 above show that majority of the respondents do not seek any assistance in the form of advice before any loan application. Professional experts were consult the least for

advice (*M*=2.36, *SD*=1.606), compared with proportion that consulted family (*M*=2.90, *SD*=1.632) and lenders (*M*=3.07, *SD*=1.560). This supports Krah et al. (2014) and Dowling, Corney and Hoiles (2009) who found that majority of their respondents did not seek professional advice. To make the matter worse, respondents do not adequately seek help from non-professionals such as friends, family, parents and guardians. Family is consulted reasonably (*M*=2.90, *SD*=1.632). This supports a study by Ajzerle et al. (2013) which found family as the most used source of financial information.

Results in Table 12 show respondents in this study consulted the lenders for advice the highest (*M*=3.07, *SD*=1.560). Beside the conflict of interest of the lender, there is information asymmetry between the borrower and the lender. Debt institutions will lend to anyone for profit (Russell et al., 2011). In most cases, the lending agents will give biased advice which favours the lender; popularly called the framing bias. This unfortunately is supposed to be a *caveat emptor* to borrowers when consulting any provider of credit (Ironfield-Smith et al., 2005). Predictably, van Ooijen and van Rooij (2014) concluded that debt advice does not automatically lead to better mortgage choices; especially when it is received from a lender due to conflict of interest.

Results in Table 12 show that majority of the respondents do not seek professional counselling (*M*=1.67, *SD*=1.247). Interestingly, respondents consulted their family (*M*=2.70, *SD*=1.653) more than experts, lenders (*M*=2.56, *SD*=1.551) and friends (*M*=1.64, *SD*=1.082). According to Agarwal et al. (2010) borrowers who undergo counselling programs have lower default rate. Generally, it appears that respondents in this study consulted neither the professional counsellor nor the non-professional persons like family and friends.

Table 13: ANOVA: Debt experiences

		DSR		DIR	
	Df	F	sig.	F	sig.
Debt restructuring	8,253	1.103	.361	0.836	.571
Debt advice	25,266	1.020	.441	0.622	.922
Debt counselling	19,272	0.666	.851	0.932	.543
Multiple loans	4,287	12.879*	.000	8.309*	.000
Aggregate debt experiences	136,155	1.059	.324	0.979	.549

*p<.05

ANOVA results in Table 13 show debt restructuring, debt advice, debt counselling and aggregate debt experiences insignificantly (p>.05) predicted both dimension of indebtedness. Only multiple loans significantly (p=.000) predicted both dimensions of indebtedness.

Correlation Between Debt Literacy and Indebtedness

As shown in Table 14 below, there was a positive and significant correlation (p<.01) between debt experiences and DSR and DIR. On the other hand, there was negative and significant (p<.01) correlations between DSR and DIR on one

hand and borrowing behaviours, debt capability, debt knowledge and aggregate debt literacy on the other. The correlation matrix in Table 14 show the strength of the relationships among the independent variables of the study was less than 0.8. Therefore, the problem of multicollinearity did not exist since none of these coefficients is greater than 0.8.

Table 14: Correlation matrix- Debt literacy and indebtedness

	DE	BB	DC	DK	DSR	DIR
Debt experiences	1				.215**	.149*
Borrowing behaviours	-.159**	1			-.297**	-.187**
Debt capability	.163**	.274*	1		-.225**	-.213**
Debt knowledge	-.034	-.020	.181**	1	-.237**	-.266**
Debt literacy	.373**	.430**	.768**	.600**	-.268**	-.263**

** p <0.01; *p < .05; n=292;

Pearson's correlation matrix shown in Table 14 indicate aggregate debt literacy was positively and significantly (p<.01) related to debt capability (*r*=.768), debt knowledge (*r*=.600), borrowing behaviours (*r*=.430) and debt experiences (*r*=.373) in that order. Prior studies (e.g. Agarwalla, Barua, Jacob & Varma, 2013; Gupta & Madan, 2016) examining the relationship among dimensions of financial literacy confirms that financial behaviour and financial literacy have a positive relationship. These prior studies also found that financial literacy and financial Planning (debt capability) are closely related. In conformity, Lusardi et al. (2010) also found debt literacy strongly linked to cognitive ability. Also in agreement was a study by Lusardi and Mitchell (2008) which found that women with high financial literacy had a habit of planning. The highest correlation coefficient was between debt capability and debt literacy (*r*=.768). This supports Finke (2011), who contend that debt capability is the most important component of debt literacy; that is debt education received by low-debt capable persons is ineffective. Learning theory presents a learning cycle which involves experiencing a situation, reflecting on it, planning a course of action or actions which often involves taking risk (Bandura, 1991).

Correlation Between Debt Experience and Indebtedness

Table 14: Correlation matrix- Debt experiences and indebtedness

	1	2	3	DSR	DIR
Debt restructuring	1			.095	.052
Debt advice	.037	1		-.006	-.013
Debt counselling	.132**	.606**	1	.035	.024
Multiple loan	.070	-.079	-.041	.368**	.280**

** p<.01; *p<.05, n=292

The results in Table 14 imply that debt restructuring, debt counselling and multiple loans were positively related to both dimensions of indebtedness while debt advice was negatively correlated. This is in support of findings by Bryan et al. (2010)

that receiving debt advice is associated with a small likelihood of escaping over-indebtedness. In line with these findings, Liv (2013) found multiple loans had significant correlation coefficients with over-indebtedness. Similarly, Disney et al. (2014) found probability of seeking credit counselling increase with debt holding.

Results in Table 14 show the lowest correlation was between debt advice and debt restructuring (r=.037, p>.05) while the highest correlation was between debt counselling and debt advice (r=.606, p<.01). Since none of the correlation coefficients of the indicators of debt experiences was greater than 0.8, it was concluded that the problem of multicollinearity did not exist.

Regression Analysis Results for the Study Variable

This sub-section covers the Ordinary Least Square (OLS) simple regression analysis of the dimensions of indebtedness against the independent variables of this study. The key objective was to establish the degree, the direction of effect and to assess the statistical significance of the effect of each independent variable on indebtedness. The degree and direction of effect were also used to derive linear models whereas the statistical significance was used to reject or fail to reject the null hypotheses of this study.

In addition, OLS multiple regression models were used to examine the joint effect of the independent variables on indebtedness. Multiple regression analysis was conducted to test the degree and the direction of influence and to gauge the statistical significance of the relationship. OLS Regression analysis will generate R, R^2, adjusted R^2, beta, standard error, t-statistics and p values. Each of these beta values has an associated standard error indicating to what extent these values would vary across different samples. If the standard error is very small then it means that most samples are likely to have beta values similar to the sample of the study concerned because there is little variation across samples (Field, 2013). According to Field (2013), T-statistics tests also determine whether a beta value is significantly different from zero. Therefore, if the t-test associated with beta value is significant then the predictor variable is making significant contribution to the model. Conversely, if the t-test associated with beta value is insignificant then the predictor variable is making zero contribution to the model. The significance level used in this study was 5%. Variance Inflation Factor (VIF) was used to detect colinearity. VIF nearest to 1 suggest no multi-colinearity; that is there is no linear relationship between independent variables. On the other hand, VIF substantially greater than one mean there is multi-colinearity. VIF more than 10 indicates serious multi-colinearity problem (Field, 2013).

Effect of Debt Experiences on DSR

The model used to test the effect of debt experiences on DSR was;

$$y_1 = b_0 + b_1x_1 + \varepsilon_i$$ .... (1)

Where: y_i = Debt Service Ratio (DSR)

b_0 = Level of DSR in the absence of debt experiences

b_1 = Intercept for debt experiences

x_1 = Debt experiences

ε_i = Error term

Table 15: Regression model summary of DSR against debt experiences

	β	SE	$\hat{\beta}$	T	Sig.
Constant	0.218	0.034		6.415	.000
Debt experiences	0.058	0.016	0.215	3.744	.000
R	.215				
R squared	.046				
Adjusted R squared	.043				
Standard error of the estimates	0.14981				
VIF	1.000				
ANOVA	F(1,290)=14.016, p=.000				

*p<.05

Results in Table 15 indicate that debt experiences explain 4.6% of the variation in DSR. It follows that other factors outside debt experiences explain 95.4 % of variation in DSR. The adjusted R^2 is .043 which is close to the R^2, hence the model is well generalized. This means that if the model were derived from the population instead of the sample; it would account only for 0.3% variation, which is fairly low.

Results in Table 15 imply the model is valid, F(1,290)=14.016, p=.000. The F-ratio was significant (p=.000). This shows that the regression model has zero likelihood of giving wrong predictions. As per the T-test values and p-values in Table 15, the standardised coefficient (b=0.215) of debt experiences was highly significant (p=.000). The beta values explain the effect of the predictor on dependent variable, DSR. Substituting the standardized beta coefficients in Table 4.66 in the OLS simple regression model $(y_1 = b_0 + b_1x_1 + \varepsilon)$, the following DSR equation was obtained;

DSR = 0.215DE.. (2)

Equation 4.2 implies that for one point improvement in debt experiences (DE), the score of DSR would increase by 0.215 points. Therefore, the null hypothesis (H_{01a}:b_1=0) that there is no significant effect of debt experiences on DSR of formal sector employees in Kenya was rejected.

Effect of Debt Experiences on Debt Income Ratio (DIR)

The model used to test the effect of debt experiences on DIR was;

$$y_2 = b_0 + b_1 x_1 + \varepsilon_i \quad\text{...} (3)$$

Where: y_2 = Debt Income Ratio (DIR)

b_0 = Level of DIR in the absence of debt experiences

b_1 = Intercept for the independent variable

x_1 = Debt experiences

ε_i = Error term

Table 16: Regression model summary of DIR against debt experiences

	β	SE	$\hat{\beta}$	T	Sig.
Constant	5.635	1.218		4.624	.000
Debt experiences	1.431	0.558	0.149	2.562	.011
R	.149				
R squared	.022				
Adjusted R squared	.019				
Standard error of estimates	5.38351				
VIF	1.000				
ANOVA	F (1,290) = 6.565, p=.011				

*p<.05

Results in Table 16 indicate that debt experiences explain 2.2% of the variation in DIR. It follows that other factors outside debt experiences explain 97.8% of variation in DIR. The adjusted R^2 is .019 which is close to the R^2, hence the model is well generalized. This means that if the model were derived from the population instead of the sample; it would account only for 0.3% variation, which is fairly low.

Results in Table 16 imply the model is valid, $F(1,290)=6.565$, p=.011. The F-ratio was significant (p=.011). This shows that the regression model has less than 1.1% chance of giving wrong predictions. As per the T-test values and p-values in Table 4., the standardised coefficient (b=0.149) of debt experiences was highly significant (p=.011). The beta values explain the effect of the predictor on dependent variable, DIR. Substituting the standardized beta coefficients in Table 16 in the OLS simple regression model $(y_2 = b_0 + b_1 x_1 + \varepsilon)$, the following DIR equation was obtained;

DIR = 0.149DE.. (4)

Equation 4 mean that for one point increase in debt experiences (DE), the score of DIR would rise by 0.149 points. Therefore, the null hypothesis (H_{01b}: $b_1=0$) that there is no significant effect of debt experiences on DIR of formal sector employees in Kenya was rejected.

The findings in Equations 2 and 4 show there was positive and significant relationship between debt experiences and the dimensions of indebtedness. This supports a study by Liv

(2013) in Cambodia which found positive and significant beta values on its proxy for debt experiences (multiple loans). Liv (2013) also arrived at a correlation coefficient of 13.2%. Also supported is a study in UK by Disney et al. (2014) which concluded that the likelihood of seeking credit counselling increases with debt holding. In the same breath, a study by Mashigo (2006) in South Africa concluded that excessive debt access contributed to the debt spiral. Debt access is an experience which this study assumed uniformly distributed since all respondents must have had debt to qualify for data analysis.

Lusardi and Tufano (2009) using cluster analysis in a study in America found respondents' financial experiences positively related to having difficulties with debt repayment. In the same line Chawla and Uppal (2012) in a study in Canada concluded that higher levels of debt corresponded to a higher likelihood of receiving financial advice. Bandura (1991) posits that people learn through experiences, observation and imitation from role models they interact with frequently. Winchester (2011) argues that professionally assisted persons have increased decisions accuracy, reduced delinquency rates and exhibit debt optimal behaviours than their non-assisted counterparts.

VI. SUMMARY OF THE RESEARCH FINDINGS

It was found that majority of the respondents were over-indebted. More than half of respondents held multiple loans that significantly led to increased levels of indebtedness. Majority of the study participants had borrowed from bank and SACCOs. This study found respondents who had borrowed from SACCOs and banks were significantly different by levels of indebtedness. Most of the debts held by respondents were secured by either personal guarantors or payslip; meaning they were unsecured loans. However, respondents who had secured their debt by either logbooks or title deeds were more indebted; meaning secured borrowers were more indebted.

Majority of the respondents had taken loan for investment, development, education or as business capital. Generally, borrowing purposes insignificantly differentiated indebtedness. The study also found that respondents generally had minimal debt experiences; mainly because majority did not seek debt advice and counselling. In fact, it was vividly clear that respondents did not seek debt advice and counselling from professional experts. Paradoxically, majority sought debt advice and counselling from lenders who are prone to conflict of interest.

A joint regression of sub-components of debt experiences found they significantly explained indebtedness. Of the four sub-constructs of debt experiences, only multiple loans significantly discriminated indebted employees. In summary, descriptive statistics found debt experiences explained indebtedness insignificantly. Regression and correlation analysis results were that debt experiences significantly explains indebtedness. Debt experiences and indebtedness had weak and positive correlation; meaning debt level increases when debt experiences improves.

VII. CONCLUSIONS OF THE STUDY

The specific objective was to determine the effect of debt experiences on the indebtedness of the formal sector employees in Kenya. Emanating from the analyses, debt experiences had a statistically significant influence on indebtedness of formal sector employees in Kenya. This is in line with the learning and life cycle theories which proposes individual learn throughout their life. However, debt experiences are acquired through active and practical participation in the debt environment. Learning theory also shows that learning occurs when a practice is sustained systematically and that past experiences are used to evaluate and approve any new experience. Thus learning is bound to happen when borrower interact with the credit environment. Essentially, debt experiences will improve borrowing activities as well as aid achievement of debt freedom leading to a better overall financial position for the individual. This is also consistent with existing literature. In general, the results provide interested parties with strong insights; that debt literacy is important for sound financial outcome including indebtedness. Specifically, employees should embrace debt literacy by looking for avenue to improve it. On the other hand, organised finance bodies such as Institute of Certified Public Accountant of Kenya (ICPAK) and Kenya Bankers' Association (KBA) should periodically organise financial education seminars or clinics where professional finacial advice and counselling services can be imparted. On the other hand, banks and financial institutions need to invest in sound credit rating technologies to screen borrowers as well as support the credit referencing institutions. The financial institutions should also improve their information sharing. This would reduce adverse selection, tame over-indebtedness in their clientele, and simultaneously minimise non-performing debts. In addition, these lenders should strive to do full and "utmost good faith" disclosure on the terms and conditions of loan contracts when approached by prospective borrowers.

VIII. CONTRIBUTIONS OF THE STUDY FINDINGS

The findings from this study contribute to knowledge, policy and practice in the area of debt literacy and indebtedness of formal sector employees in Kenya, and indeed worldwide. The findings of this study add to existing knowledge in the area of debt experiences and indebtedness Further, this study has helped to illuminate the fact that improvement in debt experiences of the employee increases indebtedness This findings are useful to various stakeholders who include formal sector employees, employers, lenders and the governments. Since the findings of this study indicate that there is a positive relationship between debt experiences and indebtedness, lenders need to screen repeat borrowers more seriously for risk of default to reduce. Employers need to guard against employees' personal over-indebtedness since it can lead to negative consequences such as fraud and absenteeism. Since formal sector employees sought debt advice the least, other avenues to boost debt literacy such debt training need to be embraced by employers

IX. SUGGESTIONS FOR FURTHER RESEARCH

Future studies need to use other quantitative dimensions of indebtedness such as debt-wealth ratio, debt to saving ratio, amount-in-arrears ratio, delinquency and default rate. Further, qualitative measures also need to be used for future studies. Future researcher can attempt to use the personal interview method. Finally, employees in the informal sector also need to be studied.

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