

Why Housing Gap; Willingness or Eligibility to Mortgage Financing By Respondents in Uasin Gishu, Kenya

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Abstract

Mortgage financing plays a significant role in enabling people to be real estate property owners and/or homeowners. Despite its significance, past statistics indicated that very few people accessed mortgage finance in Kenya. Previous research indicated that at best only 3% of households in urban areas in Kenya were eligible for mortgage financing. The study sought to determine the role of demographic (gender and age) and socio-economic factors (income and education) willingness and eligibility to mortgage financing. The study adopted explanatory research design. Target population of 807,687 was obtained by visiting all the 16 financial institutions licensed by Central Bank of Kenya offering mortgages in Uasin Gishu County. Purposive sampling was used in picking the 16 Financial Institutions. Convenience sampling technique was employed in picking the 749 respondents. Structured questionnaires were used in data collection. Both descriptive and inferential statistics were used in data analysis. Double Hurdle Model was employed using data collected on the assumption that willingness and eligibility to mortgage financing by respondents were independent decisions and influenced by the same decision factors. The results showed that age, education and income significantly influenced the willingness and eligibility to mortgage financing. Female respondents were more willing to participate in mortgage financing and more eligible to mortgage financing at all referenced points compared to male respondents. There is need for the financial institutions, ministry in charge of housing and other stakeholders to consider formulating appropriate policies, programs and products which can empower female to enable them qualify for mortgage financing. The purpose of this study was to investigate the factors that influence willingness to participate in mortgage financing and eligibility to mortgage financing in Uasin Gishu County, Kenya. The findings of this study are important to the Uasin Gishu Government, financial institutions and other stakeholders in informing appropriate policy geared towards improving mortgage financing of the respondents in Uasin Gishu, Kenya. This study will provide the larger community in the way out of alleviating the problem of squalor settlements in major towns in the county.

Keywords: mortgage financing, willingness, eligibility, double hurdle model, Uasin Gishu, Kenya

INTRODUCTION

The nature of housing in Kenya represents major investment requiring substantial capital outlay (Nabutola, 2004). In the majority of housing projects, the developer whether as a corporate or an individual has to borrow and hence the need for mortgage financing (Nabutola, 2004). According to Jared and David (2014) over 70 % of Kenyans financed construction and acquisition of their homes through personal savings, only 28 % of Kenyans financed homes and acquisition using bank loans, out of which only 6 % prefer mortgage financing. It is virtually every Kenyan's dream to own a home. But the reality is that very few of them were likely to be able to save enough to pay for one in cash.

STATEMENT OF THE PROBLEM

Kenya has a large housing gap which is growing every year and is increasingly prevalent in urban areas. The current annual housing deficit is estimated at 156,000 units against current levels of construction of 50,000 per annum based on the population growth and urban migration taking place. The deficit is largely filled by the growth in slum dwellings and continued self-construction of poor quality traditional housing. Mortgages have a big role to play in filling this gap (World Bank, 2011). According to Ministry of Housing in Kenya (2011) 27,000 housing units are required annually in the Uasin Gishu County but only an estimated 4,500 units were being produced annually. It is therefore critical to examine the factors influencing

willingness to participate in mortgage financing and eligibility to mortgage financing be investigated with a view of bridging the gap between the current production of housing units and the demand for the housing units in the County.

OBJECTIVE

The objective of this study was to determine:

1. To determine the influence of demographic factors, that is, gender and age on willingness by respondents to participate in mortgage financing in Uasin Gishu County.
2. To determine the influence of socio-economic factors, that is, education and income on willingness to mortgage financing in Uasin Gishu County
3. To determine the influence of demographic factors, that is, gender and age on eligibility to mortgage financing by respondents in Uasin Gishu County.
4. To determine the influence of socio-economic factors, that is, education and income on eligibility to mortgage financing by respondents in Uasin Gishu County
5. To establish whether willingness and eligibility decisions to mortgage financing by respondents are joint decisions in Uasin Gishu County

RESEARCH HYPOTHESES

This study tested the following hypotheses:

H01: There is no significant relationship between any of the demographic factors that is, gender and age on willingness to mortgage financing by respondents in Uasin Gishu County

H02: There is no significant relationship between any of the demographic factors that is, gender and age on eligibility to mortgage financing by respondents in Uasin Gishu County

H03: There is no significant relationship between any of the socio-economic factors that is, education and income on willingness to mortgage financing by respondents in Uasin Gishu County

H04: There is no significant relationship between any of the socio-economic factors that is, education and income on eligibility to mortgage financing by respondents in Uasin Gishu County.

H05: There is no joint decision between willingness decision and eligibility decision to mortgage financing by respondents in Uasin Gishu County.

RESEARCH METHODOLOGY

Model Specification and Bi-Probit Regression Model

In this study, a Double-Hurdle Model is used to analyze the respondent mortgage financing. The Double-Hurdle Model, originally formulated by Cragg (1971), assumes that households must make two decisions with regard to purchasing an item, each of which is determined by the same or different set of explanatory variables. For this study the former holds. The Double Hurdle Model can be specified as follows:

$$y_{1i}^* = \alpha X_{1i} + \mu_i \dots \text{Participation decision} \dots (3.1)$$

$$y_{2i}^* = \beta X_{2i} + v_i \dots \text{Eligibility decision} \dots (3.2)$$

$$y_i = \beta X_{2i} + v_i \dots \text{If } y_{1i}^* > 0 \text{ and } y_{2i}^* > 0 \dots (3.3)$$

$$y_i = 0 \dots \text{Otherwise} \dots (3.4)$$

Where; y_{1i} , y_{2i} is a latent variable describing the respondent's willingness and eligibility to mortgage financing respectively, y_i is the observed dependent

variable (mortgage financing), X_{1i} and X_{2i} is a set of respondent characteristics explaining the willingness and eligibility to mortgage financing decisions respectively and; μ_i and v_i are independent, homoscedastic, normally distributed error terms.

SAMPLE PROCEDURE

In this study, Krejcie and Morgan (1970) formulae was used to obtain the sample size of the walk-in customers:

$$n = \frac{\chi^2 * N * P * (1 - P)}{\{ME^2 * (N - 1)\} + \{\chi^2 * P * (1 - P)\}} \dots 3.6$$

Where:

n = Sample size required;

χ^2 = The table value of Chi-square for one degree of freedom at the desired confidence level: N is Population size; P is Population proportion and ME is Desired Margin of Error. With the population of 807,687 at 96 % confidence level; assuming a desired margin of error of 3.75 % and a 0.50 population proportion which provides maximum sample size; yields a sample size of 749.

RESULTS AND DISCUSSION

Presentation and interpretation of the findings obtained from the field are discussed here under.

DESCRIPTIVE STATISTICS

Table 1: Summary Statistics of the Surveyed Respondents

Variable	Mean	Std Error	Minimum	Maximum
Willingness	0.6435	0.4793	0	1
Eligibility	1.3525	1.3188	0	8
Gender	0.5714	0.4956	0	1
Age	42.5341	8.0568	30	60
Education	12.2924	2.2831	5	17
Income	23105.99	12202.2	1500	96000

Source: Author, 2015

The results showed that the mean age of the respondents was 42.53 years; while the minimum age was 30 years and maximum was 60 years. Among the respondents there were some who had been advanced mortgages eight times as per data collected during the study.

Table 2: Descriptive Statistics for Age per Gender of the Respondents

Gender	Mean	Frequency	Variance	SD
Female	43.28	321	71.20	8.44
Male	41.97	428	59.61	7.72
Total	42.53	749	64.91	8.06

Source: Author 2015

57% and 43% were men and women respectively an indication that men dominated willingness and eligibility decisions to mortgage financing in Uasin Gishu County. Male mortgagors were likely to have more access to capital and information through financial networks and contacts with financial sector than female.

Normality Tests

Table 3a: Results of normality test

Variable	Cramer-von-Mises		Anderson-Darling	
	Statistic	P - Value	Statistic	P - Value
Willingness	28.8432	0.000	149.8943	0.000
Eligibility	5.3371	0.000	34.1112	0.000
Gender	22.8489	0.000	138.4914	0.000
Age	1.024	0.000	7.1893	0.000
Education Level	9.7277	0.000	44.3675	0.000
Income	2.9388	0.000	17.786	0.000

Source: Author, 2014 using S – PLUS Statistical Software

The results of normality tests using Anderson-Darling and Cramer-von-Mises showed that the modelled variables were normally distributed, p-values were 0.000 < 0.05 for all the variables under study. Therefore statistical inference was amenable to normal distribution processes.

Probit Regression Results for Willingness to Participate in Mortgage Financing

Table 3b: Results of Individual Probit for willingness to participate in Mortgage Financing

Willingness to mortgage financing	Coefficient	Std. Error	Z Value	P > Z
Gender (X_1)	-0.1377173	0.1002669	-1.37	0.170
Age (X_2)	0.6599518	0.257083	2.57 (*)	0.010
Education level (X_3)	0.6531999	0.2650285	2.46 (*)	0.014
Income (X_4)	0.6460752	0.1033123	6.25 (*)	0.000
Intercept	-10.02691	1.41377	-7.09 (*)	0.000

Source: Author, 2015

(*) Indicates that the coefficient is statistically significant at 95% confident interval.

Source: Author, 2015

Intercept coefficient was negative and significantly determined the willingness to participate in mortgage financing. The intercept coefficient is the parameter in an equation derived from a regression analysis corresponding to the expected value of the response variable when all the explanatory variables are zero (Everitt, 2002). From the above regression equation it was revealed that the intercept coefficient was negative 10.02691 meaning that gender, age, education level and income accounted for most of the determinants of willingness to participate in mortgage financing.

The results showed that a one unit increase in age (which had positive responsiveness, p - value $0.005 < 0.05$) would lead to an increase in willingness to participate in mortgage financing by 0.6599518. Therefore based on these results the first hypothesis was rejected. These results were consistent with Honohan and King (2009) who concluded that middle aged respondents had more usage of mortgage financing than the youngest and the old group.

Table 4: Results of joint significance test for willingness to participate in Mortgage Financing

Joint Hypothesis	χ^2	Prob > χ^2	Remarks
$X_1 = X_2 = 0$	9.68	0.0079	Reject Null
$X_3 = X_4 = 0$	35.99	0.0000	Reject Null

Source: Author, 2015

Gender and age jointly had a significant effect likewise to education level and income jointly had a significant effect on willingness to mortgage financing.

Probit Regression Results on Eligibility to Mortgage Financing

Table 5: The results from individual probit regression for eligibility to Mortgage Financing

Willingness to mortgage financing	Coefficient	Std. Error	Z Value	P > Z
Gender (X_1)	-0.1523197	0.1047441	-1.45	0.146
Age (X_2)	-3.080175	0.2806798	-10.97 (*)	0.000
Education level (X_3)	-0.6432309	0.27579	-2.33 (*)	0.020
Income (X_4)	0.333639	0.1087767	3.07 (*)	0.002
Intercept	10.33714	1.448778	7.14 (*)	0.000

Source: Author, 2015

(*) Indicates that the coefficient is statistically significant at 95% confident interval.

Intercept coefficient was a positive responsiveness and significantly determined the eligibility to mortgage financing. Holding gender, age, education level and income to a constant zero; the intercept was positive 10.33 meaning there are other determinants not included in the study that could account for eligibility to mortgage financing. The result showed that a one unit increase in age of the respondent would lead to a

reduction in eligibility to mortgage financing by 3.080175 units. The age and educational level coefficients had a negative responsiveness while income coefficient had positive responsiveness and they significantly determined eligibility to mortgage financing, p - value $0.000 < 0.05$.

Table 6: Results of joint significance test for eligibility to mortgage financing

Joint Hypothesis	χ^2	Prob > χ^2	Remarks
$X_1 = X_2 = 0$	118.84	0.000	Reject Null
$X_3 = X_4 = X_6 = 0$	16.01	0.0011	Reject Null

Source: Author, 2015

The joint significance test $X_1 = X_2 = 0$ and $X_3 = X_4 = 0$ showed that gender and age coefficients jointly; education level and income coefficients jointly determined eligibility to mortgage financing, p – value $0.000 < 0.05$. Therefore based on

these findings the fourth hypothesis was rejected. These results were consistent with Johnson and Noni-Zarazua (2009) who observed that age and gender were key factors explaining formal financing services.

Bi-probit Regression Results

Table 7: Regression Results for Bi-Probit Willingness and Eligibility to Mortgage Financing

First Hurdle Willingness	Coefficient	Std. Error	Z Value	P > Z
Gender	-0.1376982	0.1002664	-1.37	0.170
Age	0.6601098	0.2571169	2.57 (*)	0.010
Education level	0.6534394	0.2650735	2.47 (*)	0.014
Income	0.6461477	0.10332338	6.25 (*)	0.000
Intercept	-10.02884	1.414157	-7.09 (*)	0.000
Second Hurdle Eligibility				
Gender	-0.1523421	0.1047443	-1.45	0.146
Age	-3.080278	0.2806849	-10.97 (*)	0.000
Education level	-0.6436261	0.2758828	-2.33 (*)	0.020
Income	0.333709	0.1088023	3.07 (*)	0.002
Intercept	10.33784	1.448931	7.13 (*)	0.000
/athrho	-0.0053594	0.0664907	-0.08	0.936
Rho	-0.0053593	0.0664888		

Source: Author, 2015

(*) Indicates that the coefficient is statistically significant at 95% confident interval.

Age, education level and income coefficients significantly influenced willingness and eligibility to mortgage financing.

Marginal Effects on Willingness to Participate in Mortgage Financing

Table 81: Results of Marginal Effects for Willingness to Participate in Mortgage Financing

Marginal effects after probit: $Y = Pb(Willingness)(Pd) = 0.65275876$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0506304	0.03666	-1.38	0.167	0.571429
Age	0.2437372	0.09489	2.57	0.010	3.73195
Educ	0.2412435	0.09783	2.47	0.014	2.4903
Income	0.2386122	0.03809	6.27	0.000	9.9196

Source: Author, 2015

The overall predicted probability of willingness to participate in mortgage financing was 65.3 % irrespective of the gender.

Table 92: Summary of the Results of Marginal Effects for Willingness to Participate in Mortgage Financing

Gender	Age (Yrs)	Educ (Yrs)	Income-US D p.a	Marginal Effect (%)	Ref. in Appendix
1	42	12	20,324	65%	A3.1
0	42	12	20,324	68%	A3.2
1	30	12	20,324	55%	A3.3
0	30	12	20,324	60%	A3.4
1	60	12	20,324	72%	A3.5
0	60	12	20,324	76%	A3.6
1	42	12	96,000	91%	A3.7
0	42	12	96,000	93%	A3.8

Source: Author, 2015

The results showed that predicted probability of willingness to participate in mortgage financing by referenced points. female was higher compared to male at different

Marginal Effects on Eligibility to Mortgage Financing

Greene (2012) advocated for interpretation of marginal effect from regression models and therefore marginal effect were estimated.

Table 10: Marginal Effects for Eligibility

Marginal effects after probit: $Y = Pb(Eligibility)(Pd) = 0.67823479$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0542782	0.03707	-1.46	0.143	0.571429
Age	-1.104034	0.10039	-11.00	0.000	3.73195
Educ	-0.2305547	0.09874	-2.33	0.020	2.4903
Income	0.119587	0.039	3.07	0.002	9.9196

Source: Author, 2015

The overall marginal effects showed that changes in independent covariates predicted 67.65 % in eligibility to Mortgage Financing. This was expected in survey

studies Greene (2012); Long and Freese (2003) and Aristei, D., Perali, F., and Pieroni, L., (2008).

Table 11: Summary of the Results of Marginal Effects for Eligibility to Mortgage Financing

Gender	Age (Years)	Educ (Years)	Income(US Dollars p.a)	Marginal Effect (%)	Reference in Appendix
1	42	12	20,324	65%	A3.9
0	42	12	20,324	71%	A3.10
1	30	12	20,324	92%	A3.11
0	30	12	20,324	94%	A3.12
1	60	12	20,324	24%	A3.13
0	60	12	20,324	29%	A3.14
1	42	12	96,000	82%	A3.15
0	42	12	96,000	86%	A3.16

Source: Author, 2015

The results showed that female were more eligible to mortgage financing at all referenced ages. This seemed to reflect the fact that male pay slip and other sources of income were always committed since male are providers or bread winners of the families.

CONCLUSIONS

From the data collected and analysed, it can be concluded that in Uasin Gishu County, age, education and income level of the respondent were the key determinants influencing willingness and eligibility to mortgage financing. The study also concluded that female compared to male respondents were more willing and demonstrated ability to mortgage financing at all referenced points of the study. The results from bi-probit, showed that the two decisions were independent. Therefore it was concluded that willingness to participate in mortgage financing and eligibility to mortgage financing were separate decisions.

RECOMMENDATIONS

The government, financial institutions and other stakeholders should empower women and develop programs that incorporate women economic empowerment because the results showed that women were more eligible to mortgage financing than men at all age levels of the study.

LIMITATIONS OF THE STUDY

This study was successfully undertaken but not without a few limitations. The time period covered by the study and the resources available to the researcher were also limited. This was overcome by using many research assistants who were able to capture the necessary information required for this study.

The finding of this study could only be limited to respondents and financial institutions in Uasin Gishu County, Kenya. The willingness and eligibility in other counties within Kenya may show different results and thus the study may not confidently reflect the happenings in the country at large.

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APPENDIX

Table A1: Marginal Effects for Willingness of Male to Participate in Mortgage Financing at Referenced Points (Age=42 years, Educ=12 years and USD20,324 per annum)

Marginal effects after probit: $Y = Pb(Willingness)(Pd) = 0.65275876$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0506304	0.03666	-1.38	0.167	1
Age	0.2490195	0.09677	2.57	0.010	3.73195
Educ	0.2464718	0.10045	2.45	0.014	2.4903
Income	0.2437835	0.03809	6.27	0.000	9.9196

Source: Author, 2015

Table A2: Marginal Effects for Willingness of Female to Participate in Mortgage Financing at Referenced Points (Age=42 years, Educ=12 years and Income=USD 20,324 per annum)

Marginal effects after probit: $Y = Pb(Willingness)(Pd) = 0.68134918$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0506304	0.03666	-1.38	0.167	0
Age	0.2355879	0.09177	2.57	0.010	3.73195
Educ	0.2331776	0.09461	2.46	0.014	2.4903
Income	0.2306343	0.03809	6.27	0.000	9.9196

Source: Author, 2015

Table A3: Marginal Effects for Willingness of Male Aged 30 years to Participate in Mortgage Financing at Referenced Points (Educ=12 years and Income=USD 20,324 per annum)

Marginal effects after probit: $Y = Pb(Willingness)(Pd) = 0.54596622$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0539745	0.03911	-1.38	0.168	1
Age	0.2615331	0.10433	2.51	0.012	3.4012
Educ	0.2588574	0.10562	2.45	0.014	2.4903
Income	0.2560339	0.04085	6.27	0.000	9.9196

Source: Author, 2015

Table A4: Marginal Effects for Willingness of Female Aged 30 years to Participate in Mortgage Financing at Referenced Points (Educ=12 years and Income=USD 20,324 per annum)

Marginal effects after probit: $Y = Pb(Willingness)(Pd) = 0.5999407$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0539745	0.03911	-1.38	0.168	0
Age	0.2549774	0.09933	2.57	0.010	3.4012
Educ	0.2523687	0.1024	2.46	0.014	2.4903
Income	0.249616	0.03992	6.25	0.000	9.9196

Source: Author, 2015

Table A5: Marginal Effects for Willingness of Male Aged 60 years to Participate in Mortgage Financing at Referenced Points (Educ=12 years and Income=USD 20,324 per annum)

Marginal effects after probit: $Y = Pb(Willingness)(Pd) = 0.71665078$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0446949	0.03259	-1.37	0.170	1
Age	0.2234325	0.07498	2.98	0.003	4.09434
Educ	0.2211466	0.0894	2.47	0.013	2.4903
Income	0.2187344	0.03902	5.61	0.000	9.9196

Source: Author, 2015

Table A6: Marginal Effects for Willingness of Female Aged 60 years to Participate in Mortgage Financing at Referenced Points (Educ=12 years and Income=USD 20,324 per annum)

Marginal effects after probit: $Y = Pb(Willingness)(Pd) = 0.76134567$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0446949	0.03259	-1.37	0.170	0
Age	0.2045321	0.07968	2.57	0.010	4.09434
Educ	0.2024396	0.08214	2.46	0.014	2.4903
Income	0.2002315	0.03202	6.25	0.000	9.9196

Source: Author, 2015

Table A7: Marginal Effects for Willingness of Male with Income of USD 96000 to Participate in Mortgage Financing at Referenced Points (Age=42 years and Educ= 12 years)

Marginal effects after probit: $Y = Pb(Willingness)(Pd) = 0.90935382$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0204732	0.01502	-1.36	0.173	1
Age	0.1077409	0.05	2.15	0.031	3.73195
Educ	0.1066386	0.05595	1.91	0.057	2.4903
Income	0.1054755	0.01066	9.89	0.000	9.9196

Source: Author, 2015

Table A8: Marginal Effects for Willingness of Female with Income of USD 96000 to Participate in Mortgage Financing at Referenced Points (Age=42 years and Educ= 12 years)

Marginal effects after probit: $Y = Pb(Willingness)(Pd) = 0.92982698$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0204732	0.01502	-1.36	0.173	0
Age	0.0887788	0.04406	2.01	0.044	3.73195
Educ	0.0878705	0.04721	1.86	0.063	2.4903
Income	0.0869121	0.01247	6.97	0.000	9.9196

Source: Author, 2015

Table A9: Marginal Effects for Eligibility of Male to Mortgage Financing at Referenced Points (Age=42years, Educ=12 years and USD 20,324 per annum)

Marginal effects after probit: $Y = Pb(Eligibility)(Pd) = 0.65449636$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0542782	0.03707	-1.46	0.143	1
Age	-1.135473	0.10656	-10.66	0.000	3.73195
Educ	-0.2371201	0.10115	-2.34	0.019	2.4903
Income	0.1229924	0.04041	3.04	0.002	9.9196

Source: Author, 2015

Table A10: Marginal Effects for Eligibility of Female to Mortgage Financing at Referenced Points (Age=42years, Educ=12 years and USD 20,324 per annum)

Marginal effects after probit: $Y = Pb(Eligibility)(Pd) = 0.70877452$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0542782	0.03707	-1.46	0.143	0
Age	-1.056438	0.09627	-10.97	0.000	3.73195
Educ	-0.2206154	0.09459	-2.33	0.020	2.4903
Income	0.1144315	0.03731	3.07	0.002	9.9196

Source: Author, 2015

Table A11: Marginal Effects for Eligibility of Male Aged 30 years to Participate in Mortgage Financing at Referenced Points (Educ=12 years and Income=USD 20,324 per annum)

Marginal effects after probit: $Y = Pb(Eligibility)(Pd) = 0.92164991$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0199768	0.01366	-1.46	0.144	1
Age	-0.450749	0.0471	-9.57	0.000	3.4012
Educ	-0.0941296	0.03956	-2.38	0.017	2.4903
Income	0.0488243	0.01702	2.87	0.004	9.9196

Source: Author, 2015

Table A12: Marginal Effects for Eligibility of Female Aged 30 years to Participate in Mortgage Financing at Referenced Points (Educ=12 years and Income=USD 20,324 per annum)

Marginal effects after probit: $Y = Pb(Eligibility)(Pd) = 0.94162673$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0199768	0.01366	-1.46	0.144	0
Age	-0.3590947	0.05163	-6.96	0.000	3.4012
Educ	-0.0749895	0.03388	-2.21	0.027	2.4903
Income	0.0388965	0.01363	2.85	0.004	9.9196

Source: Author, 2015

Table A13: Marginal Effects for Eligibility of Male Aged 60 years to Participate in Mortgage Financing at Referenced Points (Educ=12 years and Income=USD 20,324 per annum)

Marginal effects after probit: $Y = Pb(Eligibility)(Pd) = 0.2361474$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.049032	0.03408	-1.45	0.147	1
Age	-0.9490885	0.04939	-19.22	0.000	4.09434
Educ	-0.1981976	0.08449	-2.35	0.019	2.4903
Income	0.1028036	0.03305	3.11	0.002	9.9196

Source: Author, 2015

Table A14: Marginal Effects for Eligibility of Female Aged 60 years to Participate in Mortgage Financing at Referenced Points (Educ=12 years and Income=USD 20,324 per annum)

Marginal effects after probit: $Y = Pb(Eligibility)(Pd) = 0.28555056$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0494032	0.03408	-1.45	0.147	0
Age	-1.046683	0.6304	-16.60	0.000	4.09434
Educ	-0.2185781	0.09147	-2.39	0.017	2.4903
Income	0.1133748	0.03714	3.05	0.002	9.9196

Source: Author, 2015

Table A15: Marginal Effects for Eligibility of Male with Income of USD 96000 to Participate in Mortgage Financing at Referenced Points (Age=42 years and Educ= 12 years)

Marginal effects after probit: $Y = Pb(Eligibility)(Pd) = 0.82002528$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0371651	0.02535	-1.47	0.143	1
Age	0.8081666	0.13856	-5.83	0.000	3.73195
Educ	0.1687689	0.06634	-2.54	0.011	2.4903
Income	0.0875392	0.01621	5.40	0.000	11.4721

Source: Author, 2015

Table A16: Marginal Effects for Eligibility of Female with Income of USD 96000 to Participate in Mortgage Financing at Referenced Points (Age=42 years and Educ= 12 years)

Marginal effects after probit: $Y = Pb(Eligibility)(Pd) = 0.85719038$					
Variable	$\partial Y / \partial X$	Std Err.	Z	P > Z	X
Gender	-0.0371651	0.02535	-1.47	0.143	0
Age	0.69487	0.14415	-4.82	0.000	3.73195
Educ	0.1451093	0.06028	-2.41	0.016	2.4903
Income	0.0752671	0.01207	6.23	0.000	11.4721

Source: Author, 2015