
HOME OWNERSHIP DETERMINANTS OF THE HAUSA-FULANI ETHNIC GROUP IN LAGOS, NIGERIA

¹Gambo YL, ²Abayomi JO, ³Olusola OJ

¹Department of Estate Management, Abubakar Tafawa Balewa University, Bauchi, Nigeria

²Department of Estate Management, University of Lagos, Nigeria

³Department of Estate Management, Yaba College of Technology, Lagos, Nigeria

Corresponding Author: Gambo YL, E-mail: yusuf_gambo@yahoo.com

Abstract

Although many studies have been conducted in the developed and developing world on the determinants of home ownership, very few attempts have been made to reveal these determinants in Nigeria. This study was designed to explore the determinants of homeownership among the Hausa Fulani ethnic group in Lagos, the most urbanized city in Nigeria. Multinomial Logit Model of three tenure choice alternatives of owning, renting and squatting was employed in determining the factors influencing home ownership decision among this population subgroup using predictor variables ranging from socio-economic to demographic characteristics of the group. A total of 276 household heads were sampled and findings indicate that permanent income is not one of the determinants of home ownership among this group in Lagos and other factors such as permanent employment, family presence, place of birth and Yoruba language proficiency are better predictors. It was recommended that government should ensure that other ethnic groups that are in minority in Lagos have access to land so as to facilitate homeownership in Lagos State.

Keywords: Hausa-Fulani, Home ownership, Multinomial Logit Model

Introduction

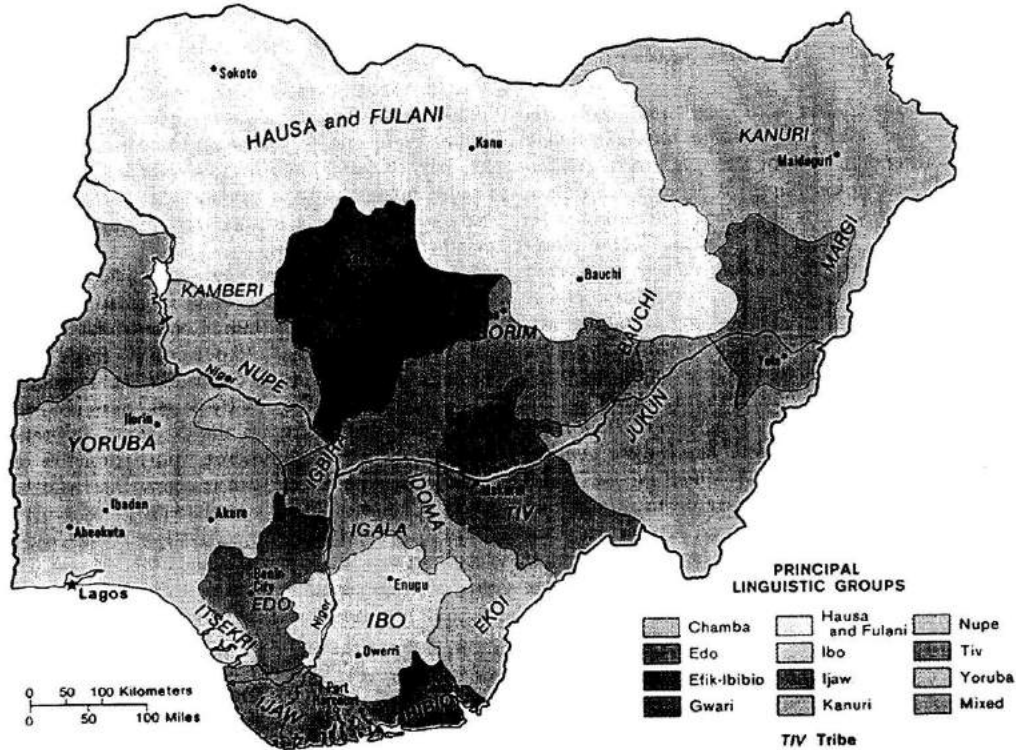
Homeownership apart from being a way of securing a place of abode for the family is also a means through which an individual or a family is integrated and assimilated into a society when they are non indigenes. So many factors explain a household's decision to own a house and they have been examined in three kinds of studies. Some studies examined these determinants in geographical areas of developed countries such as Rosen (1979; Englund & Persson (1982); Malpezzi and Mayo (1987). There are others that looked into these determinants in cities of developing countries such as Manila and Cairo, (Daniere 1992); Ivory Coast Grootaert and Dubois (1988); Koizumi and McCann (2006); Ibadan, Arimah (1997) and those probing into homeownership determinants of migrant groups. Studies in the last group are few. Some of the few studies in this category include Painter et al (2001) and Couson (1999) that investigated Chinese in Los Angeles and Owusu (2008) that studied Ghanaians in

Canada. The determinants of homeownership among the Hausa-Fulani ethnic group residing among other ethnic groups in Nigeria is yet to be investigated (to the best of our knowledge). Members of this group whose homeland is in the northern part of Nigeria have strong presence in almost all the big cities in the southern parts of Nigeria.

One of the cities in the southern part of Nigeria where the Hausa-Fulani can be found in great numbers is Lagos. Lagos being the hub of commercial activities in the country has experienced large scale urbanization in the last five decades. There has been a great migration to the city by people from almost all the states that make up the Nigerian federation. Development in commerce, port function and industrialization gave rise to a phenomenal increase in the population of Lagos in the late 1950s (Mabogunje, 1968). Of all the migrating groups to the city, the Hausa Fulani ethnic group is one of the largest. They are the original inhabitants of major parts of north western and some pockets of locations in the North east. They are predominantly Muslims and the "husband" according to Islam (the group's predominant religion) and the paternal nature of African societies is the head of the family and he is most of the times a polygamist and consequently has the tendency to have many children. With the fertile and vast expanse of land in this region measuring 622,853 sq. km i.e 67.43 percent of the country's total land area, the major occupation of this people has been farming from which the region produces a substantial proportion of the food consumed in Nigeria. The food crops produced in this region are supplied to the cities down south like Lagos where there is great demand for them. The trading activities in these food crops have been one of the reasons for migration in the northern regions to Lagos. The oil boom of the 1970s and economic recessions of the 1980s further encouraged this migration to the extent that ethnic groups from northern Nigeria have migrated in large numbers and are found in clusters in certain areas of the Lagos metropolis like Agege, Mile 12 and Ebute-metta. It is however not determined if this group is getting integrated into the Lagos urban landscape through homeownership and the factors that could be responsible for this are explored in this study. This study therefore seeks to examine the level of homeownership among the Hausa-Fulani residing in

Lagos and the determinants of such home ownership among them.

Linguistic Groups



Source: Nigeria's Ethnic Group Map, Accessed at www.nigeriamuse.com/....maps

The paper is structured into five sections. This section is introduction, the next section addresses the empirical model and methodology adopted for the study, section three discusses the variables used in the model and section four presents the findings while conclusion and recommendations are presented in section five.

Empirical Model and Methodology

In order to investigate the determinants of home ownership among northern Nigerians in Lagos, Logit model in a multinomial form was employed.

The choice of tenure is a discrete choice rather than a continuous one. Therefore, a discrete choice model is employed to estimate the probability of a household choosing to own a

house among the other alternatives of renting and squatting. The Multinomial Logit Model (MLM) is one of the diverse forms of the discrete choice models. The model statistically relates the choice made by an individual to the attributes of that person and the attributes of the alternatives available to the choice maker. The alternatives in the Multinomial Logit Model go beyond the dichotomous set of alternatives in the binomial Logit model. The Multinomial Logit Model (MLM) is used to classify discrete or categorical variables with more than 2 states. The MLM is an extension of the Logit Model, and assumes that individuals have the following perceived utility function:

$$U_{ij} = \beta_{0j} + \beta_{1j} \cdot x_i + \varepsilon_{ij}, 0, 1$$

where i accounts for the individual and j for the category, x_i is the covariate and ε_{ij} is the

unobserved error variable. The individual will choose the category J that gives him the highest utility. In other words:

$$U_{ij} = \text{Max}(u_{i1}, u_{i2}, \dots, \dots, u_{ij})$$

The model in this study therefore sets out to estimate the household's choice for three alternative tenures: owner-occupation i.e. homeownership, renting and squatting. The maximum likelihood estimation method is employed to estimate the coefficients of the explanatory variables from the below stated equation;

$$\text{Log} \left(\frac{P_i}{1 - P_i} \right) = B_0 + B_1 x_1 + B_2 x_2 + B_3 x_3 + \dots + B_n x_n \quad (1)$$

Where P_i = the probability of choosing a tenure category by household i .

B = coefficient of covariates and slope intercept

With respect to home ownership determinants i.e. the covariates, studies like Struyk and Marshall (1976), MacLennan and Wood (1981) have delineated some of the most important ones. They were classified into three basic groups: household demographic characteristics, such as household age, size, gender and marital status; household socio-economic characteristics, such as permanent income and employment status; and the user cost of housing. Likewise, by observing many households' choices, the probability of owning a house can be predicted based on socio-economic characteristics, socio-demographic characteristics and pricing.

This study employed a random cluster sample of Hausa-Fulani household head in Agege, one of the many locations where the group can be found in large number. A total of 276 of them were interviewed between February and May, 2016.

Variables of the Home Ownership Model

The basic determinants of home ownership have been generally categorized into three groups: household demographic characteristics, household socio-economic characteristics, and the relative cost of housing. Household characteristics include the age, sex, race, and marital status of the household head, and the household size (or number of dependent children in a household). The household socio-economic

characteristics basically consist of household income, wealth and employment status. The relative cost of housing is the user cost of owning or renting. In addition to these basic determinants, studies have indicated that some specific relations and determinants have significant influence on tenure choice. This explains why some other variables such as place of birth, number of wives, family presence and language proficiency are added to the model because of the nature of the study. The language proficiency will indicate the level of assimilation of a northern Nigerian into the host Lagos whose major language is Yoruba. Researches in the United States on home ownership determinants of immigrants (e.g. Alba & Logan 1992; Krivo, 1995; and Myers & Lee, 1998) have used English language proficiency as a proxy for spatial assimilation i.e. immigrants from non-English speaking countries who are proficient in the language are more likely to own a house than those who are not. This study shares some similarities with those works and has used the Yoruba language as a measure of spatial assimilation into the Lagos society.

It has been indicated that long-term or life-cycle income would be more adequate than current income in estimating housing choice since the decision of housing demand is based on a life-cycle decision. Housing is a durable good that is consumed over time and it is inappropriate to use current income as a predictor of its demand. Goodman and Kawai (1982) have since presented a regression approach through which permanent income can be predicted from current household income. Current income is regressed on a set of demographic and household characteristics; this method is adopted in this study. The household characteristics used in this study include age of household head i.e. the respondent, family presence in Lagos, number of children, number of wives, permanent employment in Lagos and attendance of university education. These factors according to a priori expectations are expected to have significant effect on income received in the long term.

The dependent variable to be estimated in the tenure choice model is the household's existing

tenure status, which is grouped into three tenure categories viz: owning, renting, and squatting. owner-occupation i.e homeownership, renting and squatting. The maximum likelihood estimation method is employed to estimate the coefficients of the explanatory variables from the below stated equation;

$$L o g \left(\frac{P_i}{1 - P_i} \right) = B_0 + B_1 x_1 + B_2 x_2 + B_3 x_3 \dots \dots \dots B_n x_n$$

Where P_i = the probability of choosing a tenure category by household i .

B = coefficient of covariates and slope intercept
 With respect to home ownership determinants i.e. the covariates, studies like Struyk and Marshall (1976), MacLennan and Wood (1981) have delineated some of the most important ones. They were classified into three basic groups: household demographic characteristics, such as household age, size, gender and marital status; household socio-economic characteristics, such as permanent income and employment status; and the user cost of housing. Likewise, by observing many households' choices, the probability of owning a house can be predicted based on socio-economic characteristics, socio-demographic characteristics and pricing.

This study employed a random cluster sample of Hausa-Fulani household head in Agege, one of the many locations where the group can be found in large number. A total of 276 of them were interviewed

between February and May, 2016.

Variables of the Home Ownership Model

The basic determinants of home ownership have been generally categorized into three groups: household demographic characteristics, household socio-economic characteristics, and the relative cost of housing. Household characteristics include the age, sex, race, and marital status of the household head, and the household size (or number of dependent children in a household). The household socio-economic characteristics basically consist of household income, wealth and employment status. The relative cost of housing is the user cost of owning or renting. In addition to these basic determinants, studies have indicated that some specific relations and determinants have significant influence on tenure choice. This explains why some other variables such as place of birth, number of wives, family presence and language proficiency are added to the model because of the nature of the study. The language proficiency will indicate the level of assimilation of a northern Nigerian into the host Lagos whose major language is Yoruba. Researches in the United States on home ownership determinants of immigrants (e.g. Alba & Logan 1992; Krivo, 1995; and Myers & Lee, 1998) have used English language proficiency as a proxy for spatial assimilation i.e immigrants from non-English speaking countries who are proficient in the language are more likely to own a house than those

Table 1: Variables employed in the Multinomial Logistic regression of home ownership determinants

S/NO	VARIABLE	DEFINITION
1.	WIVNUMB	Number of wives
2.	CHILDNUMB	Number of children
3.	TWNDIST	Hometown distance from Lagos
4.	AGE	Age of respondent (household head)
5.	BIRTHPLC	Dummy variable if the respondent is born in Lagos=1
6.	EDUNIV	Dummy variable if the respondent possess university education =1
7.	PERMEMP	Dummy variable if the respondent is permanently employed in Lagos=1
8.	LANGPRO	Dummy variable if the respondent is Proficient in the use of Yoruba language=1
9.	FARMPRE	Dummy variable if the respondent has his Family present in Lagos
10.	LENSTAY	Number of years the respondent has spent in Lagos.
11.	TENHOME	Dummy variable if the respondent has a house back home
12.	LnCURINCOME	Natural logarithm of household's current income

who are not. This study shares some similarities with those works and has used the Yoruba language as a measure of spatial assimilation into the Lagos society. It has been indicated that long-term or life-cycle income would be more adequate than current income in estimating housing choice since the decision of housing demand is based on a life-cycle decision. Housing is a durable good that is consumed over time and it is inappropriate to use current income as a predictor of its demand. Goodman and Kawai (1982) have since presented a regression approach through which permanent income can be predicted from current household income. Current income is regressed on a set of demographic and household characteristics; this method is adopted in this study. The household characteristics used in this study include age of household head i.e. the respondent, family presence in Lagos, number of children, number of wives, permanent employment in Lagos and attendance of university education. These factors according to a priori expectations are expected to have significant effect on income received in the long term.

The dependent variable to be estimated in the tenure choice model is the household's existing tenure status, which is grouped into three tenure categories viz: owning, renting, and squatting.

Empirical Findings

Respondents Socio-Economic and Socio-Demographic Characteristics

Table 2 shows that all the 276 respondents are male. This is expected considering the inaccessibility of Hausa-Fulani women who are most of the times indoors to take care of the home and are only accessible by their husbands alone. It was therefore not an easy task to come across female Hausa-Fulani in a bustling location like Agege, Lagos.

Table 2: Gender of Respondents

Gender	Frequency	Percentage
Male	276	100
Female	-	0
Total	276	100

Most of the respondents (56.88%) according to Table 3 are in the age bracket of 18 and 35 years with another 29.35% in the 35 and 50 years age bracket. These two age brackets relate to the active population and the sample drawn for this study has a majority here.

Table 3: Age of Respondents

Age	Frequency	Percentage
Less than 18 years	21	7.61
Between 18 and 35 years	157	56.88
Between 35 and 50 years	81	29.35
Over 50 years	17	6.16
Total	276	100

Table 4 shows that most of the sampled individuals are in the informal sector. Only 5.43% of the sample is in formal employment.

Table 4: Employment Type

Type of Employment	Frequency	Percentage
Formal	15	5.43
Informal	261	94.57
Total	276	100

Most of the sample had attained either a primary or junior secondary education. Table 5 shows that 60.86% of the sample had their highest level of education as primary education. In terms of the attainment of qualifications from institutions of higher learning, only 2.54% had Ordinary National Diploma (OND)/National Certificate of Education (NCE) and 3.63% had Higher National Diploma/ Bsc. Degree.

Table 5: Level of Education

Education Level	Frequency	Percentage
Primary	168	60.86
Junior Secondary	55	19.93
Senior Secondary	36	13.04
OND/NCE	7	2.54
HND/Bsc.	10	3.63
Masters Degree	-	-
Phd	-	-
Total	276	100

As regards the homeownership status of the respondents, Table 6 shows that 56.88% are squatters while 37.68% are renters. Only 5.44% of the respondents are owners.

Table 6: Homeownership Status

Status	Frequency	Percentage
Squatters	157	56.88
Renters	104	37.68
Owners	15	5.44
Total	276	100

Estimation of Permanent Income

It has been indicated that long-term or life-cycle income would be more adequate than current income in estimating housing choice since the decision of housing demand is based on a life-cycle decision (MacLennan 1982 and Fallis 1985). As housing is a durable good that is consumed over time and it is inappropriate to use current income as a predictor of its demand. Household current income is then regressed on a set of demographic and household characteristics to derive the permanent income to be used in the subsequent Logit model as shown in the table below.

$$\ln CURINCOME = B_0 + B_1 CHILDNUM + B_2 WIVNUMB + B_3 VARSITY + B_4 LENSTAY + B_5 PERMEMP + B_6 FAMPES + B_7 AGE + u \quad (2)$$

The log-linear model form has been selected for this estimation of permanent income from lifecycle variables as shown in equation (2) above. This has been the norm in Labour economics where natural log of wages are expressed as a function of explanatory variables because variables such as wages tend to be skewed and the logarithmic transformation of such variables reduce both skewness and heteroscedasticity (Gujarati & Porter, 2009). The lifecycle variables used in this analysis are number of wives (WIVNUMB), number of children (CHILDNUM), family presence in Lagos (FAMPRES), length of stay (LENSTAY), permanent employment (PERMEMP), attainment of university education (VARSITY) and household head's age (AGE).

Multinomial Logit estimation of Home ownership determinants

The derived permanent income from equation 2 was therefore added to the remaining set of explanatory variables to predict homeownership. The initial estimation of the model with all the explanatory variables reveals a situation where all the variables were insignificant with high adjusted R^2 value. This was a clear case of multicollinearity. To cope with the multicollinearity problem, one remedy is to obtain more data and another is to drop variables suspected of causing the multicollinearity problem (Greene, 2000). Due to several constraints encountered in the gathering of data, the approach used in this work to eliminate multicollinearity of the tenure choice model is to drop variables which are highly correlated.

The correlation matrix plotted for the model shows that variables such as Age (AGE) is highly correlated

with number of wives (WIVNUMB), Permanent income (INCPERM), length of stay (LENSTAY) and home tenure (HOMETEN). Permanent income is also found to be highly correlated with home tenure (HOMETEN), length of stay (LENSTAY), permanent employment (PERMEMP), number of children (CHILDNUM), number of wives (WIVNUMB) and age (AGE). Further analysis through Variance Inflating Factor (VIF) diagnostic corroborated the matrix as age (AGE) and permanent income (INCPERM) both have a VIF factor of 15.31 and 19.99 respectively. As a rule of thumb if the VIF of a variable exceeds 10, that variable is said to be highly collinear (Kleinbaum et al 1988, Damodar & Gujarati 2009). Therefore age (AGE) and permanent income (INCPERM) were dropped from the model. Number of wives (WIVNUMB) and length of stay in Lagos (LENSTAY) were also dropped from the model because of high collinearity with number of children and place of birth (PLCBIRTH) respectively. The resulting estimated model however performed better with most of the explanatory variables having the needed statistical significance as shown by the Wald chi-square and the associated p-values.

The Multinomial Logit model employed in this study is estimated by the maximum likelihood method. The default tenure category is squatting and it also has the highest frequency. The estimation of the model is shown in Table 7. The coefficients shown on the table are comparative and they are probabilities of choosing owning and renting over squatting. Most of the coefficient estimates are statistically significant at 5% level, which means that most of the explanatory variables have statistically significant influences (in the 95% confidence interval) on households' home ownership decisions. The model's overall predicted level (goodness-of-fit) is about 84%, indicating that the model is quite reliable and the explanatory variables have good predictions of home ownership determinants.

The Logit estimates show that an increase in the number of children increases the odds of owning a house to squatting by 1.75. This could be due to the nature of squatting among this group as seen in places like trailer parks, markets and religious centres that would not allow for proper child rearing. The nature of most Hausa-Fulani due to their Islamic background is such that they would always want maximum privacy for their women who take care of the children at the early years. Another possible reason for the increased chances of home ownership with more children can be deduced from the available number of male children who after attaining certain age will work to augment the income of the family and reduce

the burden of the household head who will have some income that can be used to embark on home building. The fact that number of children decreases the odds in

favour of renting compared to squatting is not statistically significant.

Table 7: Estimation results of the Multinomial Logit of Home ownership determinants
Dependent Variable = Tenure
Reference tenure = Squatting

Tenure <i>OWNING</i>	B	Standard Error	Wald	p-values	exp(B)
<i>Intercept</i>	16.348	5.406	9.146	.002	
CHILDNUM	1.754	.485	13.086	.000	5.777
FAMPRES	4.504	1.401	10.340	.001	90.350
TOWNDIST	-0.002	.003	.371	.543	.998
PLCBIRTH	3.410	1.628	4.387	.036	30.271
VARSIITY	7.589	2.194	11.956	.001	1972.826
PERMEMP	2.996	1.839	2.655	.103	.050
HOMETEN	3.942	1.933	4.158	.041	51.514
LANGPRO	2.620	1.508	.082	.002	13.738
<i>Intercept</i>	1.832	1.294	2.003	.157	
CHILDNUM	-.006	.124	.002	.964	.994
FAMPRES	2.793	.544	26.341	.000	16.330
TOWNDIST	-0.001	.001	1.187	.276	.999
PLCBIRTH	.556	.592	.882	.013	1.743
VARSIITY	1.552	.774	4.021	.045	4.721
PERMEMP	.678	.631	1.156	.006	1.971
HOMETEN	1.251	.527	5.629	.018	3.495
LANGPRO	1.454	.468	9.670	.002	4.281

Predicted level 70 %

Likelihood ratio 258.563

Family presence increases the odds in favour of owning and renting to squatting. Most of the indigene of northern Nigeria do have strong affiliation to their home towns and rarely move their family down south. The presence of the family in Lagos greatly predicts home ownership or renting to accommodate the members of the family. The presence of the family just like having more male children will make it possible for the family to earn more income that can be used to own a home or rent one.

The estimates also reveal that the household heads that were born in Lagos have greater tendencies to own or rent a house. The home ownership drive of this set of Hausa Fulani descents is not that different from that of the indigenous Yoruba group. This shows their

level of integration into the society and their quest to improve this by building a house. Other assimilation factors like Yoruba language proficiency and permanent employment increases the odds by 2.6 and 3.0 respectively. Possession of university education offers the most impact on the choice of owning to squatting as the odds increases by 7.5.

Ownership of houses by the respondents in their home towns also influences the odds in favour of home ownership to squatting in Lagos by 3.9. Most of the respondents that own houses in their hometowns are probably interested in owning a house in Lagos to take advantage of investing in the ever growing Lagos property market.

It is here recommended that government should ensure other ethnic groups other than Yorubas, access land so as to facilitate homeownership of other minority ethnic groups most especially, the Hausa-Fulani in Lagos, thereby curtailing social delinquencies and slum progression.

References

- Alba, R. and Logan, J. R. (1992) Assimilation and Stratification in the Homeownership Patterns of Racial and Ethnic Groups, *International Migration Review*, 26(4), 1314-1341
- Arimah, B. C. (1997) The determinants of housing tenure choice in Ibadan, Nigeria. *Urban Studies*, 34 (1): 105-124
- Bourassa, S. C. (1995) A Model of Housing Tenure Choice in Australia, *Journal of Urban Economics*, 37:161-175
- Couson, E.N. (1999) Why are Hispanic- and Asian-American homeownership rates so low?: Immigration and others factors, *J. Urban Econ.* 45
- Daniere, A. (1992) Determinants of tenure choice in the third world: An empirical Study of Cairo and Manila, *J. Housing Econ.* 2:159-184
- Englund, P. and Persson, M. (1982) Housing Prices and Tenure Choice with Asymmetric Taxes and Progressivity, *Journal of Public Economics* 19, 271-290
- Fallis, G. (1985) *Housing Economics*: Toronto, Butterworth
- Gibb, K. (2000) "Modelling Housing Choice and Demand in a Social Housing System: The Case Of Glasgow", *New Economics Papers, Issue: nep-dcm-2002-05-03*
- Goodman, A. C. (1988), An econometric Model of Housing Price, Permanent Income, Tenure Choice and Housing Demand, *Journal of Urban Economics*, 23(1), 327-353
- Goodman, A. C. and Kawai, K. (1982) Permanent Income, Hedonic Prices and Demand for Housing: New Evidence. *Journal of Urban Economics* 12, 214-237
- Greene (2000). *Econometric Analysis*, (4th ed.). New Jersey: Prentice-Hall, Inc.
- Grootaert, C., Dubois, J. (1988). Tenancy Choice and the demand for rental housing in the cities of the Ivory Coast. *J. Urban Econ.* 24, 44-63.
- Koizumi, N., and McCann, P. (2006). Living on a plot of land as a tenure choice. *J. Housing Econ.* (2006), doi:10.1016/j.jhe.2006.10.1001
- Krivo, L. J. (1995). Immigrant Characteristics and Hispanic-Anglo Housing Inequality, *Demography* 32(4), 599-615
- Mabogunje, A. L. (1968), *Urbanisation in Nigeria*. London: University of London Press,
- Maclennan, D. (1982) *Housing Economics*: Harlow Essex: Longmans
- Maclennan, D. and Wood, G. (1981). *Entry and Non-Entry to Owner-Occupation: Some Economic Determinants*. Glasgow: University of Glasgow.
- Myers, D., and Lee, S. W. (1998). Immigrant Trajectories into Home Ownership: A Temporal Analysis of Residential Assimilation, *International Migration Review*. 32 (Fall), 593-625
- Li, M. (1977). A Logit Model of Homeownership, *Econometrica*. 45(5), 1081-1098
- Linneman, P. and Wachter, S. (1989). The impacts of borrowing Constraints on homeownership, *AREUEA Journal*, 17 (14).
- Malpezzi, S., Mayo, S. K (1987). User cost and housing tenure in developing countries, *J. Development Econ.* 25 (1987) 197-220.
- Owusu, (2008). Determinants of Home ownership of Ghanaians in Canada, *Canadian Geographer*, Wiley New York.
- Painter, G., Yang, L. and Zhou, Y (2001). Home ownership Determinants of Chinese Americans: Assimilation, Ethnic concentration and Nativity, *Real Estate Economics*, 32, (3).
- Rosen, H. (1979). "Housing decisions and the U.S. income tax: An econometric analysis", *Journal of Public Economics*, 11:1-23.
- Struyk, R. and Marshall, S. (1974). The Determinants of Household Home Ownership. *Urban Studies*, 11, 289-299