

Intraurban Housing Mobility in a Traditional West African City: Shelter or Business Decision?

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Summary. The use of housing for income generation through informal-sector activities is widespread in urban areas of developing countries. Most households consider their shelter needs when making housing choices. For households that use their dwellings for income generation, housing choices are also business decisions. Using data from a 596-household survey collected in 1996 in Kumasi, Ghana, logistic regression is used to examine the determinants of intraurban moves. Households using their home for income generation are significantly less likely to move.

Introduction

The use of homes not only for shelter, but also for income generation through informal-sector activities, is a widespread phenomenon in many cities in developing countries. A woman can cook in her kitchen and sell meals in the market or at street corners, a family store or workshop can be located at home. Such activities are highly prevalent in cities where self-employment in the informal sector is high (Fass, 1987).

Using the home for income generation activities is more widespread in some cities than others (Gilbert, 1988; Raj and Mitra, 1990; Strassmann, 1987). Several studies have examined the characteristics of workers who use their home for income generation (Baud, 1987; Noponen, 1987; Sinai, 1998b; Singh and Kelles-Viitanen, 1987). Other studies focus on the characteristics of the business, rather than the household (Tipple, 1993). But not much is known about housing choices of households that use their home not only for shelter, but also for income gener-

ation. Are their housing choices only shelter-related? Or are they also business decisions?

This study focuses on one housing choice—the decision to move to another residence. Threshold models of residential mobility suggest that individual, household, housing and location characteristics affect intraurban mobility either directly, or through their effect on housing satisfaction (Quercia and Rohe, 1993). This study adds to these factors the use of housing for income generation as a possible determinant of intraurban mobility.

The Study Site: Kumasi, Ghana

Kumasi is situated some 260 km from the capital Accra on the Atlantic coast. It is estimated to have a population of about 1 million, making it the second-largest city in the country. Kumasi is the cultural centre of the Asante people, and retains traditional

land allocation and inheritance practices (Korboe, 1992).

Crowding in Kumasi is extreme. About half of the city's residents live in traditional compound houses. Typically, a compound house is a one-storey structure, consisting of a series of single rooms surrounding a square courtyard. A further quarter of the population reside in a variation of the traditional compound house that has two or more floors. Most compound households occupy just one room and share cooking and bathing facilities with other compound residents (Tippie *et al.*, 1997).

Renting is the dominant tenure arrangement in Kumasi. A survey conducted in 1986 found that about 65 per cent of households were renters, 10 per cent were owners or landlords and the remaining quarter of Kumasi households lived rent-free in houses owned by other members of their extended family (Willis and Tippie, 1991).

Using the house for income generation is extremely common in Kumasi. A stroll through most parts of the city reveals that many compound houses have at least one resident household using its home for purposes other than shelter. In the sample used for this study, about one-quarter of households did this.¹ Virtually all economic sectors are represented, with the exception of heavy industry (see detailed discussion in Sinai, 1998b).

In previous work using these data (Sinai, 1998a, 1998b), the households that used their home for income generation were described. It was shown that female-headed households and larger households with older but less-educated heads use their housing for income generation more than other households. Households that use their home for income generation occupied more rooms, but their housing quality was not as good as that of other households.

Data and Methodology

The research uses data from a household survey administered to 596 household heads in March–April 1996. Using probability sam-

pling methods, 31 city blocks were selected and all households residing there were listed. Households were then selected from this list, again using probability sampling methods. Because residential mobility is limited in Kumasi, recent movers and recent migrants were oversampled to ensure that these population groups were represented in the data in sufficient numbers to allow for reliable statistical analysis of their mobility behaviour.² Because of this oversampling, the data are weighted in the forthcoming analysis and all results in the text and tables of this paper refer to weighted data, unless otherwise stated.³ Only household heads were interviewed.

Logistic regression is used to study the determinants of undertaking an intraurban residential move—that is, moving from one dwelling to another within the city. Movers are those households that moved within the city between November 1992 and March 1996. The analysis excludes households that moved to Kumasi after November 1992, and households where the household head obtained this status after November 1992. The analysis also excludes 30 households that moved within Kumasi during the study period not voluntarily, but because they were evicted from their previous residence. Remaining (unweighted) are 92 mover and 413 non-mover households, for a total of 505 households. After applying the weights, these are translated into 60 mover and 476 non-mover households (total 536). Information is available on all variables in the equation for 449 households (481 weighted).

The dependent variable in the logistic regression is, then, a dichotomy of movers and non-movers. The literature distinguishes between several broad types of factors that affect mobility: housing quality in origin and destination homes (including neighbourhood characteristics); life-course stage and personal events; and, income and employment (see, for example, Acquaye and Asiame, 1986; Boehm *et al.*, 1991; Grant, 1995; Morrow-Jones, 1989).

A variety of independent variables within these categories were initially introduced to

Table 1. The independent variables (weighted $N = 481$)

Variable	Mean (standard error)
<i>Housing variables</i>	
Used the home for income generation	0.27
Housing quality ^a	68.19 (0.495)
Residual of housing satisfaction ^b	-0.01 (0.004)
<i>Tenure</i>	
Owner	0.168
Lived rent-free in a dwelling owned by another member of the extended family	0.259
Length of stay (years in dwelling up to November 1992)	16.45 (0.683)
<i>Migration variables</i>	
Years in Kumasi	28.53 (0.726)
<i>Age at migration</i>	
Migrated as child under the age of 15	0.109
Migrated at age 15 or older	0.513
<i>Background variables</i>	
Age of household head in November 1992	43.71 (0.608)
Household head is married	0.703
Number of people in household	5.11 (0.133)
Total household income in a typical month reported in March 1996 in 10 000 of cedis ^c	159.24 (10.496)

^aAn index constructed from a variety of housing indicators in November 1992, including materials of the roof, walls, floors and windows; the availability of water and electricity; the types of toilet and cooking area used; accessibility to a veranda; and the number of households sharing bathing and cooking facilities with the responding household. (For a discussion on the construction of the index see Sinai, 1998b.)

^bAn index of respondent satisfaction with different aspects of their November 1992 housing, including the number and size of occupied rooms, materials that the house was made of, availability of water and electricity, availability of cooking and bathing facilities and of a veranda, type of toilet and number of households sharing cooking and bathing facilities. The index was transformed to prevent severe multicollinearity, by using residuals. A multicollinearity problem arises because housing satisfaction is highly dependent on housing quality characteristics, which are also included in the analysis. However, what is of interest here is the subjective measure of how the household perceives its housing quality. This means that if we construct a measure of housing satisfaction that does not include the objective housing quality characteristics, it will not be highly correlated with housing quality and thus will not cause multicollinearity. To do this, housing satisfaction was estimated using only housing quality characteristics. Other household variables that can contribute to how the household perceives its housing were excluded from this equation. While solving this regression equation, the residuals were saved. These residuals represent a measure of housing satisfaction, purged of the effect of housing quality characteristics. These residuals are then used in the equation of residential mobility as proxy for the actual measure of housing satisfaction.

^cUS\$1 was approximately C1600.

the analysis. Including all these variables in the equations created severe multicollinearity which was not associated with any two variables. A more complex relationship between the explanatory variables was present. Therefore the parsimonious equations presented here were developed. In specifying the equations, variables that were not statistically significant were dropped from the models

one at a time, unless there was a strong theoretical reason to expect them to contribute to the model. Multicollinearity diagnostics show no collinearity problems with the parsimonious model presented here. Since some of the variables are non-linear, alternative functional forms were tried, but these did not improve the fit.

Table 1 describes the independent vari-

Table 2. Logistic regression of the choice to move or not ($N = 449$; weighted $N = 481$)

Variable	Coefficient	Standard error	Odds ratio
Housing variables			
Use of housing for income generation	- 1.237**	(0.564)	0.290
Housing quality index	0.033**	(0.014)	1.034
Residual of housing satisfaction	- 0.359**	(0.160)	0.698
<i>Tenure</i>			
Owner	0.190	(0.487)	1.209
Family house	- 0.342	(0.394)	0.710
Length of stay	0.002	(0.016)	1.002
Migration variables			
Years in Kumasi	- 0.066***	(0.025)	0.936
<i>Age at which household head migrated</i>			
Migrated as child	- 0.506	(0.599)	0.603
Migrated as adult	- 1.866**	(0.772)	0.155
Background variables			
Age of household head	0.035	(0.023)	1.036
Married household head	0.974**	(0.409)	2.645
Household size	- 0.212***	(0.071)	0.809
Household income (in 10 000 of cedis)	0.007	(0.005)	1.007
Constant	- 2.902**	(1.176)	
- 2 Log Likelihood of tested model	291.272		
Model χ^2	50.314		

***denotes significance at the 1 per cent level; **denotes significance at the 5 per cent level.

ables included in the equation. They include housing, migration and background variables. The independent variables show conditions in November 1992.⁴ Thus, the equation measures the effect of these variables on the probability of households undertaking intraurban mobility between November 1992 and March 1996. The only exception is total household income, measured in March 1996. Income information is available only for the time of the survey. It is therefore implicitly assumed that current income is highly correlated and is a good representation of income in November 1992.

Results

Only about 4 per cent of households that used their home for income generation in November 1992 moved during the study pe-

riod, compared to 14 per cent of other households. In March 1996, about 5 per cent of households that moved during the study period used their home for income generation. Table 2 shows the results of the logistic regression of the choice to move or not. It indicates that the use of housing for income generation is indeed important in residential mobility decisions. Households that use their homes for income generation are about three times less likely to move than other households. This is not surprising. Moving disrupts work and businesses are often location-specific. Moving may mean losing clients and it takes time to build a new clientèle.

Other independent variables that are statistically significant are housing quality and satisfaction, migration variables, marital status and household size. When estimating the logistic regression with unweighted data, household income also appears to be statisti-

cally significant. A discussion of these effects is beyond the scope of this paper.

Zoning regulations in Kumasi separate housing and work. A house is built for either residential or commercial use. In compound houses, these regulations are largely ignored, because of the sheer scale of the phenomenon. Current housing policy in Ghana centres on encouraging individuals to build large single-family villas through the national finance mechanisms and by easier provision of building permits for those wishing to build villas. Villas represent modernity and a Western lifestyle (Tippie *et al.*, 1998). While the regulations are also not strictly enforced in villas (about 12 per cent of sample households residing in villas use their home for income generation), they may deter prospective movers from building villas and moving to them, if they know that they will want to use their housing for income generation. Perhaps, then, if the use of housing for income generation was recognised in building codes and regulations, more households would attempt to build new houses and move into them.

Conclusion

The use of housing for income generation is a way of life for many households in urban centres in developing countries. Yet not much is known about the linkages between mixed uses of the home and housing choices. This study sheds some light on this issue. It shows that households that use their home not only for shelter, but also for income generation through informal-sector activities, are less likely to undertake intraurban mobility. This suggests that, for these households, the decision to move or not is not only shelter-related, but is also a business decision.

Much can still be learned to understand better the relationship between work and home. Are housing choices of households using their homes for income generation really business choices? How does the use of housing affect home-improvement choices? How does it influence the choice of neigh-

bourhood in which to live? How do households juggle shelter and business needs? How do households divide their home space between shelter and work?

Notes

1. This statement does not contradict the one in the previous statement. Households in the sample shared their housing with up to 30 other households (mean 7 households). So, on average, about 2 households per house used their home for income generation.
2. For the oversampling, movers were listed households that had lived in Kumasi for at least 5 years, and had moved within Kumasi in the past 3 years; migrants were listed households that had moved to Kumasi within the past 5 years; and non-movers were all other listed households (these definitions should not be confused with those of movers/non-movers in the analysis). Every 2.5 mover household was selected (alternating second and third household in the list, to arrive at 2 out of every 5 listed households). Every other migrant and every eighth non-mover household were selected.
3. Weights were calculated by dividing listed number by the selected number of each group, adjusting for non-response (but note a 96.6 per cent response rate) and normalising. The weights are: movers 0.49, migrants 0.40, and non-movers 1.57. Note that, when estimating the logistic regression with unweighted data, the direction of the effect is the same for all variables and the same variables appear to be statistically significant (with the exception of one variable, as noted in the results section). Yet the weighted data are considered more accurate because the probabilities of selection of respondents in the different groups are substantially different.
4. A potential problem with retrospective data is that of recall. To minimise recall bias, the date November 1992 was chosen. The last presidential elections were held that month, which made it easier for respondents to remember their housing conditions at the time. Focus groups undertaken prior to the main survey confirmed that household heads remember quite well their housing conditions on that date. Interviewers reported that overall respondents did not seem to hesitate in giving retrospective responses and did not have any obvious recall problems. It is also reassuring that the means of the housing quality index and housing satisfaction index in November 1992 and at the time of the survey are virtually the same.

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