***DRAFT***

# Pattern and Determinants of Occupational Mobility of Adult Ghanaian In-migrants in the Central Region

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*Despite of the increasing migration and the fact that economic and job opportunities are the most important motivations of migration, little is known about the occupational mobility of in-migrants in developing countries. This paper focuses on patterns and determinants of occupational mobility of in-migrants in the Central Region of Ghana. Discrete-time event-history models were used. The findings showed that the well-known U-shaped curve pattern of occupational mobility of immigrants found in developed countries was also found in Ghana. Education was the most important determinant of occupational mobility. Interestingly, education stimulates not only upward but also downward mobility. Besides, being married substantially decreases the likelihood of experiencing upward mobility. Although women are more likely to experience occupational mobility than men, the relationship is not statistically significant. Lastly, the findings suggested that urban areas provide more upward occupational opportunities than rural areas. Shortcomings of the paper and recommendations are also discussed.*

## I. Statement of the research problem that motivates the analysis

Occupational mobility is one of the most important processes that are associated with labor migration. The most typical picture found in migration studies is a very high proportion of young people who contribute the most to the labor force. Unemployment and income are main reasons to move and most of the moves are related to job or occupational changes. Apparently, some migrants suffer from underemployment and marginal occupation while others have managed to overcome such difficulties.

Although studies on occupational mobility of immigrants in developed countries have been theoretically and empirically developed since 1970s, studies on occupational mobility of in-migrants in both developed and developing settings remain limited. This biased concentration comes from the fact that most theoretical explanations and empirical

work on occupational mobility of migrants has been done in developed countries, especially in the United States and Australia, where internal migration is less associated with changes in occupation status and where immigrants play an important part in labor market.

In the current half-urban world, where most developed countries have completed their urbanization process, most processes of urbanization and occupational mobility are expected in developing countries. In developing countries nowadays, it is not international migration but internal migration that characterizes most migration. In-migrants increasingly contribute to a large segment of the labor market in destination areas, especially urban areas. In that circumstance, the question of assimilation of in-migrants in developing countries is no less important than assimilation of immigrants in developed countries during the last three decades.

Yet, little have known about occupational mobility of migrants in developing countries. Patterns and the underlying process of occupational mobility and its determinants that were found in developed countries may or may not work well in the context of developing countries. As economic development pushes a great number of people in developing countries on the move and as long as occupational mobility plays an important part in their life, in-migrant's occupational mobility should not be ignored from the broad picture of economic development. Nevertheless, migrants in many developing countries are providing a great labor source to satisfy the great demand for manual labor in more developed or urban areas, especially during the periods of economic booms or restructuring, and they are playing an important role in stimulating further economic development in these settings.

Lack of reliable and adequate data in developing countries also contribute to the ignorance of occupational mobility of in-migrants. As both occupation and migration are dynamic rather than static processes, timely updated or follow up data is desirable. Most of the available studies either do not focus on occupation and migration or due to prohibitively high costs do not collect this data overtime. Most available studies collect only information of occupation at the time of survey and few if any other points in time (i.e. time before the first and/or the last move). Barely any studies trace occupation and migration history over the life-course of the respondents.

## II. Primary objectives

The present study uses data from the "Population and Environment Survey in the Central Region of Ghana" to look at occupational change among in-migrants and to see whether or not the pattern follows a U-shaped curve observed in occupational mobility of in-migrants in developed countries. Moreover, the paper also tries to examine the timing of the turning point if that pattern does exist. This study is one of the first to examine the extent to which occupational mobility of in-migrants is affected by human capital resources, socio-demographic characteristics of the in-migrants, and contextual factors that are measured through characteristics of the origin and destination areas. The analysis will focus only to the periods after independence in 1957 and it is expected to generate some insights in to migration policies in Ghana. Discussions and suggestions for further studies based on limitations of this study are also presented.

Before moving further, it is necessary to reveal the scope and challenges of this study. First, the analysis is restricted to the period after independence to exclude moves that were related to warfare and slave trading. Yet, only few migrants were excluded under this restriction. Secondly, the analysis looks at only occupational mobility of the in-migrants from their last move since the sample captures, and therefore is representative of, only in-migrants. Thirdly, even though macro-determinants of occupational mobility are available, they are very crude and meso-level data are not available. The micro-macro linkage is also very limited in the current study. A fourth and final note should be given about the scope of the sample. Among ten regions of Ghana, data were collected only in the Central Region. Because of the selective nature of migration, in-migrants in the Central Region might differ considerably from in-migrants in other regions and the results do not provide a representative picture of Ghanaian migration and occupational mobility. Nonetheless, as southward migration to economic centers continues to characterize migration in Ghana, the results are expected to have implications for a very large proportion of migrants.

## III. Practical and Theoretical Background

### 1. Theoretical considerations

Even though little is known about the occupational mobility of in-migrants, much of the theoretical frameworks and explanations in occupational mobility of natives and immigrants can be used to examine patterns and determinants of occupational mobility of in-migrants. Two major explanations for this are the broad theoretical frameworks used in occupational mobility studies and the convergent tendency between internal and international migration theories. The broad theoretical approaches and frameworks used in occupational mobility, such as neoclassical economic theory, human capital, segmented labor market, discrimination, and structural differences, are very broad economic and sociological theories that are not only applicable in occupational mobility but also various fields of different disciplines. Moreover, the main difference between occupational mobility of in-migrants and that of immigrants as well as non-movers is just the target population while subject-matters are very much the same. Therefore, theoretical frameworks that work for non-movers, and especially immigrants, might also be applicable to in-migrants with some adjustments. In addition to that, recent development of migration theories has shown a convergent tendency between internal and international migration theories and the possibility to use a coherent framework to study both internal and international movements and across development stages and countries (Cadwallader, 1992; Massey et al., 1993; Skeldon, 1997; Hammar et al., 1997).

Most theoretical approaches and empirical studies have revealed that occupational mobility is a direct consequence of economic development. The structural and institutional perspectives as well as the political economy emphasized that individual behavior is conditioned, although not determined, by the structural context. Studies on occupational mobility have shown that economic restructuring and structural changes account for a substantial part of the increase in occupational mobility (Sabirianova, 2002). In the view of capitalist system approach, immigrants are drawn into the system during periods of economic boom to fill menial manual jobs; when the boom collapses and the capitalist economy moves into recession, they join a large pool of unemployed who must wait until the next boom arrives (McAllister, 1995). Studies in several settings

also provided empirical evidence for the strong effects of economic restructuring on upward occupational mobility (Krausse, 1979; Yanyi et al., 2000; Sabirianova, 2002).

The classic hypothesis in immigration studies describes social mobility of immigrants by a U-shape curve and empirical work has proved the adequacy of this shape (Baganha, 1991; Melendez, 1994; McAllister, 1995; Raijman and Semyonov, 1995). Most studies found an overwhelming proportion of immigrants and in-migrants in low status jobs upon arrival and immigrants faring worst in the early years of settlement, but their occupation status improves with passage of time. The initial tendency for downward mobility is attributed to immigrants' imported cultural values. Restricted access to information, limited knowledge of the labor market, inadequate human capital resources, lack of family and social networks are among factors that interact to depress occupational mobility of immigrants. The turning point in the curve is predicted to occur at a given level of integration, beyond which immigrants overcome the initial disadvantages and move upwardly.

McAllister (1995) has identified three forms of occupational mobility of the migrants: intergenerational mobility, career mobility, and migratory mobility. While the first two forms are applicable to both migrants and non-movers, the last one is applicable solely to migrants. It is worthy to note that intergenerational mobility is most popular and well developed among the three and the last two forms of mobility have also been discussed in international migration. Migratory mobility would be the only one that has been discussed in internal migration given the availability of occupation data at different stages of movements.

The broad macro-micro approach suggests that occupational mobility of in-migrants is affected by both structural and individual factors. The greater the structural difference between the origin and the destination the higher occupational mobility is expected as fewer skills and human capital resources are transferable to the new environment (Raijman and Semyonov, 1995). The discrimination approach (McAllister, 1995; Biblarz et al., 1996) also suggests that socio-cultural and economic characteristics of destination areas would also determine ability of in-migrants to have a job and move upward or downward. In most developing countries today, the scarce resources are usually located in urban areas. Such inequality in economic development between rural

and urban areas creates inequality in occupational structures and job opportunities between them: While agricultural work dominates occupational activities in rural areas, a wide range of non-agricultural occupations is available in urban areas. Consequently, urban migrants have more advantages to experience upward occupational mobility than rural migrants.

Human capital resources have been found to be one of the most important determinants of occupational mobility (Stepick and Portes, 1986; Kershaw, 1992; Raijman and Semyonov, 1995). Those who have more human capital may find better occupational opportunities at the destination simply because they meet skill and educational requirements. They also may have more and better information to take action which promotes their mobility. Among the various human capital resources, education has been consistently found as the dominant factor that has positive and monotonic relation with occupational mobility of migrants (Stepick and Portes, 1986; Raijman and Semyonov, 1995).

Most studies of occupational mobility have revealed that the processes of status attainment and mobility are different for males and females (McAllister, 1995; Djamba et al., 2000). Literature on migration suggests that men are more likely to move for economic reasons and women for family reasons, and that, men are more mobile than women (De Jong et al., 1986; Anyanwu, 1992). The common argument is that, because of gender-role socialization which accords greater importance to men's careers, men have more access to formal education and other job-related training and experience than women (Djamba et al., 2000).

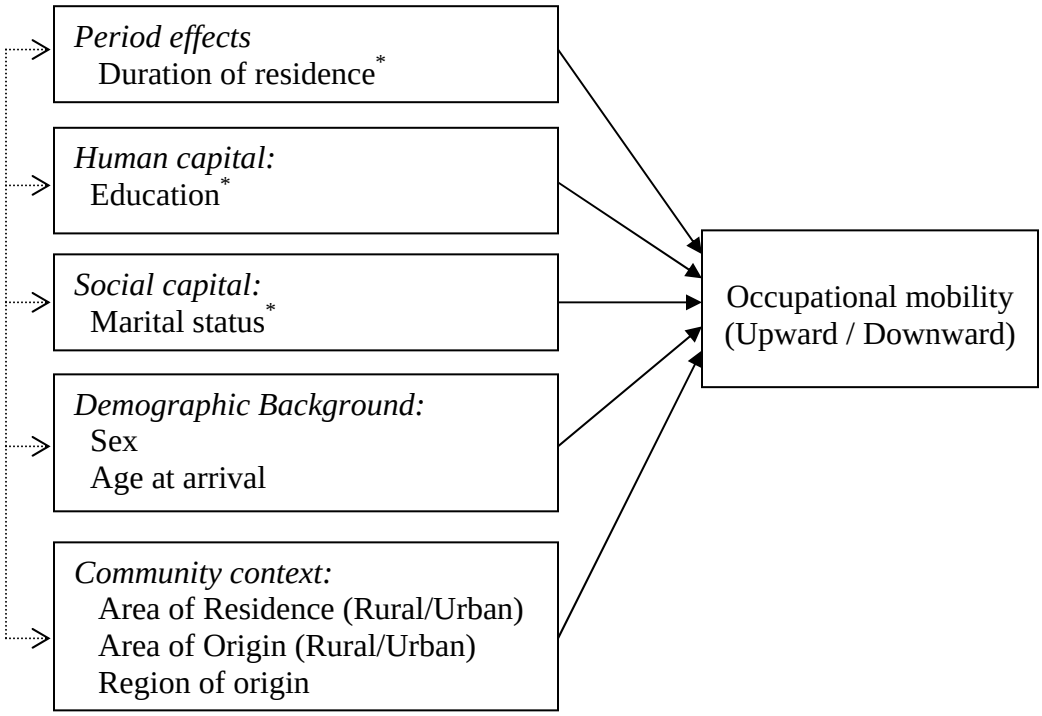
Nonetheless, the effects of education and gender are subject to ceiling and floor effects. Several studies have noted that it is quite hard for those who have occupational status at the top of the status hierarchy to experience upward mobility while there is not much room for those at the bottom of the hierarchy to move downward (Raijman and Semyonov, 1995; Lindstrom and Kim, 2002). As such, those who have higher education, which is strongly associated with higher occupational status, might have higher downward mobility. As women are usually found in lower occupational status than men, we would expect that it is easier for women to move up the ladder.

Marriage is likely to reduce the occupational mobility of in-migrants. For women, this is partly because of conflict with their roles in childbearing, childrearing, and homemaking, and also because married women get economic support from their husband (Djamba et al., 2002). Compared to those who are not married, married men and women are low risk takers because of the strong ties of marriage and greater family responsibilities. More often than not, married people will not migrate without some certainties of a job. Consequently, lower occupational mobility is expected. In addition to that, social ties and responsibilities of marriage also delay many singles to get married until they have settled. Therefore, high occupational mobility is expected to happen before marriage.

In a study on interstate migration in the US, Schlottmann and Herzog (1984) found that the incidence of career mobility for both non-movers and migrants alike decreases with age. Literature also asserts that the occurrence of occupational transition depends on both life-cycle and occupation stage (McAllister, 1995).

The analytical framework used in this study for the determinants of occupational mobility of in-migrants is provided in Figure 1. It includes key variables that link personal and structural backgrounds with occupational mobility of in-migrants.

***Figure 1.*** Analytical Framework of the Determinants of Occupational Mobility




*Note:* * Time-varying variables.

**2. Ghana – the setting**

Ghana has a long history of migration and the characteristics of migrants have changed as a result of political and socioeconomic transformations. The period from the 15th to the 19th century was the era of slave raids and wars, and slave trading characterized most migration during this period. After independence in 1957, physical coercion was replaced by economic-driven forces and labor migration characterized migration. Yet, the dramatic growth in national income was recorded only after the introduction of the economic recovery program (ERP) in 1987 (GSS, 1999). The ERP boosted not only the economy but also migration and it developed new forms of migration, especially temporary labor migration. The EPR is expected to have strong effects on occupational mobility in Ghana since such economic restructuring is usually associated with the destruction of existing jobs and occupations and the creations of new opportunities (Sabirianova, 2002).

There are several reasons to believe that internal migration and urbanward migration will continue to characterize Ghanaian migration. The recent tightening of the

traditional host countries, entry requirements and border controls will act as strong barriers to international migration. The economic reform and the regional-biased economic development will drive more people to move southward and urbanward since urban areas are gaining more from economic development and most developed economic centers are located in the southern coastal areas. In fact, urbanward migration had started before independence. Caldwell (1968) found that "*of the 1948-60 increase of over one million persons in the urban areas, at least 400,000 was due to internal rural-urban migrants and their natural increase, and close to 300,000 to net migration alone.*" Economic reform, which is highlighted by free-markets and structural changes, would drive more people to move to seek jobs and to take advantage of new opportunities. Although the rural population still predominates, Ghana's urban share is growing fast. While the proportion of urban population was only 23 percent in 1960, it increased to 29 percent in 1970, 32 percent in 1984, and 34 percent recently (GSS, 1999). Beside the rapid growth of the economy, current very young population structure with a high proportion in labor-force ages is another reason to believe in a high mobility level in the coming years in Ghana.

Cleveland (1991) has shown from data from Zorse and the Upper regions of Ghana that about 50 percent of working-age males and 15 percent of working-age females have migration experience to southern Ghana for periods of a year or more. This result indicates a strong gender differential in migration in Ghana. The common argument is that migration throughout Sub-Saharan Africa is now being adopted by households as a survival strategy. The household selects and invests in members who have the greatest potential to find jobs and send remittances back home, and those selected are usually men. Nonetheless, Caldwell and Caldwell (1993) showed that women in West African societies, including Ghana, have great autonomy and separate budgets from their husbands. Most retailing is done by "market women", for marketing is the occupation of most women. This evidence implies greater freedom among Ghanaian women, including freedom to move and attain higher occupational positions. For these reasons, we expect gender differentials in occupational mobility of in-migrants, but it might not be as large as it has observed in other settings.

One of the biggest constrains for studies in Ghana is the availability of adequate and accurate data, a traditional problem of Sub-Saharan African countries. The number of studies on migration in Sub-Saharan African countries is still very limited and most of the available sources provide only data on net migration (Oucho and Gould, 1993). Regardless of its long history of migration and the increasing of migration flow in Ghana, only a few studies on migrants and migration are available and most of them are carried out recently. Life history information is even scarcer. Consequently, time-varying variables are not included in the analyses or they are estimated on strong assumptions that are usually less realistic since occupational mobility, as well as migration, is always a dynamic process.

Given such theoretical arguments and cultural and socioeconomic background of Ghana, several hypotheses have developed and summarized in Table 1.

**Table 1**. Preliminary hypotheses

| Variables | Preliminary hypotheses |
|---|---|
| Duration of residence | Occupational mobility of migrants follows a U-shaped curve as observed in the case of immigrants in developed countries |
| Education | More educated people are more likely to make upward or downward occupational moves |
| Marital status | Currently married migrants are less occupationally mobile than not-currently married migrants |
| Sex | There might be little or no gender differential in occupational mobility in Ghana. If gender differentials do exist, females would experience higher occupational mobility than males. |
| Area of destination | Urbanward migrants are more likely to make upward or downward occupational moves than ruralward migrants |

## IV. Research design

### 1. Data

The data for this analysis came from the "Population and Environment Survey in the Central Region of Ghana". The project was supported by the MacArthur Foundation and was a collaboration among the Population Studies and Training Center, Brown University (USA), the Institute for Land Management and Development, University of Science and Technology (Ghana), the School of Oceanography, University of Rhode Island (USA), and the University of Cape Coast (Ghana).

The survey was conducted in the six coastal districts of Ghana's Central Region: Komenda, Cape Coast, Abura, Mfantsiman, Gomoa, and Awutu. The sample design involved a multi-stage stratified clustered sampling. In the first stage, within the rural, urban, and semi-urban strata, 54 EAs (Enumeration Areas) were randomly selected from a total of 1156 EAs in the six districts of the region. In the second stage, a random sample of 24 households was drawn from each selected EA. Within each household, all people aged 15 and above were eligible for interview. A set of questionnaires, including community, household, and men's and women's questionnaires, were designed to get a comprehensive picture of population and socioeconomic dynamics at macro- and micro-levels and the linkages between them. A total of 54 communities, 1252 households, and 2505 individuals were successfully interviewed.

The content of several sections of the household and individual questionnaires were designed to be similar to the DHS format to obtain various demographic and socioeconomic aspects. In addition, there were sections on knowledge of etiology of specific child illnesses and environmental attitudes and awareness. One of the most appealing features of this data set is that it consisted of retrospective life history events of all adult individuals in the household. The retrospective life histories contained information on key time-varying variables, including migration, education, occupation, marital status, child birth, and child death. This information was collected in annual intervals from year of birth of the respondent to the time of interview (2002). Besides time-varying variables, the data also contained some other time-specific socio-economic and demographic variables.

## 2. Scope of the analysis, variable definitions and operationalization

The study utilizes the method of event history analysis since it provides "*a more accurate portrayal of social dynamics conceptualized as events occurring over time*" (Heaton and Call, 1995). As mentioned above, respondents were asked to reconstruct their lives in an annual calendar from birth to the year of the interview to create an annual record of their personal characteristics. Some restrictions were applied to improve the quality of the analysis. First, we restricted the analysis to those who made their first move after age 15 since migration patterns are different for child and adult migrants. The inclusion of child migrants might strongly bias the results since the majority of them do not move for economic reasons and they are not involved in occupational activities in childhood. Secondly, those who are 75 and above were also excluded from analysis to minimize recall error – that is one of the major problems in event history analysis (Heaton and Call, 1995). Thirdly, those who made their last move before 1957 (Ghana's independence) were also excluded from the analysis as they belonged to different political and socio-economic circumstances and their number is small.

Migration was defined as regional movement in the period of one year. A person was a migrant if s/he has spent most of her/his time in one year in a region rather than his/her region of origin. As mentioned, non-migrants were excluded from the analysis since the study focuses to occupational mobility of only the in-migrants.

Occupation was grouped into four ordinal categories from the eighteen categories in the calendar: Not working, Low occupational status, Moderate occupational status, and High occupational status. The division was based on the economic sectors and relative income of the occupation in consultation with the occupational scores from the International Socio-Economic Index of Occupational Status of the International Labor Office (Ganzeboom and Treiman, 1996). Occupational mobility was defined as transition of the migrants from one occupation category to another. A move from one to a higher order occupation category was recorded as upward mobility while moving to a lower order category was recorded as downward mobility. Those who stayed at the same occupation category over the study period were recorded as immobile.

The definitions of the independent variables are provided in Table 2. Among these variables, duration of residence, education, and marital status are time-varying

variables while the rest are not. Duration (of residence) squared and age squared are included in the model to fit a quadratic function of time. Due to the small sample size problem, we cannot control region of origin by its original 11 categories (10 regions plus outside Ghana). It was dichotomized into the Central Region versus other regions. Under this classification, region of origin is identical to type of migration: those who originally came from the Central region are return migrants while the rest are non-return migrants. Therefore, the two terms "region of origin" and "type of migration" in this case can be used interchangeably. For the same reason, those who have "secondary or SSS" and "higher education" are grouped into one group since there are not many migrants in the "higher education" category. Similarly, though the original marital status includes six categories, it is grouped into two groups: currently married and not-currently married. Theory and sample size are two major criteria to set up variables in our analysis.

**Table 2**: Definition of Variables

| Variable | Definition and operationalization |
|---|---|
| *Duration of residence* | Duration of residence since arrival in year |
| Duration squared | It is used to fit a quadratic function of time |
| *Demographic background* | |
| Sex | Sex of the respondent: Coded "1" if male and "0" if female |
| Age at arrival | Age of the respondent at arrival, i.e. age at last move |
| Age squared | It is used to fit a quadratic function of time |
| *Human capital* | |
| Education | Level of formal schooling completed at a certain year |
| + None/Koranic | Coded "1" if none or koranic, "0" otherwise |
| + Primary | Coded "1" if primary, "0" otherwise |
| + Middle | Coded "1" if middle or JSS, "0" otherwise |
| + Secondary & higher | Coded "1" if secondary or SSS or higher, "0" otherwise |
| *Social capital* | |
| Marital status | Marital status of the respondent at a certain year |
| + Currently married | Coded "1" if currently married (including remarried), "0" otherwise |
| *Community context* | |
| Area of destination | Coded "1" if urban, "0" if rural |
| Area of origin | Coded "1" if urban, "0" if rural |
| Region of origin | Region of residence at birth |
| + Central | Coded "1" if resided in Central region, "0" otherwise |

## 3. Statistical model

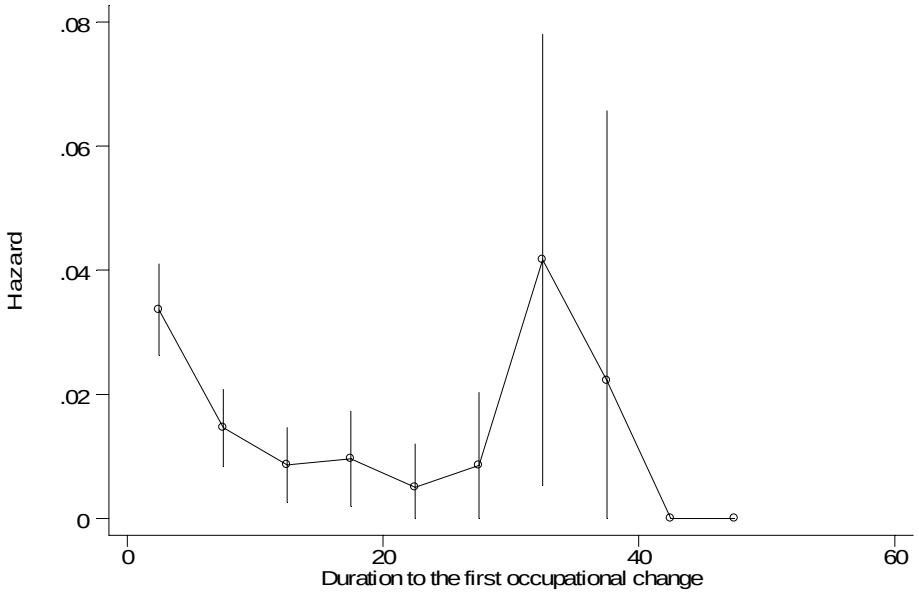
The main interest of this study is the propensity of in-migrants to shift from one occupation to another. In order to capture it, we look at the hazards of occupational mobility from arrival to first occupational transition of the in-migrants. Several models can be used to estimate that hazards and hence we have to select the most appropriate model for analysis.

First, Cox's proportional hazards model is considered. The major advantage of this model is that it does not require any particular probability distribution of the survival time. Other attractive features of the Cox regression model are discussed in Allison (1995). The weakness of this model also lies in its simplicity: the model provides little information on the baseline hazard and so the nature of duration dependence is not considered. The Cox's proportional hazards model uses information on the relative ordering of events, but not the spacing of events which is one of the main interest of this study. This limitation of the Cox's proportional hazards model draws our attention to parametric models.

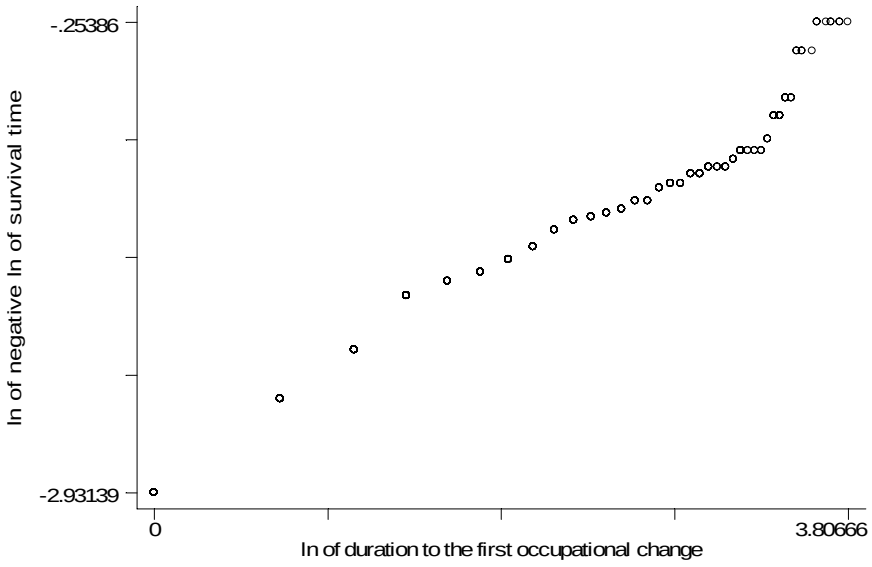
Graph 1 provides the hazards of occupational mobility by duration from arrival to the time that migrants experienced their first occupational transition. Those who never switched their occupation to another category since arrival are right censored. Graph 1 shows clearly that the hazard is duration-dependent. For that reason, the exponential hazards model is not appropriate since this model assumes a constant hazard.

Graph 1 also shows the evidence to reject Weibull's accelerated time model: Though the Weibull's model is a non-constant hazard model, it assumes that the hazard decreases or increases smoothly (monotonically), which is not satisfied as seen in the Graph 1. Graph 2 further provides evidence of the violation of the Weibull's underlying assumption. The graph presents the relation between the log of negative log of survival time and log of duration from arrival to the year of first occupational transition. The figure shows that the relation between ln(-ln(S)) and ln(t) is not linear. This result indicates that the Weibull's assumption is not satisfied, and so, it is not the appropriate model for our analysis.

**Graph 1**: The Hazards of Occupational Mobility by Duration from Arrival to First Occupational Transition




**Graph 2**: The Log Negative Log of Survival time by Log of Duration from Arrival to First Occupational Transition




For these reasons, we turn to the piecewise exponential hazards model. It seems to be the best one so far because it satisfies our study's objectives and does not waste the richness of the available information. However, this model assumes a constant hazard in each interval that would be problematic if the intervals are not small enough and the

hazards in each interval are strongly duration-dependent. Moreover, the exponential model assumes that the exact time of the event within a given interval is known (Allison, 1995). However, due to the format of the calendar, the available data cannot satisfy this assumption; it allows us to know whether or not occupational transition occurs within a year, but no exact time is given. Furthermore, a simple cross-tabulation of duration from arrival to first occupational mobility by occupational mobility shows high frequencies of in-migrants experienced either upward or downward occupational mobility in their early years. Therefore, it is not realistic to presume a continuous process. For these reasons, discrete-time logit model will be used in our analysis since the model presumes one knows only that an event occurred within a given interval. Otherwise, the mechanics of the discrete-time model are similar to those of the piecewise exponential model.

The analysis follows respondents from the year of their last move, or time at arrival, to either the year they experienced their first occupational transition or the year of interview (2002), whichever comes first. The above procedures yield a series of discrete-time event-history models with person-years as the units of analysis.

Although four categories of occupation are available, the small sample size does not allow us to analyze every contrast and look at details of occupational transition without loosing substantive meanings of the results. Nevertheless, it is desirable to distinguish two kinds of occupational mobility, upward and downward, and treat them differently in the analysis. It is expected that the effects of independent variables on the likelihood of occupational mobility vary between those who experienced upward and those who experienced downward mobility. This situation can be handled by using the method of competing risks. In this method, only one record is recorded in a year for each individual: Once a migrant moves upward to a higher order occupational category, s/he cannot move downward in the same year. In this situation, though it is possible to do separate analyses for each event type without biasing the parameter estimates and with only a slight loss of precision, the optimal way to get maximum likelihood estimates is by estimating all events simultaneously. For that reason, multinomial logit model is used.

The model is written as:

$$P_{ijt} = \frac{e^{\beta_j x_{it}}}{1 + \sum_k e^{\beta_k x_{it}}}$$

or, equivalently:

$$\log\left(\frac{P_{ijt}}{P_{i0t}}\right) = \beta_j x_{it}$$

where, $P_{iot}$ is the probability that individual *i* does not experience any occupational transition at year *t*

$P_{ijt}$ is the conditional probability that and event of type *j* (upward or downward occupational mobility) occurs to person *i* at year *t*, given that s/he never experienced any occupational transition since arrival till the year prior to year *t*

An alternative for interpretation is relative risk ratios. The exponentiated value of a coefficient is the relative risk ratio for one unit change in the corresponding variable, it being understood that risk is measured as the risk of the category relative to the base category. The meaning of relative risk ratios is similar to odds ratios.

Parameters of multinomial logit models are estimated with the MLOGIT procedure in STATA. Data is clustered by migrant to control for the fact that the migrants contributed different numbers of observations to the transposed data depending on their duration from arrival to first occupational transition or censoring. This procedure specifies that the observations are independent across clusters (migrants) but not necessarily independent within clusters. For the same reason, robust standard errors are estimated in place of the traditional calculation to control for the dependency between covariates and error terms.

## V. Results

### 1. Description

Table 3 presents basic characteristics of the variables used. Both columns present the means and standard errors of duration of residence and age, and the percentage distribution of the other variables. The difference between the two columns is that the first column presents the characteristics of the migrants and the second column presents the characteristics after transposing the data to person-years. Table 3 indicates that the majority of migrants in our study were immobile: almost 80% of the migrants had stayed in the same occupational category since their arrival. Among those who moved, there was a greater tendency for upward rather than downward mobility: While fifteen percent of the migrants moved upward, more than six percent of them moved downward in their first occupational transition.

These figures, however, should be interpreted with caution. It is not surprising that most in-migrants were immobile given that occupational mobility is defined as a transition from one to another occupational category, and that occupation is grouped into only four categories. Those who had changed their occupation to another category and switched back in the same year were still considered as immobile if they did not spend most of their time during the year for that second occupation regardless of the discretion of the recorded occupation. Moreover, a scale of four occupation categories is relatively small to observe a lot of occupational mobility. Yet, given the similarity between occupations in Ghana, though a larger scale may help to mitigate the small sample size problem in this study, it may also bias the results.

Regarding education, a quarter of the migrants never had any formal education and one-fifth of them had some secondary or higher education. On average, migrants arrived to the Central Region when they were thirty and there were slightly more females than males in the sample: 52 percent versus 48 percent. Half of the migrants were currently married but unfortunately no information on their spouses was available.

**Table 3**: Characteristics of the sample: Occupational Mobility of Adult Ghanaian In-Migrants to Central Region - 2002

| Variables | Description: Mean (SD) / Percentage<br>Persons | <br>Person-years |
|---|---|---|
| ***Occupational Mobility*** | | |
| + Immobile | 79.06 % | 97.86 % |
| + Upward | 14.91 % | 1.53 % |
| + Downward | 6.03 % | 0.62 % |
| ***Duration of residence*** | 9.77 (9.38) | 9.88 (8.30) |
| ***Human capital*** | | |
| Education | | |
| + None / Koranic | 23.95 % | 35.22 % |
| + Primary | 12.90 % | 10.73 % |
| + Middle | 40.70 % | 37.62 % |
| + Secondary & higher | 20.44 % | 16.43 % |
| ***Demographic backgrounds*** | | |
| Sex: + Female | 52.43 % | 51.89 % |
| + Male | 47.57 % | 48.11 % |
| Age at arrival | 30.0 (11.4) | 30.2 (10.0) |
| Marital status | | |
| + Currently married | 50.42 % | 71.53 % |
| ***Community context*** | | |
| Destination area | | |
| + Rural | 52.43 % | 56.22 % |
| + Urban | 47.57 % | 43.78 % |
| Origin area | | |
| + Rural | 45.73 % | 49.04 % |
| + Urban | 54.27 % | 50.96 % |
| Region of origin / Type of migrant | | |
| + Central region (return) | 53.10 % | 60.66 % |
| + Other regions (non-return) | 46.90 % | 39.34 % |
| **Number of observations** | 597 | 5,834 |

Though mean of duration of residence was calculated, it did not have much meaning since it included both duration from arrival to first occupational transition for those who had experienced occupational mobility and duration till time of survey for censoring cases. Graph 1, which presents the hazards of occupational mobility by duration from arrival to first occupational mobility, is more informative. It provides the evidence that pattern of occupational mobility of in-migrants also follows a U-shaped curve as observed for immigrants. There is a clear tendency that hazard of experiencing an occupational move decreases as duration of residence increases, but after about 20 years of residence the hazard starts to increase as duration of residence increases.

Nevertheless, the relationship found here is very crude and the effects of exogenous factors have not been controlled. In order to have a more precise picture of the relation between duration of residence and occupational mobility as well as the underlying determinants of occupational mobility, we will have to count on the results of multivariate analyses.

**2. Multivariate analysis**

We now turn to the multivariate regression models to investigate the effect of duration and the socioeconomic determinants of occupational mobility of in-migrants. Though models with and without community contextual variables are estimated, no significant change in the coefficients of the covariates in the models is observed. Thus, the model without community contextual factors is omitted.

Table A1a and Table A1b (in Appendix) present parameter estimates for multinomial logistic regression model predicting occupational mobility of Ghanaian adult in-migrants in Central Region. In fact, these two tables present two contrasts of the same model: Table A1a presents the upward-immobile contrast and Table A1b presents the downward-immobile contrast. Table 4 presents relative risk ratios and their limits at 95% confidence intervals for upward and downward mobility relative to immobility since odds ratios are easier to interpret.

Results from multinomial logistic regression again confirm a U-shaped curve relation between duration of residence and upward occupational mobility. Additionally, education emerged as a strong predictor of upward occupational mobility relative to immobility. The theoretical positive association between education and upward mobility is also found in this study. Though it is very clear that education has a monotonic relation with upward occupational mobility, significant relations are found only after primary education: those who have some middle and secondary and higher education are 2.5 and 2.9 times as likely, respectively, as those who never had formal education to experience upward occupational mobility relative to immobility. Those who have primary education tend to have higher probability of upward mobility relative to immobility than those who have no formal education, but no significant relation is found.

**Table 4**: Relative Risk Ratios from Multinomial Logistic Regression Models Predicting Occupational Mobility of Adult Ghanaian In-migrants

| | ***Upward vs. Immobile*** | | | ***Downward vs. Immobile*** | | |
|---|---|---|---|---|---|---|
| | RRR | [95% Conf.Int.] | | RRR | [95% Conf.Int.] | |
| | | Lower | Upper | | Lower | Upper |
| ***Duration of residence*** | | | | | | |
| + Duration of residence | 0.817 *** | 0.748 | 0.892 | 0.941 | 0.843 | 1.051 |
| + Duration squared | 1.005 *** | 1.002 | 1.007 | 1.003 * | 1.000 | 1.005 |
| ***Human capital*** | | | | | | |
| Education | | | | | | |
| + None/Koranic | 1 | 1 | 1 | 1 | 1 | 1 |
| + Primary | 1.654 | 0.694 | 3.940 | 3.007 * | 0.950 | 9.514 |
| + Middle | 2.249 *** | 1.138 | 4.447 | 2.588 | 0.824 | 8.129 |
| + Secondary & higher | 2.917 *** | 1.387 | 6.135 | 5.323 *** | 1.570 | 18.053 |
| ***Demographic backgrounds*** | | | | | | |
| Sex: + Female | 1 | 1 | 1 | 1 | 1 | 1 |
| + Male | 0.756 | 0.465 | 1.230 | 0.624 | 0.288 | 1.353 |
| Age at arrival | 0.836 *** | 0.756 | 0.925 | 0.957 | 0.840 | 1.090 |
| + Age squared | 1.002 ** | 1.000 | 1.003 | 1.001 | 0.999 | 1.002 |
| Marital status | | | | | | |
| + Currently married | 0.543 ** | 0.330 | 0.893 | 0.903 | 0.396 | 2.059 |
| ***Community context*** | | | | | | |
| Destination area | | | | | | |
| + Rural | 1 | 1 | 1 | 1 | 1 | 1 |
| + Urban | 1.767 ** | 1.051 | 2.971 | 0.936 | 0.461 | 1.903 |
| Origin area | | | | | | |
| + Rural | 1 | 1 | 1 | 1 | 1 | 1 |
| + Urban | 0.764 | 0.435 | 1.342 | 0.864 | 0.368 | 2.026 |
| Region of origin / Type of migrant | | | | | | |
| + Central region (return) | 1 | 1 | 1 | 1 | 1 | 1 |
| + Other regions (non-return) | 1.160 | 0.714 | 1.883 | 0.552 | 0.235 | 1.296 |
| **Model Parameters** | | | | | | |
| Number of observation | 5834 | | | | | |
| Number of migrant | 597 | | | | | |
| Wald $\chi 2$ (24) | 147.78 | | | | | |
| Pseudo $R^2$ | 0.1137 | | | | | |
| Log likelihood | - 601.848 | | | | | |

* p<0.10, ** p<0.05, *** p<0.01

The associations between socio-demographic variables, i.e. sex, age, and marital status, and upward occupational mobility are very similar to what have found from immigrants and non-movers. Results from Table 4 (or its equivalent: Table A1a in Appendix) also indicate a strong effect of marital status to upward occupational mobility and the relation is as expected. Currently married in-migrants are 46 percent less likely to experience upward occupational mobility relative to immobility than those who are not currently married. Similar to what Schlottmann and Herzog (1984) found in the US for immigrants, result from this study also shows that increase in age at arrival tends to decrease the likelihood of upward mobility relative to immobility. Although result from regression model seems to provide evidences for a quadratic function of time of age's effect, the inclusion of age squared can only provide a better estimate of the non-linear and negative effect of age at arrival rather than indicate a U-shaped curve. The reason for this is that all in-migrants have experienced upward mobility before age 52 while the turning point in the parabolic curve of the quadratic function locates after that (age at arrival is 59). Despite the fact that the coefficient is inclined to indicate a higher upward mobility for women, being male is not a significant predictor of upward occupational mobility compared to being female.

Among three community contextual variables, destination area is the only one that is significantly associated with upward occupational mobility. Those who move to urban areas are almost twice as likely as those who move to rural areas to experience upward occupational mobility relative to immobility.

Table 1b (in the Appendix) indicates that education is the only variable that has a significant relation to the likelihood of downward mobility relative to immobility. The odds ratios in Table 4 show that those who have some primary, middle, and secondary and higher education are 3.0, 2.6, and 5.3 times as likely, respectively, as those who never have formal education to experience downward mobility relative to immobility.

## VI. Conclusion

Regardless of the increasing migration flows in developing countries and regardless of the fact that economic and job opportunities are the most important

motivations for migration, little is known about the occupational mobility of in-migrants. Among three types of occupational mobility of migrants, i.e. intergenerational mobility, migratory mobility, and career mobility, intergenerational mobility is relatively less important and almost nothing is known about career mobility of in-migrants. This paper is one of the first efforts to investigate patterns and determinants of occupational mobility of in-migrants to the Central Region of Ghana since their arrival (i.e. career mobility).

Given that no theory has been developed to study career mobility of in-migrants and given recent arguments of the convergent tendency between international and internal migration theories, a similar theoretical framework that has been used in studies on occupational mobility of immigrants was used in this study to look at occupational mobility of in-migrants. Most interestingly, what has been found as the determinants of occupational mobility of immigrants in developed countries are also found for Ghanaian in-migrants. This result supports the argument of Skeldon (1997) that the approaches used in studies of internal migration and international migration have much in common theoretically, and it also supports the Brown and Garder's (in De Jong et al., 1981) argument that migration processes in developed and developing countries can be adequately and parsimoniously described by one model.

More specifically, results from this study indicates that the well-known U-shaped curve of occupational mobility of immigrants found in international migration studies in developed countries are also found in this internal migration study for in-migrants. Consistent with results from occupational mobility of immigrants, education has shown as the most important determinant of occupational mobility of in-migrants. Highly educated in-migrants are more likely to experience occupational mobility than those who have lower education. Interestingly but not surprisingly, education not only stimulates upward mobility but also downward occupational mobility of the in-migrants.

In addition to that, marital status also has a consistent and strong association with upward occupational mobility of the in-migrants. Being married substantially decreases the likelihood of experiencing upward occupational mobility. Beside the traditional explanation of role model, we have argued that the differences in risk taking behavior between married and not-married people and the delay in marriage of single in-migrants would be other reasons for the negative effect of marriage to occupational mobility of in-

migrants. Nevertheless, further studies are desirable to confirm or reject those hypotheses of the reciprocal relation between migration, marriage, and occupation attainment.

The analysis has also shown either little or no gender differential in occupational mobility of the in-migrants. These findings show some support to the hypothesis that Ghanaian women have higher status compared to women in East and Southern Africa as well as other parts of the developing world where gender roles are very critical to social mobility. Nonetheless, results from this study consistently show that women are more likely to experience occupational mobility than men, although the relationships are not statistically significant. These results may imply that women are gaining more from migration than are men. Unfortunately, it is impossible to analyze the composition of the occupational structure or type of mobility by gender given the small sample size in this study.

Finally, results from this paper also provide concrete evidence that urban areas will continue to attract more people as they still provide more upward occupational opportunities than rural areas.

Regardless of its interesting findings, the current study faces several shortcomings that can be mitigated in further studies. Though community and household questionnaire are available, they were designed to gather data only at the time of the survey. Macro- and meso- determinants of occupational mobility were not recorded at other points in time and they cannot be integrated in the analysis because of the causal effect problem. Region and area of residence (rural versus urban) are the only available and appropriate macro-variables, but they are rather crude measures. This shortage shrinks our evaluation of the structural determinants of occupational mobility as well as the macro-micro linkages. Though it is not practical to include all macro- and meso- level information in the event-history calendar, it is recommended to have such information at certain points in time, such as before the first and last move. Family decision-making models in migration studies have shown that it might be a deliberate strategy for a family to diversify its portfolio by financing an investment in the migration of the family member most likely to benefit from moving (DaVanzo in De Jong and Garder, 1981; Faist in Hammas et al., 1997). For that reason, information on a family's characteristics and the occupational status of other family members may be critical predictors of the

occupational mobility of the migrants. Unfortunately, this information is not available in the current study.

The interesting findings and shortcomings of this study reveal that a lot more can be done in further internal migration studies in developing countries to fill in the blanks in our knowledge of the relationship between economic development, migration, and occupational mobility.

**Appendix:**

**Table 1a**: Parameter Estimates for Multinomial Logistic Regression Models Predicting Upward Occupational Mobility in relative to Immobile of Adult Ghanaian In-migrants in the Central Region

| | *β* | *Robust Std.Err.* | *P>\|z\|* | *95% Conf. Interval Lower* | *Upper* |
|---|---|---|---|---|---|
| ***Duration of residence*** | | | | | |
| + Duration of residence | - 0.202 | 0.045 | 0.000 | - 0.291 | - 0.114 |
| + Duration squared | 0.005 | 0.001 | 0.001 | 0.002 | 0.007 |
| ***Human capital*** | | | | | |
| Education | | | | | |
| + None/Koranic | 0 | - | - | - | - |
| + Primary | 0.503 | 0.443 | 0.256 | - 0.365 | 1.371 |
| + Middle | 0.810 | 0.348 | 0.020 | 0.129 | 1.492 |
| + Secondary & higher | 1.071 | 0.379 | 0.005 | 0.327 | 1.814 |
| ***Demographic backgrounds*** | | | | | |
| Sex: + Female | 0 | - | - | - | - |
| + Male | - 0.280 | 0.248 | 0.259 | - 0.766 | 0.206 |
| Age at arrival | - 0.179 | 0.051 | 0.001 | - 0.279 | - 0.078 |
| + Age squared | 0.002 | 0.001 | 0.021 | 0.000 | 0.003 |
| Marital status | | | | | |
| + Currently married | - 0.611 | 0.254 | 0.016 | - 1.109 | - 0.113 |
| ***Community context*** | | | | | |
| Destination area | | | | | |
| + Rural | 0 | - | - | - | - |
| + Urban | 0.569 | 0.265 | 0.032 | 0.049 | 1.089 |
| Origin area | | | | | |
| + Rural | 0 | - | - | - | - |
| + Urban | - 0.269 | 0.287 | 0.350 | - 0.832 | 0.294 |
| Region of origin / Type | | | | | |
| + Central region | 0 | - | - | - | - |
| + Other regions | 0.148 | 0.247 | 0.549 | - 0.336 | 0.633 |
| Constant | - 0.454 | 0.912 | 0.618 | - 2.242 | 1.333 |
| **Model Parameters** | | | | | |
| Number of observation | 5834 | | | | |
| Number of migrant | 597 | | | | |
| Wald $\chi 2$ (24) | 147.78 | | | | |
| Pseudo $R^2$ | 0.1137 | | | | |
| Log likelihood | - 601.848 | | | | |

**Appendix (continue):**

**Table 1b**: Parameter Estimates for Multinomial Logistic Regression Models Predicting Downward Occupational Mobility in relative to Immobile of Adult Ghanaian In-migrants in the Central Region

| | *β* | *Robust Std.Err.* | *P>\|z\|* | *95% Conf. Interval Lower* | *Upper* |
|---|---|---|---|---|---|
| ***Duration of residence*** | | | | | |
| + Duration of residence | - 0.061 | 0.056 | 0.282 | - 0.171 | 0.050 |
| + Duration squared | 0.003 | 0.002 | 0.099 | - 0.000 | 0.005 |
| ***Human capital*** | | | | | |
| Education | | | | | |
| + None/Koranic | 0 | - | - | - | - |
| + Primary | 1.101 | 0.588 | 0.061 | - 0.051 | 2.253 |
| + Middle | 0.951 | 0.584 | 0.103 | - 0.194 | 2.095 |
| + Secondary & higher | 1.672 | 0.623 | 0.007 | 0.450 | 2.893 |
| ***Demographic backgrounds*** | | | | | |
| Sex: + Female | 0 | - | - | - | - |
| + Male | - 0.471 | 0.395 | 0.233 | - 1.245 | 0.303 |
| Age at arrival | - 0.044 | 0.066 | 0.509 | - 0.174 | 0.086 |
| + Age squared | 0.001 | 0.001 | 0.292 | - 0.001 | 0.002 |
| Marital status | | | | | |
| + Currently married | - 0.102 | 0.421 | 0.808 | - 0.927 | 0.722 |
| ***Community context*** | | | | | |
| Destination area | | | | | |
| + Rural | 0 | - | - | - | - |
| + Urban | - 0.066 | 0.362 | 0.856 | - 0.775 | 0.644 |
| Origin area | | | | | |
| + Rural | 0 | - | - | - | - |
| + Urban | - 0.146 | 0.435 | 0.737 | - 0.999 | 0.706 |
| Region of origin / Type | | | | | |
| + Central region | 0 | - | - | - | - |
| + Other regions | - 0.595 | 0.436 | 0.172 | - 1.449 | 0.259 |
| Constant | - 4.533 | 1.665 | 0.006 | - 7.797 | -1.270 |
| **Model Parameters** | | | | | |
| Number of observation | 5834 | | | | |
| Number of migrant | 597 | | | | |
| Wald $\chi 2$ (24) | 147.78 | | | | |
| Pseudo $R^2$ | 0.1137 | | | | |
| Log likelihood | - 601.848 | | | | |

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