Philippine Journal of Development
Number 61, First and Second Semesters 2006
Volume XXXIII, Numbers 1 & 2

Migration and the Rural-Urban Continuum: Evidence from Bukidnon, Philippines*

AGNES R. QUISUMBING AND SCOTT MCNIVEN **

ABSTRACT

This paper explores the heterogeneity of the migrant experience using the Bukidnon Panel Survey, which follows up 448 families in rural Mindanao who were first interviewed in 1984–85, as well as their offspring. In this paper, migration patterns are examined using the full listing of children of the original respondents as well as a special survey including 257 of the migrant offspring who were tracked down and interviewed in 2004. The migrant survey focuses on differences in the migration experience of males and females who migrated to rural, *poblacion*, and urban areas. The study finds that rural areas, *poblaciones*, and urban areas systematically attract different types of migrants. *Poblaciones* and urban areas generally attract better-schooled individuals, partly because young people move to those areas to further their education, or because better-educated individuals move to

* Funding for this study came from a grant from the United Kingdom Department for International Development project on rural-urban linkages to the International Food Policy Research Institute (IFPRI) and the Broadening Access to Input Markets and Services Collaborative Research Support Project. The data were collected by the Research Institute for Mindanao Culture, Xavier University. The authors are grateful to James Garrett for helpful discussions in conceptualizing the paper; Jane Hobson, Leonardo Lanzona, and Cecilia Tacoli for useful comments; and Erlinda Burton and Chona Echavez for insights into the migration experience in Mindanao. They also thank Jay Willis, Marinella Yadao, and Nelly Rose Tioco for assistance in finalizing the manuscript. The data from the Bukidnon Panel Study will be available from the IFPRI website, www.ifpri.org, in 2007.

** Senior Research Fellow, International Food Policy Research Institute, 2033 K Street, NW, Washington DC 2006, and Ph.D. student, Department of Agricultural and Resource Economics, University of California, Davis. McNiven worked on this paper when he was a Research Analyst at IFPRI. The authors may be contacted at a.quisumbing@cgiar.org and scmcniven@davis.edu.

these areas to find better jobs. Migrants to rural areas, on the other hand, move primarily to take up farming or to get married. Thus, it is no surprise that, controlling for other factors, rural migrants, as well as those who opt to stay in rural areas, are more likely to be less educated than migrants to urban and peri-urban areas. However, when family-level unobservables are controlled for, the most important determinants of an individual's location decision are life-cycle effects and educational attainment.

INTRODUCTION

Migration is an important livelihood strategy in the Philippines. In 1991, 26 percent of urban households and 13 percent of rural households received remittances from migrant parents or children (Cox and Jimenez 1995). Although international migration has received more attention than internal migration, the latter is also significant in the Philippines.[1] Between 1980 and 1990, the number of persons over the age of five years who were not resident in the city or municipality they resided in five years ago increased from 2.85 to 3.24 million (Flieger 1995).[2] Migrants increasingly crossed provincial boundaries: in the intercensal period, intraprovincial migration decreased by 40 percent while interprovincial migration increased by 10 percent. Among migrants listed in both census years, females outnumbered males; Filipinas are among the most geographically mobile of Asian women (Lauby and Stark 1988).

Since 1970, the in-migration center of the country has shifted from Mindanao to Metropolitan Manila and the surrounding provinces. Although Metropolitan Manila is now the most attractive destination, and the percentage of the population classified as urban increased from 36 percent in the mid-1970s to 52 percent in the early 1990s (Flieger 1995), roughly 80 percent of moves by a nationally representative sample of ever-married women were to areas no more urbanized than the migrant's area of origin (Jensen and Ahlburg 2000).[3]

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[1] See, for example, Yang (2004, 2006). Most studies on internal migration in the Philippines examine data from the 1970s and 1980s (Nguiagain 1985); there are relatively fewer studies using the 1990 census (e.g., Flieger 1995). Jensen and Ahlburg (2000) use the 1993 National Demographic Survey to examine the relationship between female migration and fertility.

[2] Although the number of internal migrants had increased, the proportion of the population above four years engaged in internal migration had decreased from 7.1 percent to 6.3 percent between 1980 and 1990. In comparison, more than 1.6 million international migrants over 15 years of age resided outside the Philippines in 1991 (equivalent to 4 percent of the nonmigrant population of that age group residing in the country) (Rodriguez and Horton 1996); in the 10-year period between 1990 and 1999, remittances from international migrants contributed an average of 20.3 percent to the country's export earnings and 5.2 percent of GNP (Go 2002).

[3] Flieger (1995) notes that some of the increase in urbanization came from the reclassification of rural areas to urban.

Understanding rural-urban migration in the Philippines, however, requires going beyond census definitions and simple dichotomies. In the Philippines, urban areas are defined as all settlements with at least 1,000 inhabitants, a population density of at least 500 persons per square kilometer, with essential infrastructure, and where nonagricultural occupations prevail (Philippine National Statistics Office 2003). *Poblaciones* are the administrative seats of the municipality. Even though all *poblaciones* are in fact population centers, only those *poblaciones* that have a population density of at least 500 persons per square kilometer and essential infrastructure are classified as urban, even if they are surrounded by predominantly rural areas. Using census definitions, moving to a *poblacion* may be classified as migration to an urban area, even if it is not very far from the individual's rural origin. In this study, allowing migrants to define the nature of their destination locality—whether rural, *poblacion*, or urban—provides additional insights into the rural-urban continuum.

What determines the decision to migrate, and given that decision, what influences the migrant's choice of destination? The recent literature on migration in developing countries has increasingly paid attention to the effects of familial and social factors on migration.[4] Whereas early literature on migration typically posed the decision in terms of the costs and benefits to the individual migrant (e.g., Sjaastad 1962), more recent studies emphasize the role of migration as a family strategy (Lucas and Stark 1985; Rosenzweig and Stark 1989; Smith and Thomas 1998; Lanzona 1998). Policymakers are also paying closer attention to the role of small towns and peri-urban areas as migrant destinations (Satterthwaite and Tacoli 2003). In-migration from rural areas to small and intermediate-sized urban centers could increase local opportunities for income diversification as well as decrease pressure on larger national urban centers.

It is obvious that rural areas, *poblaciones*, and urban areas offer different opportunities to migrants. Do these various destinations systematically attract different types of migrants? What kinds of individuals are more likely to move to rural areas, as opposed to *poblaciones* or urban areas? Do migrants move for different reasons, depending on the destination, and do their occupational profiles, job search strategies, and support networks differ?

This paper is an initial exploration into the heterogeneity of the migrant experience using a unique longitudinal data set from the Philippines. The Bukidnon Panel Study follows up 448 families in rural Mindanao who were first interviewed in 1984–85 by the International Food Policy Research Institute and the Research Institute for Mindanao Culture, Xavier University. The study interviewed the

[4] See Lucas (1997) for a review of the literature on internal migration, and Stark (1991) for a discussion of migration as a family, rather than a purely individual, decision.

original respondents and a sample of their offspring, both those who have remained in the same area and those who have moved to a different location. Parents (original respondents) and children who formed separate households in the same locality were interviewed in 2003; offspring that migrated to other rural and urban areas were interviewed in 2004.

In this paper, migration patterns are examined using the full listing of children of the original respondents as well as a special survey including 257 of the migrant offspring who were tracked down and interviewed in 2004. The migrant survey focuses on differences in the migration experience of males and females who migrated to rural, *poblacion*, and urban areas. Then, the determinants of children's location, using the sample of all children, are explored. In addition to migration to rural, *poblacion*, and urban destinations, the study explicitly considers the case where the individual leaves his or her parental residence, but remains in the same village, as a locational choice. Following a literature that suggests that males and females migrate for different reasons (e.g., Smith and Thomas 1998), the study estimates a multinomial logit regression of locational choice separately for males and females. Because family-level unobservables may also affect the decision to migrate—in particular, the choice of which individual within the family migrates, fixed-effects logit is used to control for the potentially confounding effects of these unobservables.

The study finds that rural areas, *poblaciones*, and urban areas systematically attract different types of migrants. *Poblaciones* and urban areas generally attract better-schooled individuals, partly because young people move to those areas to further their education, or because better-educated individuals move to these areas to find better jobs. Migrants to rural areas, on the other hand, move primarily to take up farming or to get married. Thus, it is no surprise that, controlling for other factors, rural migrants, as well as those who opt to stay in rural areas, are more likely to be less educated than migrants to urban and peri-urban areas. However, when family-level unobservables are controlled for, the most important determinants of an individual's location decision are life-cycle effects and educational attainment.

UNDERSTANDING MIGRATION PATTERNS IN RURAL PHILIPPINES

Motivation

In contrast to early models of migration that focused on an individual's decision to migrate, based on a comparison of the discounted value of the mover's expected income in a different location and the present value of the costs of migration (e.g., Sjaastad 1962), a growing literature has argued that individual migration is both an individual and a family decision. Taking family considerations into account has considerably expanded the scope of migration models. In their study of the migra-

tion of husbands and wives in peninsular Malaysia, Smith and Thomas (1998) discuss a number of scenarios in which family characteristics may influence the migration decision. For example, children and adolescents typically move with their parents, who decide where the family goes. For these younger migrants, parental characteristics, such as father's and mother's education, may be more important determinants of an individual's location, compared to individual characteristics. The family also matters because individuals marry and mostly live and move with their spouses. Thus, spousal characteristics may affect an individual's location decision, particularly for postmarital moves.

Families may also choose which of their members will migrate in order to diversify against risk (e.g., Lucas and Stark 1985; Hoddinott 1992). If parental investment and risk-diversification strategies are consistent, an individual's probability of migration, and eventual location, will be a function of individual and household characteristics. In India, Rosenzweig and Stark (1989) find that Indian farm households with more variable profits tend to engage in longer distance marriage-cum-migration. Similarly, Rosenzweig (1993) and Rosenzweig and Stark (1989) find that children of poorer households are more likely to migrate far away. They propose that children of households that are more vulnerable to exogenous risk tend to migrate farther afield than other children. Likewise, children of households that are better able to self-insure against exogenous risk—an ability that generally increases with wealth—may choose to reside closer to the origin household. For example, children whose families live in areas that are inherently prone to weather risk, such as drought or floods, are more likely to migrate. In contrast, children whose families have more assets, and thus are better able to self-insure, do not need to live so far away from the parental household. This is another way families can use migration as insurance.

Gender may also play an important role in the family's choice of a migrant. Whether sons or daughters migrate depends on the family's perception of the migrant in its risk-diversification strategy. If, for example, daughters are socialized to be responsible for their parents, families may invest in the daughters' migration. In the Dominican Sierra, female migrants make remittances to their parents' households if the latter experience income shocks; men insure parents only if there is no other migrant in the household (de la Brière et al. 2002). In the Philippines, the family's short-run need for a stable source of income motivates unmarried female migrants to seek wage-earning jobs, despite their lack of long-term stability, since parents expect remittances to decrease after daughters marry and have their own familial obligations (Lauby and Stark 1988). In rural India, where women migrate for marriage but men are lifetime residents in the household and village, daughters-in-law living in the village and daughters of the household head who have married and moved to their husbands' village embody the family's insurance capital, link-

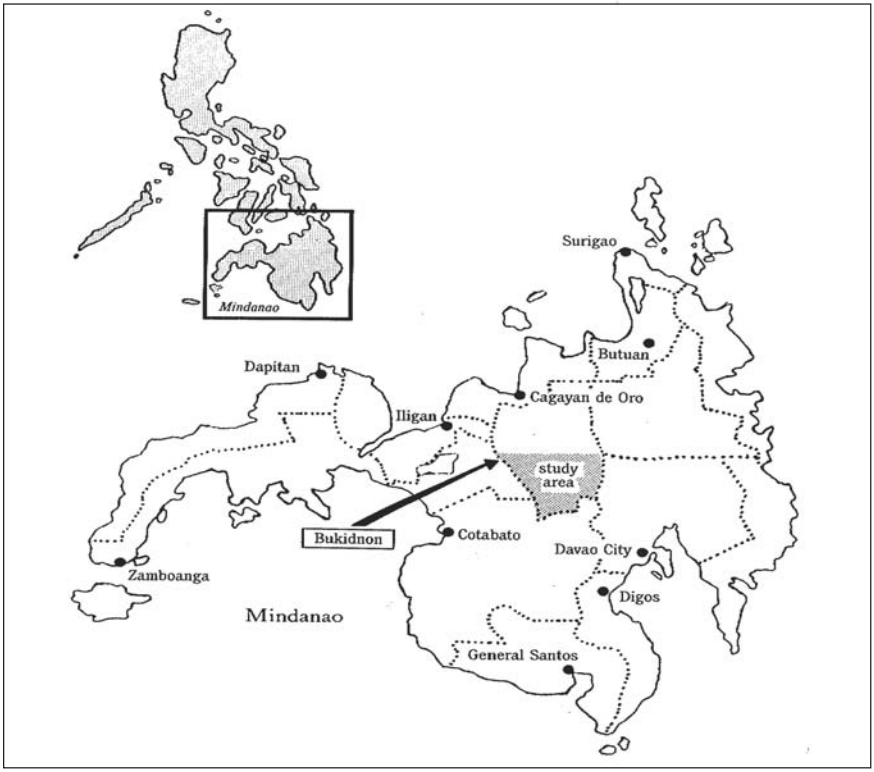
ing families of origin and destination of married women in mutual aid schemes (Rosenzweig 1993).

Better-educated children are also more likely to migrate in response to economic opportunities. Because better-educated children may be able to take advantage of new employment or entrepreneurial opportunities, they have more to gain from moving than less-educated children.

The Bukidnon panel survey

Bukidnon is a landlocked province in Northern Mindanao, comprising 20 municipalities and two cities, Malaybalay and Valencia. (See Figure 1 for a map of the Philippines and the location of the study area.) The data used in this analysis draw from a survey conducted by the International Food Policy Research Institute (IFPRI) and the Research Institute for Mindanao Culture, Xavier University (RIMCU) of households residing in southern Bukidnon. The survey was originally designed to investigate the effects of agricultural commercialization on the nutrition and household welfare of these families. In 1977, the Bukidnon Sugar

Figure 1. Map of the Philippines, indicating study area

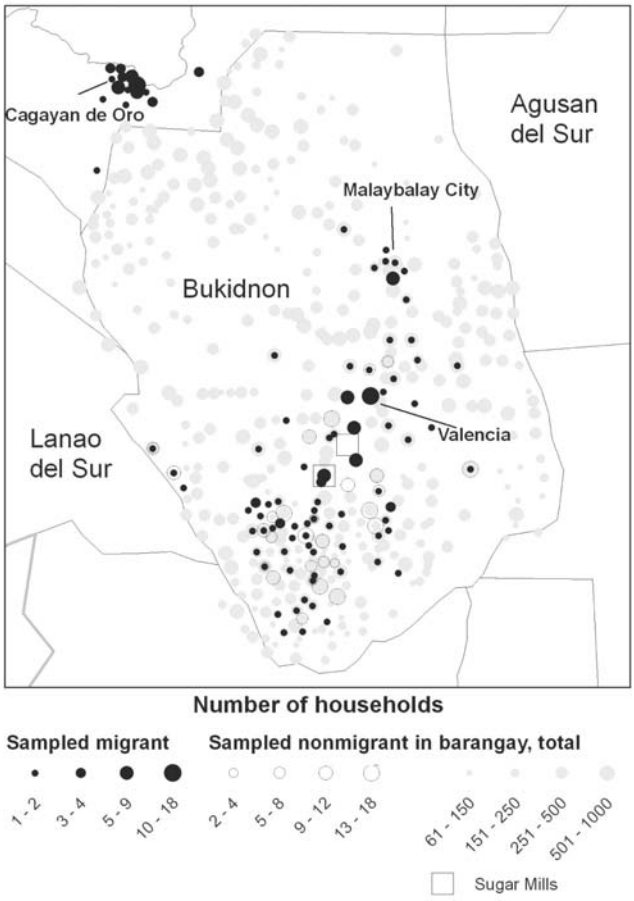


Company (BUSCO) began operating a sugar mill in the area, which had previously been dominated by subsistence corn production. The presence of the mill gave farmers the opportunity to adopt this cash crop, depending on their proximity to the mill. The survey was fielded in four rounds at four-month intervals from August 1984 to December 1985, so that each round corresponded to a different agricultural season. The survey contained information on food and nonfood consumption expenditure, agricultural production, income, asset ownership, credit use, anthropometry and morbidity, education, and 24-hour food consumption recall. The initial sample included 510 households, although 448 households were interviewed in all four rounds. Bouis and Haddad (1990) provide a detailed description of the sample design and survey area.

The original case study (Bouis and Haddad 1990) examined the effects of the shift from subsistence corn production to sugarcane after the construction of the BUSCO sugar mill. In 1992, 352 of the original 448 households were reinterviewed in a study focusing on adolescents (Bouis et al. 1998). The 1992 survey included only one round of data collection and used a condensed survey instrument.

Following qualitative studies conducted in the study communities in early 2003, IFPRI and RIMCU returned to conduct two rounds of quantitative data collection using a survey questionnaire that closely reflected the one used in 1984–85. In the first wave of data collection in the fall of 2003, all original respondents still living in the survey area were interviewed, as were two of their children (randomly selected) that formed households in the survey area. The first wave yielded 311 original respondents (61 percent of the original respondents) and 261 households formed by noncoresident children living in the same villages as their parents. The second wave of data collection began in April 2004 and ended in July 2004. In this wave, the survey team interviewed any household formed by children who no longer live in the survey area, based on addresses and phone numbers provided by the original respondents and other family members. This included a large group of households in three major urban areas in Mindanao (Valencia, the province's commercial center; Malaybalay, the provincial capital; and Cagayan de Oro in the province of Misamis Oriental) as well as many households in *poblaciones* and other rural areas of Bukidnon. The sample size from this migrant wave consisted of 257 households—about 75 percent of potential migrants to be interviewed. Figure 2 presents a map of the survey area and the locations of original households, households formed by children in the original *barangays*, and households formed by children who migrated. While budgetary concerns did not allow all children to be followed up, the survey was designed to obtain information on all children, regardless of location. The initial interview with the parents obtained a basic set of information about all children, including location, educational attainment, and marital status. Obtaining this information from parents, plus assiduous

Figure 2. Sampled child and village household counts



follow-up of migrants and children residing in the community, avoided the common problem of sample selection bias if interviews were based only on residence rules (Rosenzweig 2003).[5]

[5] There is evidence suggesting that panel survey rules that condition on residence provide nonrandom subsamples of the baseline households (Thomas et al. 2001; Foster and Rosenzweig 2002). If households do not divide randomly, residence-based sampling rules may bias estimates of economic mobility (Rosenzweig 2003). One important source of selection bias is children's decision to marry and leave the parental home. Only those who remain in their original households are actually resurveyed, making estimates biased because they are based on "stayers." Panel surveys using residence-based interview rules typically exclude both individuals who leave their parental residence, but remain in the same village, and those who have migrated to different localities. Studies of migrants also rarely link them back to the original household. There are, of course, exceptions, including the Malaysian Family Life Survey, the Indonesian Family Life Survey, the INCAP-based Human Capital Study, and the Bangladesh Nutrition Survey of 2000, to name a few.

It is important to note that in many residence and gender categories of the Bukidnon survey, the sample size is quite small and thus results must be interpreted as potentially indicative of trends—rather than as final conclusions—that warrant further scrutiny.

Characteristics of the respondents' children

Tables 1, 2, and 3 present descriptive information on all children of the original respondents, regardless of location. This information was obtained by asking the parents to list all of their children, whether coresident, residing in the same *barangay*, or migrant. In these tables, children are classified into nonmigrants, rural migrants, peri-urban migrants, urban migrants, and overseas migrants based on the addresses given by their parents. The classification in later tables is based on the respondents' self-reports so the numbers in each category may differ. In addition, these tables use "peri-urban" as a category (mostly outskirts of metropolitan areas) while surveys of the migrant offspring use "*poblacion*" instead.

Location

Table 1 presents the distribution of children age 15 and over of original respondents, based on their current location.[6] About 53 percent of children age 15 and over are nonmigrants: of these, two-thirds coreside with parents and one-third live in the same *barangay* but in separate households. A substantially higher proportion of males are nonmigrants (61.8 percent versus 43.5 percent for females), consistent with national trends. The proportion of males coresiding with parents (44.6 percent) is much higher than the proportion of females (24.9 percent). Men have higher coresidence rates not because women marry earlier but because women are more likely than men to migrate as teenagers, with a high proportion of women's migration occurring well before marriage (Lauby and Stark 1988). Roughly equal percentages of males and females—between 17 and 18 percent—have formed separate households in the same village. Many of these live on a portion of the family farm or homestead that has been allotted to the child upon his or her marriage.

Approximately 15 percent of all children have migrated to other rural areas—a slightly higher percentage of females than males—and roughly 7 percent have migrated to peri-urban areas, with again, slightly more females than males. Twenty-three percent of the children surveyed have moved to urban areas, with

[6] The cutoff of 15 years old could overstate the "nonmigrant" population because migration may occur more often at an older age, but this age is consistent with other demographic studies. An older cutoff would not change the results substantially.

Table 1. Distribution of children age 15 and over of original respondents, by location, 2003

Location	Males		Females		Total	Percent distribution
	Number	Percent	Number	Percent		
Nonmigrants	510	61.8	330	43.5	840	53.1
Coresident with parents	368	44.6	189	24.9	557	35.2
Same *barangay* as parents	142	17.2	141	18.6	283	17.9
Rural migrants	115	13.9	127	16.8	242	15.3
Different *barangay*, rural	81	9.8	95	12.5	176	11.1
Rural Mindanao outside Bukidnon	27	3.3	20	2.6	47	3.0
Rural Philippines outside Mindanao	7	0.8	12	1.6	19	1.2
Peri-urban migrants	41	5.0	66	8.7	107	6.8
Different *barangay*, *poblacion*	37	4.5	59	7.8	96	6.1
Peri-urban, outside Bukidnon	4	0.5	7	0.9	11	0.7
Urban migrants	156	18.9	209	27.6	365	23.1
Urban Bukidnon	24	2.9	31	4.1	55	3.5
Cagayan de Oro	51	6.2	59	7.8	110	6.9
Other urban Mindanao	21	2.5	35	4.6	56	3.5
Urban Philippines outside Mindanao	60	7.3	84	11.1	144	9.1
Abroad	3	0.4	26	3.4	29	1.8
Total	825	100.0	758	100.0	1,583	100.0

Source: Bukidnon Panel Survey, 2003 round.

significantly higher migration rates among females. Finally, only 1.8 percent of children have gone abroad, with, yet again, more females than males represented among overseas migrants.

When considering only migrants, an interesting picture emerges. Rural migration in this region of the Philippines is not only to large urban areas. Other rural areas and small towns and cities are major destinations. Of the somewhat less than half who did move outside their home *barangay*, 36 percent of male migrants and 30 percent of female migrants (32 percent overall) went to other rural areas. Another 29 percent of migrants went to smaller cities and towns rather than to major metropolitan areas (i.e., to peri-urban areas, urban Bukidnon, and other urban areas in Mindanao). About one-third of the migrants went to the major metropolitan area in the region, Cagayan de Oro, or to large metropolitan areas in the Philippines outside Mindanao, such as Manila or Cebu City.

Civil status

Since marriage may be an occasion for individuals to leave the parental home, the civil status of children is examined in Table 2. Consistent with Table 1, the majority of coresident males and females are single, although 18.5 percent of coresident females are married and living in an intergenerationally extended family.[7] Almost all children living in separate households in the same *barangay* are married. The majority of children who have migrated to rural and peri-urban areas are also married, regardless of location. However, the pattern among migrants to urban areas is more diverse. Seventy percent of male migrants to urban centers in Bukidnon are married, in contrast to only 48 percent of female migrants. On the other hand, 60 percent of male migrants to urban Cagayan de Oro are single while 60 percent of female migrants to this same city are married (the opposite of the male pattern). Male migrants to other cities in Mindanao are almost equally distributed between married and single states while female migrants are more likely to be married. Similarly, female migrants to other urban areas outside Mindanao are more likely to be married than to be single while males are about equally likely to be single or married. Finally, the pattern of international migration for males is opposite that of females, with single females and married males more likely to migrate overseas. Typically, single females are likely to be employed as domestic workers while married males tend to migrate to the Middle East for contractual employment.

[7] This could also reflect out-of-wedlock childbearing or marital dissolution, both of which are likely to be underestimated in the Philippines. The illegality of divorce, the importance of family cohesion and interpersonal harmony in Philippine society, the child-centeredness of Philippine culture, and an emphasis on the moral propriety of women may lead women without a male partner not to live alone but to reside as a "subfamily" in larger, extended households (Chant 1998).

Table 2. Civil status of children age 15 and over of original respondents, by location, 2003 (percentage distribution)

Location	Males			Females		
	Single	Married	Separated/ widowed	Single	Married	Separated/ widowed
Nonmigrants						
Coresident with parents	91.0	7.6	1.4	78.3	18.5	3.2
Same *barangay* as parents	2.8	97.2	0.0	2.1	95.7	2.1
Rural migrants						
Different *barangay*, rural	27.2	71.6	1.2	6.3	93.7	0.0
Rural Mindanao outside Bukidnon	44.4	55.6	0.0	20.0	80.0	0.0
Rural Philippines outside Mindanao	28.6	71.4	0.0	0.0	100.0	0.0
Peri-urban migrants						
Different *barangay*, *poblacion*	29.7	70.3	0.0	0.0	100.0	0.0
Peri–urban, outside Bukidnon	25.0	75.0	0.0			
Urban migrants						
Urban Bukidnon	29.2	70.8	0.0	51.6	48.4	0.0
Cagayan de Oro	58.8	41.2	0.0	41.4	58.6	0.0
Other urban Mindanao	47.6	52.4	0.0	42.9	57.1	0.0
Urban Philippines outside Mindanao	51.7	46.7	1.7	35.7	64.3	0.0
Abroad	33.3	66.7	0.0	65.4	34.6	0.0
Total	56.6	42.5	0.9	37.4	61.5	1.2

Source: Bukidnon Panel Survey, 2003 round.

Education

With the exception of the overseas migrants and men in some rural and peri-urban situations, females report higher elementary and high school completion rates than do males (Table 3 and Figure 3). This may reflect parental attitudes toward investing in boys' versus girls' schooling, as revealed by ethnographic studies in the same communities (Bouis et al. 1998), but is also consistent with the Philippines' national educational statistics (Quisumbing et al. 2004). According to the ethnographic studies, parents invest in the schooling of girls because they are "more studious," "patient," "willing to sacrifice," and "interested in their studies," which are traits that would make them succeed in school. On the other hand, boys are more prone to vices (such as drinking), fond of "roaming around" and "playing with their *barkada*" (peer group), and have to be "reminded" and "scolded" to do their schoolwork.

Ninety-three percent of females still living with parents have completed elementary school, whereas only 75 percent of males have done so. Fifty-five percent of daughters living at home have completed high school, compared to only 34 percent of sons. Among rural migrants within Bukidnon, a larger proportion of females have completed secondary school and vocational school, and the percentage of females completing college is slightly higher than males. Migrants to rural areas outside Bukidnon show a similar pattern. However, among migrants to rural areas outside Mindanao, a higher proportion of male migrants have completed college.

Female migrants to *poblaciones* in Bukidnon are somewhat more educated than male migrants, with 15 percent completing college versus zero for men. How-

Figure 3. Percent of males and females completing secondary school, children age 15 and over, by destination location

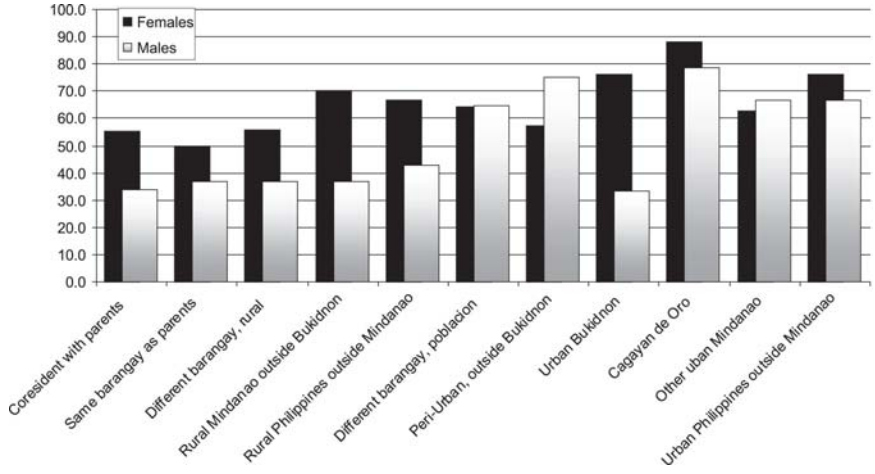


Table 3. Percent completing educational category, children age 15 and over, by sex and location, 2003

Location	Males				Females			
	College	Vocational	Secondary	Elementary	College	Vocational	Secondary	Elementary
Nonmigrants								
Coresident with parents	5.7	17.1	33.7	74.7	14.3	33.3	55.0	92.6
Same barangay as parents	4.9	17.6	36.6	73.9	7.9	22.9	50.0	86.4
Rural migrants								
Different barangay, rural	11.1	23.5	37.0	85.2	13.7	28.4	55.8	85.3
Rural Mindanao outside Bukidnon	14.8 [a]	22.2	37.0	74.1	10.0	15.0	70.0	100.0
Rural Philippines outside Mindanao	28.6	42.9	42.9	71.4	8.3	41.7	66.7	100.0
Peri-Urban migrants								
Different barangay, poblacion	0.0	18.9	64.9	83.8	15.3	35.6	64.4	94.9
Peri-Urban, outside Bukidnon	25.0 [b]	75.0	75.0	100.0	14.3	42.9	57.1	100.0
Urban migrants								
Urban Bukidnon	8.3	16.7	33.3	79.2	17.2	62.1	75.9	96.6
Cagayan de Oro	21.6	49.0	78.4	92.2	37.3	67.8	88.1	98.3
Other uban Mindanao	4.8	33.3	66.7	95.2	20.0	54.3	62.9	100.0
Urban Philippines outside Mindanao	10.0	31.7	66.7	93.3	19.0	44.0	76.2	91.7
Abroad	100.0 [c]	100.0	100.0	100.0	42.3	73.1	100.0	100.0
Total	8.1	22.3	42.5	79.3	16.6	38.0	63.2	92.2

Source: Bukidnon Panel Survey, 2003 round.

[a] Cell size: 7.

[b] Cell size: 4.

[c] Cell size: 3.

ever, male migrants to *poblaciones* outside Bukidnon have higher secondary, vocational, and college completion rates than females. Female migrants to urban areas are substantially more educated than male migrants, with higher percentages completing college than men. However, all male overseas migrants have completed college, compared to 42 percent of female migrants, who are more likely to have completed vocational school. This reflects the pattern of females migrating overseas to work as domestic helpers, but this result must be taken with caution, owing to the small sample size of overseas migrants.

Migration in retrospect: evidence from migration histories

The study used the 2004 round of the survey to delve more deeply into the experience of migrants. Migrant offspring to rural areas within Bukidnon and nearby neighboring provinces as well as those who moved to *poblaciones* and urban areas were tracked and interviewed between April and July 2004. The survey questionnaire was very similar to that administered to their siblings who had formed separate households within the parents' *barangay* but included a module that collected a detailed migration history, listing all the places the individual had moved to for at least three months after leaving the parental home. This module obtained information on the reasons for migrating and occupation in each locality. In addition, a more detailed set of questions was asked regarding the first move and, for those who moved more than once, the most recent move. The questions focused on the type of job search, sources of support, and social networks in the new community. The descriptive tables were stratified by location and by gender within each location. Respondents were asked to report what kind of locality they moved to; the classification into rural, urban, and *poblacion* was based on the respondents' assessment and not based on a census definition. As noted above, because the self-classification was based on the respondents' assessments, they may not correspond exactly to classifications based on the parents' reports.

The succeeding sections present descriptive statistics on basic demographic characteristics, occupational profiles, reasons for moving, migration support networks, and characteristics of the job search. Comparisons between the first and the most recent moves are made to discern whether the migrants' experiences have changed through time. The first move is important because it captures an individual's nest-leaving decision. The study notes that since the number of moves differs across individuals, when the subsequent moves are examined, persons are being compared at different stages of their life cycle. This group of subsequent movers, then, may be a selected sample. Differences in the life-cycle stage are controlled for later on in the regression analysis by including age and age-squared when analyzing present location.

Basic demographic characteristics

Migrants to rural areas, *poblaciones*, and urban areas are quite different in terms of basic demographic characteristics (Table 4). Female migrants to rural areas and *poblaciones* tend to be a few years younger than male migrants when they leave their parents' household while there is no perceptible age difference between male and female migrants to urban areas. Across all locations, females achieve higher levels of schooling than males. The schooling gap, however, is smallest among rural migrants.

Similar to other countries, marriage is often an occasion for migration. Eighty-four percent of male and 92 percent of female migrants to rural areas are currently married, and 65 percent of male and 75 percent of female migrants to urban areas are currently married. Not surprisingly, household sizes in the rural areas are largest, followed by the *poblacion*, and lastly by urban areas.

The migrants interviewed are fairly mobile, with a median number of three moves for males and two moves for females. Thus, while females are more likely to migrate, conditional on migration, males seem to move more often. Spouses appear to be less mobile than the migrants, but this could be due to recall error.

Table 4. Basic demographic information on migrant children reinterviewed in 2004 round, by destination of first move

Characteristic	Rural area		*Poblacion*		Urban area	
	Males	Females	Males	Females	Males	Females
Number of observations	38	51	19	46	23	55
Age	31.0	29.1	26.4	26.9	29.9	28.9
Years of schooling	8.2	9.2	9.6	11.2	9.4	11.3
Age left parents' household	24.5	22.4	25.5	21.0	24.1	23.7
Size of current household	4.6	4.4	2.9	3.6	3.8	4.0
Civil status						
Percent single	15.8	7.8	15.8	30.4	34.8	25.5
Percent married	84.2	92.2	84.2	69.6	65.2	74.6
Migrant moves						
Mean number of moves	3.0	2.0	2.7	1.9	2.8	1.6
Median number of moves	2.0	1.0	3.0	2.0	2.0	1.0
Moves by the migrant's spouse						
Mean number of moves	1.5	1.8	2.0	1.1	1.8	1.5
Median number of moves	1.0	1.0	2.0	1.0	1.0	1.0
Distance from town center (kilometer)						
First move	11.7	9.0	5.5	11.4	3.4	2.9
Last move	10.0	8.7	0.7	1.6	2.7	2.6

Source: Bukidnon Panel Survey, 2004 round.

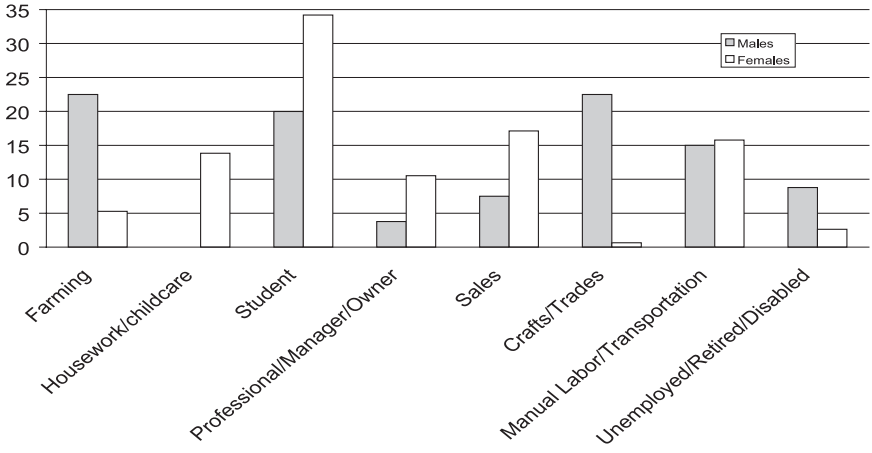
Note: Location classifications are based on respondent self-reports.

Finally, distance to the *poblacion* decreased between the first and last moves, indicating that migrants may be choosing to live closer to areas where basic services are more readily accessible and jobs more available.

Occupational characteristics

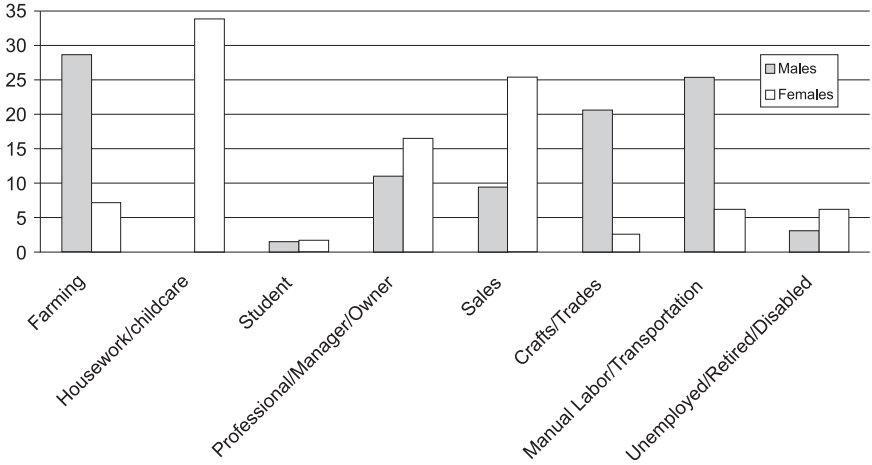
Occupations of migrants vary across locations and by gender and also change substantially between the first and most recent moves. Men tend to work in farming, crafts and trades, and manual labor and transportation in both their first (Figure 4) and their most recent (Figure 5) moves[8]. Although a large proportion of first-time migrants are students, few remain in school after their first move. Aside from school, the proportions of men in certain occupations do not change significantly after their first move; farming, crafts and trades, and manual labor and transportation are the most common occupations. In contrast, women who have moved at least twice are more likely to work in housework or childcare and are less likely to be students or work in manual labor and transportation. This change suggests that many women students and women who work in manual labor and transportation in their first move end up migrating again and working in housework or childcare. It is possible that a subsequent move for these women is for marriage and their husbands become the household's income earners while the women transition to reproductive tasks. While further schooling acquired during their first move may delay marriage, most women eventually end up getting married. For example, Demographic and Health Survey data for the Philippines (NSO and ORC Macro 2004) show that while only 9.4 percent of

Figure 4. Occupation (on first move) of those who have moved only once, by gender



[8] Figures 4 and 6 show data for migrants who have moved only once. Figures 5 and 7 show data for the most recent move of migrants who have moved more than once.

Figure 5. Occupation (most recent move) of those who have moved more than once, by gender



women 15–19 years of age are ever-married, 89.2 percent are ever-married by age 30–34, and 95.5 percent are ever-married by age 45–49.

Since location along the urban-rural continuum affects a migrant's choice of livelihood activities, it is not surprising to see variation in the prevalence of occupations of migrants who have moved only once (Figure 6) and the latest occupation of those who have moved more than once (Figure 7). Farming and housework and childcare are more prevalent in rural areas while sales, manual labor, and getting an education are more common in urban areas. In particular, among migrants on their first move, there are more students in *poblaciones* and urban areas. However, the proportion of migrants who are students in subsequent moves decreases while the proportion of some occupations increases. In rural areas, migrants on their most recent move are farmers or do housework and childcare. In *poblaciones* and urban areas, fewer migrants are students on their subsequent move while more engage in housework and childcare, are professionals, managers or owners, or work in sales (in *poblaciones*).

Reasons for moving

Migrants' reasons for moving differ markedly by destination and by gender (Tables 5 and 6). While most male migrants to rural areas migrate for the first time to start a new job (21%), or to get married (18%), the predominant reason for females to move to a rural area is marriage (35%), followed by starting a new job (23%) (Table 5). In contrast, both male and female first-time migrants to *poblaciones* and urban areas move either to start a new job or because schools are better in the destination. Taking into account both "push" and "pull" factors related to education, a

Figure 6. Occupation (first move) of those who have moved only once, by location

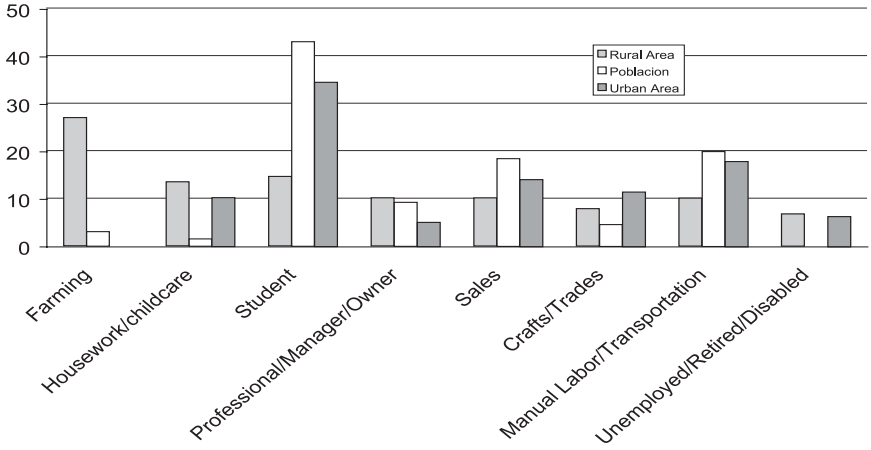
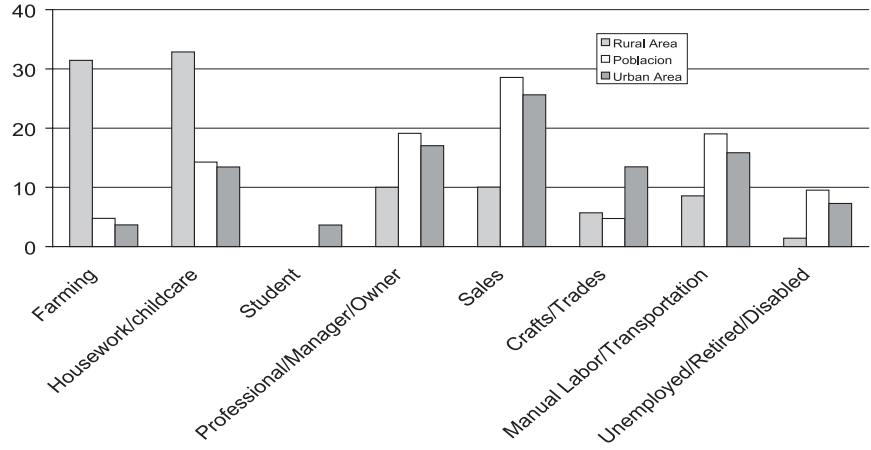


Figure 7. Occupation (most recent move) of those who moved more than once, by location



greater share of females than males cite schooling as their primary reason for moving to a *poblacion* or urban area.

Reasons for moving are more diverse for the most recent move, reflecting different life-cycle stages as well as the effect of previous moves (Table 6). Combining economic reasons for migration (starting a new job, looking for a job, job loss, and looking for land to cultivate), more males (a combined total of 53 percent) migrate for economic reasons than for life-cycle or family reasons. In contrast, more than half of female migrants to rural areas migrate for family reasons, with marriage accounting for 54 percent of female migrants. The pattern is different in

Table 5. Primary reason for moving, by sex and destination, first move (percent)

Reason	Rural area		*Poblacion*		Urban area	
	Males	Females	Males	Females	Males	Females
Number of observations	38	51	19	46	23	55
"Pull factors"	52.7	49.1	73.7	71.8	86.9	65.5
Better schools in destination	7.9	7.8	31.6	32.6	30.4	30.9
Schooling		2				
To start new job in destination	21.1	23.5	36.8	32.6	43.5	25.5
To look for job in destination	13.2	2	5.3		13	9.1
To look for land to cultivate	7.9	9.8				
Acquired property	2.6					
Presence of benefactor for scholarship		2		4.4		
Near current job		2				
Easy access				2.2		
"Push factors"	15.9	11.8	21.2	24	13.1	16.3
No school or poor school at origin	5.3	5.9	5.3	8.7	8.7	10.9
No job in origin	5.3	3.9	5.3	4.4		3.6
Poor job in origin	5.3	2		10.9	4.4	1.8
Escape war/violence			5.3			
Drought/famine/disease			5.3			
Life-cycle or family factors	31.5	39.7	5.3	4.4		18.1
Marriage	18.4	35.3	5.3	4.4		12.7
Moved with household head/household member	2.6	3.9				3.6
Started living independently	2.6					
Vacation [a]	7.9					1.8

Source: Bukidnon Panel Survey, 2004 round.

Note: Number of observations refer to all migrants who answered this question. Location classifications are based on self-reports.

[a] Some migrants, especially those who attend school in urban areas, return to their homes in rural areas during the summer vacation. The migrant round was conducted during the Philippine summer vacation.

poblaciones and urban areas, however. Most male and female migrants to *poblaciones* migrate for economic reasons, such as starting a new job. The next highest percentage of male migrants moves for marriage while schooling is the next most important motivation for female migrants. Economic motives also dominate the most recent move by male migrants to urban areas while economic and life-cycle motives are equally important for female migrants—30 percent of females move to start a new job or to look for a job while 27 percent move to urban areas to get married.

Migrants were also asked whether they were planning to move from their present location, and if not, why not. Among those who were not planning to

Table 6. Primary reason for moving, by sex and destination, most recent move of migrants who moved more than once

Reason	Rural area		*Poblacion*		Urban area	
	Males	Females	Males	Females	Males	Females
Number of observations	36	65	8	27	36	59
"Pull factors"	58.3	33.8	62.5	63	75	55.9
Better schools in destination				7.4	5.6	3.4
Schooling					2.8	
To start new job in destination	27.8	9.2	62.5	33.3	38.9	20.3
To look for job in destination	11.1			11.1	13.9	10.2
To look for land to cultivate	11.1	13.9				
To look for cheaper rent		1.5				
To look for better place to live		1.5				
Acquired property	8.3			7.4	5.6	13.6
Business		1.5		3.7	5.6	
Better salary		1.5				
Near current job		1.5				
Near home					2.8	1.7
Free housing		3.1				3.4
Easy access						3.4
"Push factors"	5.6	4.6	0.0	18.5	11.1	8.5
No school or poor school at origin				7.4		3.4
No job in origin		1.5				
Poor job in origin				7.4	2.8	1.7
Lost previous job	2.8					
High cost of living						1.7
Bankruptcy					2.8	
Didn't like the previous place					2.8	
Far from work	2.8					
Far from basic services				3.7		
Relocation		3.1			2.8	1.7
Life-cycle or family factors	36.1	61.5	37.5	18.5	13.9	35.6
Marriage	30.6	53.8	37.5	11.1	5.6	27.1
Moved with household head/ household member	2.8	6.2		3.7	5.6	3.4
Spouse working here		1.5				
Started living independently	2.8				2.8	1.7
Domestic problems				3.7		
Domestic responsibility						1.7
Vacation						1.7

Source: Bukidnon Panel Survey, 2004 round.

Note: Number of observations differs from the previous tables because this table refers to migrants who moved more than once and who responded to this question. The distribution across types of places reflects subsequent moves. Location classifications are based on self-reports.

move, rural males cite a variety of reasons for not planning to move, the most important being the presence of friends and family (42 percent), followed by a number of other reasons related to jobs and farming (Table 7). More than 60 percent of rural females, on the other hand, say that the presence of friends and family in the area is the most important reason for not moving to another community—highlighting the importance of social networks for females in rural areas. This is not surprising because females in rural areas are more likely to have moved because of marriage rather than to pursue schooling or better employment opportunities. Equal proportions of males in *poblaciones* mention having a good job and proximity to friends and family as reasons for not moving, whereas half of females in the *poblacion* mention that their primary reason for not moving is having a good job (having friends and family close by is mentioned by a substantially smaller 14 percent). Lastly, both having a good job and proximity to friends and family are the most important reasons that male and female urban migrants are planning to stay, with the order of importance reversed for males and females. More males cite having a good job as a reason to stay while more females cite proximity to friends and family. The relative importance accorded to economic and familial factors by males and females is consistent with Smith and Thomas' (1998) findings for Malaysia.

Migration support networks

Support networks play different roles depending on the migrant's destination. For the first move (Table 8), over 50 percent of male migrants to all destinations in this survey moved alone. About 26 percent of males moving to *poblaciones* moved with people from their place of birth, and 22 percent of those moving to urban areas were accompanied by relatives. While 39 percent of female migrants to rural areas also noted that they moved alone, 29 percent said they moved with their spouse or fiancé, consistent with the high proportion of women moving to rural areas because of marriage. This number increases to 45 percent if the additional 16 percent that moved with children in tow is included. In contrast, 59 percent of women moving to *poblaciones*, and 47 percent of women moving to urban areas, moved alone. Upon arrival in the new community, a large proportion (25 to 47 percent) of all first-time movers lived with relatives other than immediate family members. Another 30 percent of male migrants to urban areas lived with their siblings, probably reflecting a practice whereby children going to school rent an apartment jointly. First-time migration, particularly to *poblacion* and urban areas, is also predominantly financed by migrants' parents.

Support patterns for subsequent moves are markedly different from the first (Table 9). More than 70 percent of male and 85 percent of female migrants to

Table 7. Reasons for not moving to another community, migrants who do not intend to move, 2004

Reason	Rural area		*Poblacion*		Urban area	
	Males	Females	Males	Females	Males	Females
Number of valid responses	26	45	7	14	31	52
Positive factors						
Good job here	11.5	20.0	42.9	50.0	38.7	21.2
Good business here				7.1	6.5	5.8
Good opportunities for children here				7.1		9.6
Studying here					3.2	
Married						1.9
Spouse working here		4.4				1.9
Have friends and family here	42.3	62.2		14.3	19.4	30.8
Good job here and have friends and family	11.5	2.2	42.9		12.9	3.9
House/lot owned by family		4.4				7.7
Own house and lot and have friends and family					1.9	
Affordable house rental				7.1		
Free housing					6.5	
Favorable climate for farming	3.9					
Near the city	3.9			7.1		
Near farm	7.7	2.2				
Started planting corn in a free use land					3.2	
Negative factors						
Afraid of not finding job elsewhere	15.4	4.4	14.3	7.1	3.2	7.7
Don't know anyone elsewhere	3.9				6.4	5.8
No available place to transfer						1.9

Source: Bukidnon Panel Survey, 2004 round.
Note: Locations refer to migrants' current location; classification is based on self-reports.

rural areas made this move with their spouses—many accompanied by children as well. Fifty percent of females now moving to the *poblacion* moved with their spouse, with children accompanying them half the time. Additionally, 50 percent of male and female migrants to urban areas moved this time with spouses and often children. In contrast, about 71 percent of male migrants to *poblaciones* tended to make their subsequent move alone; only 29 percent moved with their families. This could reflect men's moving to the *poblacion* for work, commuting on weekends to the nearby rural area to visit their families. Probably reflecting accumulated wealth or experience, most migrants did not live with other people in their most recent move, with the exception of spouses (in the case where families moved together). About a quarter of migrants to rural areas, both male and female, lived with their in-laws.

Table 8. Networks and support for the first move, by destination location and sex (percent)

Type of network/support	Rural area		*Poblacion*		Urban area	
	Males	Females	Males	Females	Males	Females
Number of observations	38	51	19	46	23	55
Company in moving to new community						
Alone	52.6	39.2	52.6	58.7	56.5	47.3
Parents	2.6	2.0	5.3		4.4	
Siblings	5.3	2.0		13.0	4.4	12.7
Spouse/fiancé	10.5	29.4	5.3	4.4		9.1
Children	7.9	15.7	5.3	2.2		3.6
Other relative	10.5	9.8	5.3	10.9	21.7	16.4
People from place of birth	5.3	2.0	26.3	10.9	13.1	9.1
Acquaintances	5.3					1.8
Persons lived with in new community						
Nobody	18.4	25.5	26.3	19.6	17.4	12.7
Parents	2.6				4.4	7.3
Siblings	2.6	5.9	5.3	10.9	30.4	3.6
Spouse/fiancé	2.6	13.7		4.4		12.7
In-laws	10.5	7.8				
Other relative	47.4	25.5	47.4	37.0	43.5	41.8
People from place of birth	2.6	2.0		6.5		1.8
Other acquaintances	5.3	7.8	5.3	4.4	4.4	1.8
Employer	5.3	11.8	5.3	15.2		16.4
Stranger	2.6		10.5	2.2		1.8
Financial support for moving expenses						
No one/own savings	29.0	31.4	31.6	8.7	21.7	20.0
Parents	39.5	25.5	57.9	65.2	52.2	50.9
Siblings	2.6	5.9	5.3	10.9	13.0	10.9
Spouse/fiancé		13.7		2.2		3.6
In-laws	2.6	3.9				
Other relatives	23.7	7.8	5.3	4.4	13.0	3.6
People from place of birth	2.6	2.0				
Employer		9.8		8.7		10.9

Source: Bukidnon Panel Survey, 2004 round.

While first-time movers typically rely on family and friends for financial support while looking for work in their new community, most subsequent moves tend to be self-financed. Tables 10 and 11 present information regarding the job search of migrants in their first and most recent move, respectively. Owing to the small sample sizes in some of the categories, these patterns are merely indicative and do not point toward particular conclusions. Nonetheless, the data demonstrate that first-time migrants to rural areas and to urban areas relied on family and friends they lived with while looking for a job. On the other hand, male migrants to

Table 9. Networks and support for the most recent move for migrants who moved more than once, by location and sex (percent)

Type of network/support	Rural area		*Poblacion*		Urban area	
	Males	Females	Males	Females	Males	Females
Number of valid responses	25	45	7	14	31	50
Company in moving to new community						
Alone	24	13.3	71.4	42.7	35.5	37.2
Siblings						2
Spouse/fiancé	52	48.9	14.3	35.7	12.9	27.4
Children/spouse/fiancé	20	35.6	14.3	14.3	38.7	25.5
Other relative	4			7.1	6.4	5.9
People from place of birth		2.2			6.4	2
Persons lived with in new community						
Nobody	56	35.6	42.9	35.7	41.9	25.5
Parents		2.2				3.9
Siblings					9.7	3.9
Spouse/fiancé	12	15.6	28.8	14.3	9.7	29.4
Children/spouse/fiancé		2.2			6.5	
In-laws	24	26.7		7.1	6.5	
Other relative	8	13.3		14.3	6.5	7.8
People from place of birth				7.1	3.2	1.7
Other acquaintances			14.3	7.1	9.7	19.6
Employer			14.3	14.3	3.2	7.8
Stranger		4.4			3.2	
Financial support for moving expenses						
No one/own savings	64	44.4	71.4	28.6	77.4	47.1
Parents	12	8.9	14.3	35.7	6.4	11.8
Sibling	4	8.9				5.9
Spouse	4	17.8	14.3	14.3	6.4	25.5
In-laws	12	11.1				2
Other relatives		6.7		7.1		
People from place of birth	4				3.2	
Employer		2.2		14.3	6.4	7.8

Source: Bukidnon Panel Survey, 2004 round.

the *poblacion* relied on their own savings. Female migrants to the *poblacion* relied on family and friends from their previous place of residence, as well as "own-savings" for females in rural areas and support from "those in previous residence." In contrast to the first time they moved, subsequent migrants to all areas, particularly males but females as well, were more likely to be able to support themselves while looking for work (Table 11). Self-finance and being supported by coresident family/friends are also the most important categories of support reported by female migrants to the *poblacion* (44 percent and 33 percent, respec-

Table 10. Characteristics of the job search after the first move, by location and sex (percent)

	Rural area		*Poblacion*		Urban area	
	Males	Females	Males	Females	Males	Females
Number of valid responses	27	34	11	30	16	37
Source of support while looking for a job in the new community						
Own savings	18.5	26.5	27.3	10.0	18.8	8.1
Family/friends lived with	33.3	38.2	18.2	23.3	50.0	43.2
Family/friends in previous place of residence	33.3	23.5	18.2	53.3	31.3	37.8
Other family/friends	14.8	5.9	18.2	6.7		5.4
Employer (free food/house)		2.9		6.7		2.7
Own savings and lived with family/friends		2.9				
Family and friends lived with and in previous place			9.1			
Menial work/begging			9.1			2.7
How did you look for a job in the new community						
Own search before moving	20.0	34.5	18.2	32.1	6.7	11.5
Arranged by family	20.0	3.5	27.3	28.6	6.7	15.4
Arranged by friends	20.0	37.9	27.3	10.7	26.7	34.6
Own search after moving	36.7	17.2	9.1	17.9	53.3	34.6
Arranged by relatives	3.3	3.5	18.2	7.1	6.7	3.9
Other		3.5				
Selected by employer				3.6		

Source: Bukidnon Panel Survey, 2004 round.

tively) in their most recent move, with 22 percent receiving support from non-coresident family and friends. Seventy-eight percent of male migrants to urban areas who moved more than once said that they supported themselves in their most recent move while 56 percent of female migrants said they received support from family and friends for their most recent move.

Job search

First-time male migrants to rural areas found jobs by doing their own search after moving while female migrants to rural areas either had jobs arranged by friends, or looked for a job prior to moving (Table 10). The majority of male migrants and a substantial number of female migrants to *poblaciones* found jobs that were arranged by family and friends; yet, many women—more so than men—did their own search for employment. In contrast, half of male migrants to urban areas searched for jobs after moving, and a quarter found

Table 11. Characteristics of the job search after the most recent move, by location and sex (percent)

	Rural area		*Poblacion*		Urban area	
	Males	Females	Males	Females	Males	Females
Number of valid responses	16	34	4	9	23	36
Source of support while looking for a job in the new community						
Own savings	68.8	47.1	50.0	44.4	78.3	30.6
Family/friends lived with	31.2	38.2	50.0	33.3	8.7	55.6
Family/friends in previous place of residence		5.9		11.1	4.4	8.3
Other family/friends		5.9		11.1	8.7	
Own savings and lived with family/friends		2.9				
Menial work/begging						2.8
Own savings and menial work						2.8
How did you look for a job in the new community						
Own search before moving	19.0	30.0	33.3	20.0	44.4	20.7
Arranged by family	4.8	10.0		20.0	14.8	24.1
Arranged by friends	23.8	20.0	33.3	20.0	7.4	3.5
Own search after moving	38.1	40.0	33.3	40.0	25.9	44.8
Arranged by relatives	9.5				3.7	3.5
Selected by employer	4.8				3.7	3.5

Source: Bukidnon Panel Survey, 2004 round.

jobs through friends. About 35 percent of female migrants to urban areas found jobs by themselves after moving, and an equal percentage found jobs through their friends.

For subsequent moves, migrants were less dependent on friends and relatives to arrange their employment in the new locale, and were in a somewhat better position to conduct their own job search. In this case, almost 57 percent of men and 70 percent of women heading to rural destinations did their own search (versus 29 percent and 30 percent, respectively, that had help from family and friends). Seventy percent of men and 65 percent of women did their own search for urban employment. Interestingly, on subsequent moves to urban areas, male migrants are more much more likely to move *after* they have found a new job rather than to embark on the move and then look for work, which is usually the case on their first move.

MODELING THE LOCATION DECISION

Regression analysis was used to examine the determinants of a child's present location, bearing in mind that this decision was likely to have been both an indi-

vidual and a family decision. Regression analysis can control simultaneously for individual, household, and locational characteristics that may influence an individual's migration decision. Because it is possible that key family characteristics that influence the migration decision may be unobservable—e.g., preferences for family size—fixed-effects models were also used to investigate the intra-family decision to migrate.

Determinants of locational choice

Multinomial logit regressions were estimated on the following choices of location: (1) child resides in the same *barangay* as the parents, but in a separate household; (2) child migrates to another rural area; or (3) child migrates to a *poblacion*, peri-urban area, or an urban area.[9] The omitted category is coresidence with the parents. Given the striking gender differences in migration patterns, separate regressions for males and females are estimated. One issue in estimating migration models is the time period to which the independent variables refer. Typically, a migrant is observed at a given point in time, with the migration decision having been made in the past. Using current values of the independent variables would not provide an accurate picture of the period in which the decision was made. Thus, variables that refer to conditions prevailing when the individual was 15 years old were used, most of which were obtained from the 1984–85 and 1992 data.

The probability of choosing location *i* can be expressed as

Probability (location *i*) = *f*(Individual characteristics, Parent characteristics, Sibling composition, Household assets, Type of origin locality, Village dummies).

Individual characteristics

Individual characteristics that influence the choice of location are the individual's stage in the life cycle and human capital. Various studies have shown that migration is inversely related to a person's age (Lanzona 1998). Younger people, who have a longer life span to capture the benefits of migration, are more likely to move. Age and age-squared were used to control for life-cycle effects. Educational attainment was used as a proxy for individual human capital. However, because young people are most likely to migrate to go to school, current educational attainment could also be endogenous to the migration decision. To avoid the endogeneity

[9] Since only five percent of males and nine percent of females migrated to *poblaciones* and peri-urban areas, it was difficult to obtain reliable estimates when *poblaciones* and peri-urban locations were treated as a separate category. Category (3) thus includes all three categories.

of schooling to the migration decision, educational attainment at age 15 in the regressions was considered as a possible explanatory variable. However, this information is available only for the children who were followed up and not for all the children. Thus, to avoid losing observations, two dummy variables were used: (1) whether the child completed high school; and (2) whether the child completed elementary but not high school.

Marital status was not used in the regressions because marriage and the decision to migrate may be codetermined, and thus marital status would be endogenous. Individuals generally do not marry unless they have the ability to establish their own household (Lanzona 1998) whether through their own or through parental resources. Also, in societies where extended families are common, the correlation between marriage and the decision to leave home is low. In rural Philippines, newlyweds may live with the parents for a few years, moving out when they have the resources to build their own house.

Parental characteristics

The parents' years of schooling can affect the child's decision to migrate in two ways (Mincer 1978; Lanzona 1998). First, these variables capture unobserved family background effects that can affect the child's locational decision. Households with better-educated parents are better able to acquire information about the range of possible options in various localities and this may induce greater migration. Second, these variables can also be correlated with various assets, such as social networks and family connections, that can lead to greater self-employment activities or leisure, or, conversely, can facilitate job search in the new locale. Following a literature on the collective model of the household (e.g., Schultz 1990; Thomas 1990, 1994; Quisumbing 1994), both the father's and the mother's schooling was included in the regression, since it is possible that these have differential effects on the migration decision.

Sibling composition

Studies of educational attainment of siblings have shown that the gender composition of one's siblings may affect an individual's educational attainment, depending on whether sibling rivalry exists (Butcher and Case 1994; Garg and Morduch 1998a, 1998b; Morduch 2000). In Ghana, for example, the number of brothers negatively affects one's educational attainment while the number of sisters has no effect. Gender-differentiated inheritance patterns and expectations of old age support may affect an individual's probability of migration. In the Philippines, both sons and daughters have equal rights to inherit owned (titled) land. Tenancy rights, however, are typically inherited by sons, who are less likely to migrate than females. Moreover, if parents compensate their daugh-

ters using increased educational investment, they may be more likely to migrate in search of nonagricultural employment (Estudillo et al. 2001). Field interviews in the survey communities indicate, however, that while parents may have preferred to give land to sons in the past, parents now give land to whoever will use it, owing to the high outmigration rates in the study communities. However, such land is typically not deeded over to the child; parents who own land prefer to keep ownership in their name to prevent the children from mortgaging the land and going into debt.

Asset position

Two indicators of the household's asset position that may affect the probability of migration are used. One is the area of owned land that was cultivated by the parents in 1984–85. Children from families owning more land per capita would be less likely to migrate as they are more likely to inherit and farm this land in the future. The other indicator of wealth is the value of nonland assets, which is likely to reduce the probability of migration owing to greater self-employment activities in the parental farm or family business. While agriculture continues to be the main activity of most of the survey households, the survey area has witnessed the growth of many small nonagricultural enterprises, such as farm machinery and agricultural processing.

Distance to facilities

Long distances from facilities and public services may induce individuals to move closer to urban areas or *poblaciones*. To capture household access to public services, three variables were used, defined as of 1984, when the sample was entirely rural: (1) distance from the household to the *poblacion*; (2) travel time in minutes to the nearest hospital; and (3) distance in kilometers to the BUSCO sugar mill. Distance to the *poblacion* is a good proxy for access to services as well as job opportunities because most publicly provided services and commercial establishments would be present in the *poblacion*. While all of the survey *barangays* would have elementary schools, for example, typically the public high school would be located in the *poblacion*. Transport and communications facilities would also be present in the *poblacion*, making it similar in function to a peri-urban area or small town.

Municipality dummies

Finally, the regressions contain dummy variables to control for unobserved municipality-specific effects.[10] These include, for example, differences in the availability of local employment conditions across municipalities.

[10] Village dummies were not used because they would be highly collinear with the variables capturing distance to facilities, even if these were measured at the household level.

Within-family determinants of location

One problem with the above analysis is that it does not control for the possibility that omitted family-level variables are correlated with regressors, and thus their estimated effects on the migration decision may be biased. For example, estimates using sibling composition variables may be biased because they do not control for unobserved parental preferences regarding family size and propensities to invest in children (Lindert 1997; Morduch 2000). For those families with at least two children, and for whom there is intra-family variation in location, the within-family location decision can be used as the source of variation in the sample from which to estimate intra-household differences in migration decisions. A fixed effects logit estimation procedure could control for these unobservables by using family-specific dummy variables while providing some insight into the internal dynamics of family decisionmaking regarding migration. The fixed effects procedure eliminates selectivity bias since family size, which affects selection into the sample, is a family-specific variable (Heckman and MaCurdy 1980; Pitt and Rosenzweig 1990). In this specific application, however, only the child's sex, age, age-squared, whether the child completed elementary education, whether the child completed high school education, and the interaction between child sex and family-level characteristics and sibling composition variables remain as explanatory variables.[11] That is, the effects of variables that do not vary across children cannot be identified.

Means[12] of the variables used in the regressions are presented in Table 12, together with tests of differences between males and females. It can be observed that males are significantly more likely to coreside with parents, whereas females are significantly more likely to migrate to a *poblacion*, peri–urban area, or an urban area. Males and females are equally likely to reside in the same village as their parents or to migrate to a rural area. Males and females are not significantly different in terms of their family background characteristics. However, females are significantly more likely to have finished high school.

Results

Multinomial logit results

Table 13 shows marginal effects computed from weighted multinomial logit regressions on children's location decisions. Marginal effects are the change in the dependent variable (the probability of being in a particular location) resulting from a one-unit change in the independent variable. Comparisons of marginal effects help discern the relative strength of the influence of the independent variables,

[11] While the sibling composition variables are constructed so that they vary across children, the study wishes to explore the differential effect of sibling composition by gender.

[12] They are computed with weights that take into account the original sample design (McNiven and Gilligan 2005); they also control for sibling effects.

Table 12. Means of variables used in regression analysis

	Males Mean	Females Mean	Wald Test of differences (p-value)
Dependent variables (0/1)			
Coresiding with parents	0.42	0.29	**0.00**
Residing in the same village as parents	0.19	0.19	0.93
Migrating to rural area	0.15	0.18	0.14
Migrating to a peri-urban area	0.05	0.08	**0.04**
Migrating to urban area	0.20	0.27	**0.01**
Migrating to a peri-urban or urban area	0.24	0.35	**0.00**
Regressors			
Child characteristics			
Age	25.52	25.79	0.55
Elementary school completion, but not high school [a]	0.37	0.32	0.19
High school completion [a]	0.43	0.60	**0.00**
Household characteristics			
Father's education	5.34	5.30	0.81
Mother's education	5.84	5.87	0.86
Area of owned land cultivated in 1984–85 (hectares)	1.07	1.15	0.33
Value of nonland assets in 1984–85 (thousand pesos)	457	505	0.25
Sibling composition			
Number of younger brothers	1.80	1.89	0.57
Number of younger sisters	1.73	1.87	0.27
Number of elder brothers	1.25	1.26	0.90
Number of elder sisters	1.37	1.32	0.58
Location			
Distance to *poblacion* (kilometers)	4.33	4.44	0.61
Time to hospital (minutes)	63.70	59.24	0.14
Distance to BUSCO Sugar Mill (kilometers)	25.04	24.15	0.22
Number of observations	863	782	

Notes: Means are weighted, clustered means computed using weights described in the text. P values in bold are significant at 10 percent or better.

[a] Dummy variable taking a value of 0 or 1.

over and above knowing the direction of their influence. These results are also interpreted, taking the Filipino cultural context into account.

Filipino children typically live at home until they marry, unless they migrate to another location for schooling or work. Not surprisingly, for both males and females, growing older significantly reduces the probability of living at home. For males, completing high school significantly reduces the probability of coresiding with parents. Males with more elder brothers are also more likely to be living at home, whereas males with more younger sisters are less likely to be living at home.

Table 13. Determinants of migration of children age 15 and over, Bukidnon

Multinomial logit estimates, marginal effects by outcome

Regressions include correction for sampling design and attrition; standard errors account for clustering within households.

	Marginal effects on the probability of:							
	Coresiding with parents				Residing in the same village as parents			
	Males		Females		Males		Females	
Regressors	**dy/dx**	**z**	**dy/dx**	**z**	**dy/dx**	**z**	**dy/dx**	**z**
Child characteristics								
Age	-0.134	**-4.66**	-0.149	**-4.27**	0.057	**2.54**	0.062	**2.63**
Age-squared	0.002	**3.57**	0.002	**3.97**	-0.001	**-1.81**	-0.001	**-2.32**
Elementary school completion [a]	-0.110	-1.28	0.117	0.81	0.004	0.06	-0.007	-0.11
High school completion [a]	-0.344	**-4.16**	0.084	0.68	-0.044	-0.81	-0.119	-1.52
Household characteristics								
Father's education	0.019	1.56	0.004	0.34	-0.003	-0.38	-0.027	**-3.58**
Mother's education	0.009	0.57	0.006	0.42	0.002	0.17	0.015	**1.82**
Area of own land cultivated in 1984–85	0.005	0.29	-0.013	-0.88	0.012	1.37	0.015	1.52
Value of nonland assets in 1984–85	0.000	-0.20	0.000	**2.90**	0.000	**1.74**	0.000	1.03
Sibling composition								
Number of younger brothers	-0.001	-0.03	-0.003	-0.12	-0.015	-1.13	-0.019	-1.32
Number of younger sisters	-0.040	**-1.86**	-0.038	-1.58	0.028	**1.87**	0.017	1.24
Number of elder brothers	0.052	**2.21**	-0.038	-1.57	-0.038	**-2.52**	-0.020	-0.94
Number of elder sisters	-0.011	-0.50	0.043	**2.19**	0.004	0.27	-0.051	**-2.68**
Distance from household								
Distance to *poblacion* (kilometers)	-0.005	-0.39	-0.024	**-1.83**	0.001	0.12	-0.003	-0.44
Travel time to nearest hospital in 1984 (minutes)	-0.001	-0.82	-0.001	-0.52	0.000	-0.68	0.000	1.00
Distance to nearest sugar mill (kilometers)	0.003	0.51	0.011	**2.08**	0.002	0.33	0.006	**1.90**
Actual probability	0.51		0.43		0.16		0.15	
Predicted probability	0.47		0.27		0.14		0.15	

Table 13. continued

Regressors	Marginal effects on the probability of: Migrating to a rural area – Males dy/dx	z	Females dy/dx	z	Migrating to a peri-urban or urban area – Males dy/dx	z	Females dy/dx	z
Child characteristics								
Age	0.018	0.03	-0.003	-0.14	0.038	**1.76**	0.091	**2.81**
Age-squared	0.000	0.09	0.000	0.29	0.000	-1.38	-0.002	**-2.79**
Elementary school completion [a]	0.051	0.64	-0.058	-0.95	0.130	1.40	-0.051	-0.50
High school completion [a]	0.042	0.10	-0.052	-0.70	0.458	**5.76**	0.087	0.89
Household characteristics								
Father's education	0.008	0.37	0.001	0.11	-0.024	**-2.38**	0.022	**1.85**
Mother's education	0.009	0.32	-0.038	**-3.57**	-0.001	-0.11	0.017	1.15
Area of own land cultivated in 1984–85	0.009	0.07	0.005	0.40	-0.033	**-2.30**	-0.008	-0.48
Value of nonland assets in 1984–85	0.000	0.13	0.000	-1.51	0.000	0.70	0.000	-1.28
Sibling composition								
Number of younger brothers	0.014	0.13	0.018	1.10	-0.005	-0.30	0.003	0.16
Number of younger sisters	0.013	0.19	0.015	1.17	0.029	1.64	0.005	0.24
Number of elder brothers	0.015	0.92	0.015	1.01	-0.015	-0.67	0.043	**2.10**
Number of elder sisters	0.014	0.42	-0.044	**-2.71**	0.019	1.13	0.052	**2.55**
Distance from household								
Distance to *poblacion* (kilometers)	0.007	0.15	0.017	**1.99**	-0.005	-0.42	0.010	0.88
Travel time to nearest hospital in 1984 (minutes)	0.000	0.21	-0.001	-0.82	0.000	0.78	0.001	1.01
Distance to nearest sugar mill (kilometers)	0.003	0.62	-0.006	-1.46	-0.003	-0.63	-0.011	**-1.97**
Actual probability	0.13		0.14		0.20		0.28	
Predicted probability	0.14		0.19		0.25		0.39	

Note: z-statistics in bold are significant at 10 percent or better.

[a] Dummy variable taking a value of 0 or 1.

Females with more elder sisters are also more likely to be living at home. This may reflect the sequential nest-leaving decision of siblings, with the oldest moving out first, as well as the assignment of tasks by gender, with "similar siblings" acting as substitutes (Smith and Thomas 1998). Living farther from the *poblacion* reduces the probability that daughters coreside with parents, probably because daughters would move to seek a better education or to look for work. Distance from the sugar mill, however, increases the probability that daughters live with their parents. Households located further from the sugar mill may be more inaccessible, in general, than those located closer.

The next location category refers to living in the same village as the parents, but in a separate household. This transition typically occurs at the time of marriage, when parents will allot a portion of the homestead to their newly married son or daughter. Parents also typically provide a portion of their land for their sons to farm; if their daughter marries a man who has no land, they may also provide land to their daughter. With married sons and daughters living on the same homestead, Filipino farm family structure can be described as residentially nuclear, but functionally extended. Life-cycle factors (age and age-squared) have significant effects on both sons' and daughters' decisions to form separate households.

Family background characteristics affect sons and daughters in different ways. A daughter whose father is more educated is less likely to live in the same village while a better-educated mother weakly increases the probability that the daughter lives in the same village. This difference may arise from complementarity of parent-child roles: if gender-casting is important (say, if fathers work with sons and mothers with daughters), or if mothers' productivity improves from having better-educated daughters nearby, the incentive for daughters to migrate may be lower if mothers complete more schooling. The value of nonland assets owned by parents increases the probability that sons live in the same village, perhaps because nonland assets increase opportunities for self-employment. The number of elder brothers reduces the probability that a son will live in the same village as the parents, probably because the parents will have partitioned the land to elder sons first, leaving less to the younger son. Females with more elder sisters are also less likely to live in the same village. While distance to the sugar mill increases the probability that daughters live in the same village, it does not affect sons' decisions. Indeed, none of the distance variables affect any of the sons' locational decisions.

None of the explanatory variables significantly affect sons' decisions to move to other rural areas. In contrast, a number of factors are important in daughters' decisions to relocate to other rural areas. Daughters are less likely to move to other rural areas if their mothers are better educated. Daughters with more elder sisters are also less likely to move to other rural areas. This is consistent with

mother-daughter skill complementarity and may also suggest complementarity with sisters' skills. Interestingly, living farther away from the town increases girls' probability of moving to other rural areas.

Finally, the determinants of the decision to migrate to a *poblacion* or an urban area are examined. Life-cycle effects are strong for females, with marginal effects that are thrice those for males. Surprisingly, schooling is important only in males' decisions to migrate to urban areas. Given that women already have higher levels of schooling than males, *additional* schooling probably does not increase the female propensity to migrate to urban areas. Female migrants to urban areas are employed in a variety of occupations, not all of which require higher levels of schooling. This finding is consistent with the notion that migrants are sorted into occupations that lead to greater social efficiency. Family composition affects women's decisions to move to urban areas more than men's decisions. Having more elder brothers and sisters increases the probability that a woman migrates to a *poblacion* or urban area. It is possible that elder brothers and sisters may have moved earlier to urban areas or entered the labor force earlier, providing support networks or financial resources for a younger sister's move. Distance to the *poblacion* or travel time to the hospital does not affect the probability of migration, but greater distance from the sugar mill reduces daughters' migration probabilities.

Fixed-effect logit results

Odds ratios from fixed-effect logit regressions results are presented in Table 14. Because fixed-effects logit regressions can be estimated only when there is variation in outcomes within a family, families that have the same outcome (whether migrating to that particular location or not) are dropped from the regression. When family-level unobservables are controlled for using fixed-effects, life-cycle (age and age-squared) and education are the most consistent determinants of intrafamily differences in location decisions. Odds ratios on age and age-squared are consistent with the timing of nest-leaving decisions. Having completed high school reduces the odds of coresiding with parents by 42 percent, and of residing in the same village by 22 percent. Having completed elementary schooling also reduces the odds of residing in the same village by 37.7 percent. However, the biggest impact of education is on the odds of migrating to a peri-urban or urban area. Having completed elementary schooling doubles the odds of migration; having completed high school increases it six times.

Do household characteristics have differential impacts on the location decisions of sons and daughters? While there are a number of significant interactions of the daughter dummy with household or family characteristics, only one is statistically significant at 5 percent—the rest are only weakly significant at

Table 14. Determinants of migration of children age 15 and over, family fixed effects estimates
Odds ratios reported; z-values based on bootstrapped standard errors, 1000 replications.

	Odds of:							
	Coresiding with parents		Residing in the same village as parents		Migrating to a rural area		Migrating to a peri-urban or urban area	
	OR	z	OR	z	OR	z	OR	z
Child characteristics								
Daughter*	0.308	-1.18	2.009	0.66	8.095	**2.45**	0.548	-0.73
Age	0.515	**-6.12**	1.821	**4.85**	1.408	**3.39**	1.348	**3.96**
Age-squared	1.008	**4.31**	0.992	**-3.69**	0.996	**-2.71**	0.995	**-3.35**
Elementary school completion*	0.698	-0.90	0.377	**-2.63**	1.188	0.52	2.318	**3.07**
High school completion*	0.420	**-2.20**	0.216	**-3.70**	0.765	-0.75	6.155	**5.90**
Interactions of daughter with household characteristics								
Father's education	1.010	0.13	0.796	**-2.57**	1.008	0.09	1.092	1.54
Mother's education	1.080	0.87	1.143	1.43	0.901	-1.01	0.965	-0.51
Area of own land cultivated in 1984–85	1.126	**1.80**	0.972	-0.44	0.850	-1.33	0.938	-0.88
Value of nonland assets in 1984–85	1.000	0.86	1.000	-1.25	1.000	1.26	1.000	-0.04
Interactions of daughter with sibling composition								
Number of younger brothers	0.995	-0.04	0.791	**-1.77**	1.032	0.28	1.017	0.18
Number of younger sisters	0.805	**-1.75**	1.043	0.29	1.125	0.89	0.988	-0.11
Number of elder brothers	0.804	**-1.66**	0.782	-1.25	1.046	0.32	1.256	**2.08**
Number of elder sisters	0.898	-0.87	0.952	-0.32	1.091	0.62	1.170	1.39
Interaction of daughter with location								
Distance to poblacion in 1984	0.911	**-1.71**	1.093	1.32	0.921	-1.27	1.082	1.63
Distance to hospital in 1984	0.999	-0.15	1.002	0.43	0.997	-0.73	1.001	0.31
Distance to sugar mill in 1984	1.027	1.30	1.001	0.03	0.968	-1.60	0.994	-0.40

Table 14. continued

	Odds of:							
	Coresiding with parents		Residing in the same village as parents		Migrating to a rural area		Migrating to a peri-urban or urban area	
	OR	z	OR	z	OR	z	OR	z
Number of observations	1360		929		992		1259	
Number of groups	235		146		157		206	
Wald chi2(14)	191.90		97.18		51.73		111.30	
Prob > chi2	0.00		0.00		0.00		0.00	

z-values in bold indicate significance at 10 percent or better.
*Dummy variable taking a value of 0 or 1.

10 percent. Consistent with the multinomial logit results, daughters who have more elder brothers are significantly more likely to migrate to a peri-urban or urban area. The remaining interaction terms with family characteristics are only weakly significant. Daughters whose fathers have larger areas of land are more likely to coreside with parents; daughters with a greater number of younger sisters and elder brothers are less likely to coreside with parents, reflecting the substitutability of younger sisters for oneself, particularly with respect to domestic chores, and the availability of elder brothers to provide support to parents. Elder sisters and younger brothers do not affect a daughter's decision to coreside. In contrast, daughters who have more younger brothers are less likely to live in the same *barangay* as their parents. Lastly, none of the distance variables affects sons or daughters' location differentially, with the exception of distance to the *poblacion*, which makes it less likely for daughters to coreside with parents, albeit only at a weak level of significance.

CONCLUSIONS

This preliminary exploration into the migration decisions of young Filipino adults has shown that differences in destination characteristics contribute to the heterogeneity of the migration experience. Rural areas, *poblaciones*, and urban areas systematically attract different types of migrants. *Poblaciones* and urban areas attract better-schooled individuals, partly because young people move to those areas to further their education, or because better-educated individuals move to these areas to find better jobs. Migrants to rural areas, on the other hand, move primarily to take up farming or to get married. Thus, it is no surprise that rural migrants, as well as those who opt to stay in rural areas, are less educated than migrants to urban areas and peri-urban areas. The result that higher education significantly increases the likelihood of migrating to urban and peri-urban areas is robust to controls for family-level unobservables. The descriptive results suggest that children are more likely to migrate to a destination if other relatives are already living there, especially in the case of nonrural destinations. The propensity of better-educated children to go to urban and peri-urban areas, and the support provided by social networks of earlier migrants could combine to create an impetus for an ongoing migration flow from rural to nonrural areas.

Does outmigration from rural areas thus constitute a "brain drain" that needs to be stopped? Not necessarily. In a related study (Quisumbing and McNiven 2006), remittances, which are treated as endogenous, have a positive and significant effect on livestock holdings and on educational expenditures per adult equivalent. Remittances appear to have a different impact on the migrants' siblings. They have a weak negative impact on livestock and land holdings, but a positive and significant effect on food expenditures and expenditures on clothing and

footwear. While migrants (and elder siblings, in general) are expected to make substantial contributions toward the schooling of younger siblings, expectations to support one's siblings who have married and formed their own households are much lower. Perhaps, migrants fulfill these (diminished) expectations by making only token contributions, which are then reflected in higher consumption of food, clothing, and footwear.

However, it is probably unrealistic to expect that all migrants are able to find better jobs in nonrural areas and send remittances to their origin families. Indeed, the occupational profile of migrants to these less-rural areas is quite diverse. A large proportion of male migrants to more urbanized areas end up in manual labor/ transportation work or crafts and trades, which are not high-earning occupations. Female migrants to nonrural areas may fare better, partly owing to their higher levels of schooling. Female migrants to *poblaciones* are more likely than male migrants to work in sales while female migrants to urban areas are more likely than their male counterparts to have professional and managerial jobs. Indeed, the study finds that remittances are largely determined by the average education level of female, not male, migrants (Quisumbing and McNiven 2006). Clearly, many migrants are unable to fulfill their hopes and dreams. Nevertheless, it appears that families have begun to use migration as a strategy to escape poverty, even while the individual and the family jointly make migration and education decisions.

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