MIGRATION AND JOB SEARCH:
ILOCANO MIGRANTS IN MANILA, THE PHILIPPINES

Natsumi Aratame

Abstract

Many migrants in developing countries come to the city in search of jobs not available in the countryside. However, while anecdote abounds, their labor market experience in the city after arrival has not been studied systematically in the past. This research addresses this gap by analyzing the initial stage of their labor market experience, specifically the duration of their search for their first job in the city. The relevance of factors related to human capital, time-horizon, and social networks to the duration of a job search is empirically tested by applying the Cox proportional hazard model to the sample of Ilocano migrants in Manila, the Philippines.

1. Objectives

Implicitly or explicitly, the classic migration model often assumes that finding jobs in the city is relatively easy for migrants. The so called Todaro model, for example, assumes that migrants, and implicitly, non-migrants in the city have homogeneous qualities and that the job search period is simply a function of the length of residence in the city (Todaro 1976; Harris and Todaro 1970).[1] Urban informal sector research in the 1970s and 1980s also assumed "ease of entry" into the urban labor market, especially the informal sector. However, evidence abounds that migrant groups are comprised of people from different parts of the country with different socioeconomic backgrounds. Migrants include not only young and educated males,

as is often assumed, but also many older, uneducated, unskilled individuals, as well as females (Abad 1981; Simmons, Diaz-Briquets, and Laquian 1977; Todaro 1976; Yap 1977). The socioeconomic composition of the migrant group also differs from country to country and changes over time (Nam, Serow, and Sly 1990). In addition, migrants are heterogeneous with respect to their job goals, sector of destination, and intended length of residence in the city.[2] It should be expected, then, that migrants with such different backgrounds will face differing economic opportunities in the urban labor market, resulting in varying unemployment periods after they arrive at the city.

Some research indicates that educated workers spend longer looking for work than do uneducated workers, and that the access to larger social networks enables migrants to engage in a longer job search than those who have smaller networks (Fallon 1983;Sinclair 1978). However, the extent of the effects of such personal and social resources on the search period is far from conclusive at present. The causal mechanisms that mediate such resources and the period of the job search are also seldom spelled out explicitly. To address this gap in past research and to give a more precise definition to the concept of the "ease of entry", I analyze the transition rate from unemployment to their first employment in the city directly and explicitly by applying Cox proportional hazard model.

The data for this research come from the Philippine Migration Study (PMS), conducted from 1981-84 by the East-West Center, Hawaii and the Institute of Philippine Culture, Ateneo de Manila University in the Philippines.[3]

2. Analytical Framework

Since most migrants come to the city in search of economic opportunities not available in the place of origin, it is useful to conceive the initial adaptation process of migrants as one of job search. Job search, as used in this research, refers to a process by which one moves from a state of unemployment to employment. As they are new entrants in the urban labor market, the initial period of unemployment is a

transient and voluntary phenomenon. The transition rate, as referred to in this re-
search, is defined as the instantaneous risk or "hazard" that a migrant finds a job at
time t, given that the job has not been found up to that point. Denoting the probabil-
ity distribution and cumulative density function of a search duration (or unemploy-
ment period) T (T >= 0) by f(t) and F(t), the transition rate λ is defined as,

   $\lambda = f(t)/(1-F(t)) = f(t)/S(t)$,

where S(t) is the survivor function. It should be noted that a higher hazard in this
specification entails a shorter waiting time, and a lower hazard a longer waiting time
to employment. The transition rate to employment, λ, is conceptually defined as the
product of two factors: the rate at which offers become available, η, and the probabil-
ity that a wage offer exceeds the reservation wage, W_r (or the conditional probability
that the job is acceptable [1-F(W_r)]).[4] The equation is thus:

   $\lambda = \eta[1-F(W_r)]$

where W_r, the reservation wage, is a certain critical wage level over which one ac-
cepts an offer and below which one turns the offer down. A new migrant in the city
sets the level of the reservation wage by considering the search costs during the
search period, the resources available to finance the search, and the factors that deter-
mine the expected returns from the job such as human capital. As is clear from this
specification, factors that raise the reservation wage will decrease the hazard rate,
while those that raise the job offer rate will increase the hazard rate. In general, η
captures the demand side conditions while W_r reflects supply side conditions.

   Under this framework, the effects of labor market conditions are captured prima-
rily in terms of change in the job offer rate (η). However, the number of job offers
that workers actually receive is also a function of the intensity of the job search. A
worker engaged in a full-time search is expected to encounter more offers than one
who is looking for jobs part-time, assuming that each has identical background char-
acteristics that lead to the same rate of job offers in a given period. Even if the time
spent in the search is the same, those who are really serious tend to obtain more
information than those who are less serious, since they are spending their time in a

more "quality" search. Thus, the job offer rate can be made a function of search intensity where the transition rate to employment is now defined as,

$$\lambda = \eta(s)[1-F(W_r)]$$

where s stands for search intensity. $\eta(s)$ here may be better termed as job "arrival" rates, rather than job offer rates under this conception.[5] It is known, for example, that women's labor force participation rate follows the "M" curve, where the increasing rate after graduation from school declines due to marriage and childbirth, but rises again as the child ages. The lower participation rates during the childbearing and child-rearing periods may be partly explained by a lower intensity of their job search.

I will estimate the effects of factors related to η and W_r on the hazard rate using the Cox proportional hazard model, a technique of event history analysis (Cox 1975; Cox and Oakes 1984).[6] Event history analysis is particularly suited when analyzing the transition rate of the population that includes many censored cases, or people who have not experienced an event during an arbitrary defined reference period such as from the date of arrival in the city to the survey date. The estimate will be biased, if censored cases are dropped from the analysis, when a sample includes many censored cases.[7]   The Cox proportional hazard model specifies the hazard rate λ as a function of an unknown baseline hazard rate λ_0 that may depend on a vector of regressors X and parameter β:

$$\lambda(t|X) = \lambda_0(t)exp(X'\beta).$$

The effect of covariates in this model is to scale the baseline hazard rate. Thus, a positive (negative) coefficient will indicate higher (lower) hazards of experiencing an event, the event being finding one's first job in the city. In the next section, I will present the explanatory variable. Hypotheses will be developed based both on the findings in past research and on what the search model predicts.

3. Factors Affecting the Duration of Job Search

Theoretical considerations and data availability in the PMS led to the choice of

the following variables in the analysis (Table 1). In this research, I will primarily focus on the effect of (1)human capital, (2)time-horizon, and (3)social networks effects while treating other social and demographic factors as control variables. The definition of variables is shown in Table 1. Descriptive statistics are presented in Table 2.

Table 1   Definition of Variables

Time until employment	Months spent in job search
Age at migration	Years
Married before migration	Yes = 1 otherwise 0
Had a child before migration	Yes = 1 otherwise 0
Unemployment rate	National urban unemployment rate when R found job
Father with high school degree	Yes = 1 otherwise 0
Father in farming	Father engaged in farming job (yes = 1 otherwise 0)
College degree	Yes = 1 otherwise 0
R's in farming	Respondents having experience in farming prior to migration (yes = 1 otherwise 0)
Intended length of stay in Manila	Intended to stay more than 36 months (yes = 1 otherwise 0)
Free board and accommodation	Lived with someone free upon migration (yes = 1 otherwise 0)
No. of family members	The number of family members living in Manila prior to migration
No. of relatives	The number of relatives living in Manila prior to migration
Assistance from home province	Monetary assistance from home (yes = 1 otherwise 0)
Abra province	Abra province (yes = 1 otherwise 0)
Ilocos Sur province	Ilocos Sur province (yes = 1 otherwise 0)
Ilocos Norte province	Ilocos Norte province (yes = 1 otherwise 0)
(La Union province)	(La Union province is the reference category for ABRA, SUR and NORTE)

Table 2   Sample Descriptive Statistics

Variable	Males	Females
Time until employment (months)	13.8	26.6
Education (years)	11.3	11.8
Intends to stay > 3 Years (%)	21.0	25.7
Father with high school degree (%)	26.7	30.8
Father in farming (%)	59.5	53.0
Age at migration (years)	24.0	23.3
College degree (%)	26.2	46.9
R's in farming (%)	31.0	7.2
Unemployment rate when R found job (%)	8.6	8.6
Married before migration (%)	63.1	64.8
Had a child before migration (%)	16.7	17.6
Assistance from home province (%)	23.5	18.2
Living with family upon migration (%)	49.1	37.0
No. of family members before migration	0.8	0.8
No. of relatives before migration	8.1	8.2
Abra province (%)	25.6	32.2
Ilocos Sur province (%)	29.6	32.2
Ilocos Norte (%)	41.2	40.3
Numbers	371	335

(1) Human capital

Human capital theory argues that the years of education and work experience are a reflection of a conscious investment decision in productive capacity which accompanies costs in the current period and returns in the future (Becker 1975; Mincer 1974). I expect, in general, higher educational levels (more time spent in schooling) raise the level of the reservation wage, resulting in a longer search period. However, the educational attainment such as high school and college degree is often used as criteria for selecting more "desirable" employees. In this respect, "education" ex-

pressed in terms of attainment may affect the job offer rates more than the reserva-
tion wage. While it is possible to create two variables, "education in years" and "edu-
cational attainment", from the same data, they are highly correlated and result in the
multicollinearity problem if included in the same model. For ease of interpretation,
I will include only the educational attainment ("college degree or equivalent") in this
research. It should be noted, however, that this variable affects both the reservation
wage and the job offer rates where the sign of the estimated parameter has theoreti-
cally the opposite direction.

Unlike the more conventional measure of labor force experience (age-education-
5), I only consider the effect of farm experience and include it as a dummy variable.
This variable intends to reflect the possibility that labor force experience in rural
areas is not simply reducible to the number of years after school but is very different
by nature from that in Metro Manila. I expect that work experience in farming,
which is a most remote activity in terms of useful experience for obtaining jobs in
urban areas, will lower the level of the reservation wage, and result in a shorter search
period.

(2) Time-horizon

The search model points out that individual decisions involve conscious plan-
ning that takes into account lifetime economic returns which are a function of the
discount rate and time-horizon in which future returns are expected. To migrants in
the city, it is a sum of all future wages (discounted to the present value) that a migrant
will receive from that job during his/her stay in the city. That is, when choosing a job,
workers consider not only the immediate returns, but also potential returns accruing
over their lifetimes in the city. Thus, the longer the time-horizon, the greater the
expected future returns, which in turn results in a higher reservation wage and a
longer search period. Shorter time-horizon, in contrast, will result in lower reserva-
tion wages and shorter search periods.

Cole and Sanders have already pointed out that choice of unrealistic discount rates in the Todaro migration model results in an exceedingly longer time-horizon, 50 years, for migrants to recoup the expected urban wage (Cole and Sanders 1985). In this research, I would like to point out that migrants' time horizon will also affect their reservation wages that in turn affect the duration of search period.

While the simple search model often assumes the infinite time-horizon, this assumption is not always tenable in the study of migrants in the cities of developing countries. Empirically, it is reported worldwide that many migrants in the city are temporary migrants (seasonal or circular migrants) with no intention of staying in the city for their lifetimes (Hugo 1982; Prothero and Chapman 1984; Stretton 1983). This group of migrants, in particular, is expected to have shorter time horizons when considering the present value of future earnings; according to the search model, they will have lower reservation wages, which would produce shorter search duration.

(3) Effect of family and social networks

Past sociological and economic research has pointed out how social networks in the city and in the place of origin help migrants adapt to urban living in general, and, in particular, to find places to live, find jobs and establish businesses (Eames and Goode 1981; Hollnsteiner 1971, 1972; McGee 1973; Mangin 1967; Massey 1990; Massey, Alarcón, Durand and Gonzáles 1987; Root and de Jong 1991; Sethuraman 1981; Tilly and Brown 1967). The so called "household migration model" explicitly argues that migration is best understood as a family strategy to enhance family welfare by increasing family earnings while diversifying risks associated with precarious rural living (Lauby and Stark 1988; Stark 1991). Emphasis on social networks expanded our knowledge about causes of migration by adding extra variables by which the costs of migration are affected (often reduced). The addition of this new dimension shifted our attention from the individual actor, which is the traditional concern of human capital model, to the family and household as appropriate units of

analysis (Massey 1990). The development and growth of migrant networks that connect the origin and destination communities often results in the development of common social resources, or "social capital" available to potential migrants in the origin communities, which encourage further migration to take place (Massey et al. 1987; Taylor 1986). This research, however, does not predict how and under what conditions social networks would accelerate or decelerate the job search process. The analysis in terms of search frameworks suggests that the effects of social networks on search duration are threefold.

First, association with a greater number of social networks may increase additional costs (both monetary and non-monetary), which result in a lower reservation wage and shorter waiting time to employment. For example, married migrants will have to spend more resources for their families, which entails a lower reservation wage and shorter waiting time to employment. The extent of the family obligation may increase further in cultures where a similar obligation also applies to members of the "extended family." Second, however, affiliation with a greater number of social networks may increase available resources which will result in a higher reservation wage and longer search duration. Thirdly, migrants who have extensive networks may have more job offers and a shorter search duration. The availability of more reliable information will lead to a higher job offer rate, which will result in a shorter search duration. Thus, the effects of social networks, unless measured very carefully, are the net effect of the three. I will consider, in this research, four types of social network variables: "free board and accommodation", "assistance from home", "the number of family members and relatives in Manila prior to migration" and "the province of origin."

Housing expenses are often the most expensive item in the city and free board and accommodation is expected to save the scarce resources migrants bring. Therefore, while it may increase the job offer rate by providing more job-related information to migrants, I hypothesize that, at the early stage of adaptation considered in this

paper, the primary effect of this variable is to reduce expenditures, which will raise the reservation wage and result in a longer job search period in turn. Since this variable includes not only the assistance provided by family and relatives but also by nonrelatives, it is not collinear with "the number of family members/relatives" mentioned below. Similarly, assistance from home[8] is expected to be an important source of resources which would allow for a longer job search in the city. It would also indicate the presence of family networks that affect the behavior of migrants in the city.

As past migration research often points out, the number of family members and relatives in Manila prior to migration is expected to increase the available resources, resulting in a higher reservation wage and a longer search duration. However, for married female migrants in particular who are under a greater family obligations, a larger number of social relationships may entail additional costs, which will result in a lower reservation wage (a shorter search duration) on one hand and reduce the search intensity (a longer search duration) on the other. In this connection, while not the social network variables, the impact of having children may have a differing effect for males and females with respect to the waiting time for employment. In particular, having children tends to cause females to drop out of the labor force, while the same factor often motivates males to find employment more quickly. Thus, while child-bearing and child-rearing are activities that accompany an increasing expenditure, I expect that, for males, it will result in a shorter search time and, for females, a longer search time because they reduce the search intensity, which is, for most females with children, a *de facto* state of dropping out of the labor force.

Lastly, the "province of origin" intends to assess the effect of social networks based on locality. This variable would also help us examine whether or not the labor market is segmented along this line of association with regard to entry into a job. These social characteristics often serve as sources of social discrimination that prevent certain groups of workers from accessing jobs, giving rise to the segmentation

in the labor market (Mazumdar 1976; Rogers 1989). A number of migration studies mentioned earlier emphasizing the role of social networks actually imply that those who do not possess network resources will be disadvantaged when looking for jobs.

4. Analyses

(1) Data

The Philippine Migration Study (PMS) was carried out in the Ilocos region of the northern Philippines, a major migrant-sending area, and in Metropolitan Manila and in Hawaii, its major receiving areas. The Manila Destination Survey portion in the PMS conducted in 1982 provides data for this research. The Manila survey interviewed 1,203 adults born in four provinces of the Ilocos region (Abra, Ilocos Norte, Ilocos Sur and La Union) who were 18 to 64 years old.

The PMS asked the time between migrants' arrival and first job in Manila. While majority of migrants in the sample found jobs, some respondents were unable to find jobs by the time of survey (censored observations). Since event history analysis can handle right censored cases (and omission of censored observations would result in bias in parameter estimates), I will include all the observations regardless of whether or not migrants found jobs before the survey date.

It is more difficult to handle left-censored cases, or people who experienced an event before entering into the reference period. For example, some migrants come to the city with their job prearranged before they arrive such that waiting time to employment is less than zero. In the PMS sample, 27% of female and 24% of male migrants had their jobs arranged prior to arrival. Clearly, the presence of such migrants will bias the average search duration downward: With prearranged workers, the average waiting time until employment is 9.8 months for males and 19.4 months for females; without these workers, the waiting time increases to 26.6 months and 13.8 months respectively. In addition, the characteristics of migrants with job arrangement are quite different from the average migrant profile. In general, migrants

who had their jobs arranged through informal contacts came from families with lower socio-economic status, had lower educational attainment and also work experience in farming and manual jobs. Once arrived, a significant proportion of female migrants with arrangement compared with migrants without arrangement are employed in the service occupations, especially as domestic helpers. In comparison, male migrants with job arrangement tend to be employed in manual jobs compared with migrants without any arrangement.[9] Consequently, I will focus in this paper on migrants who found jobs in Manila without job arrangement through informal contact networks.

Since the duration of interest is the job search period, I have excluded respondents who were not actively seeking for jobs, such as retired persons, when arrived in the city. Among respondents included, I have also excluded the periods spent in school before the first employment, or in the case of censored observations, the periods spent in school before the time of the survey, so that the duration under study correctly reflects the job search periods.

Finally, any analysis of migrants in the city may be biased since we cannot usually obtain information for those who have already returned home by the time of the interview. The effect of sample selection bias may be serious if return migrants possess characteristics which are systematically different from those of migrants who stay with respect to the variable of interest, such as job search periods (Berk 1983; Winship and Mare 1992). Since the information about return-migrants is not available from the PMS, I can not correct for the possible bias due to attrition of observations over time in this research. Available but limited evidence suggests that Ilocano migrants in Metro Manila are a relatively sedentary population, which reduces the possible impact of sample selection effect (Aratame 1994). However, this sample seems to include more educated people, compared with the general population profile in Manila as reported in the 1980 Census. The impact of having higher human capital, according to the search model, is to raise the reservation wages that in turn

lengthens the search period. Thus, the nature of bias, if present in this data, would be to obtain longer average search periods compared with the sample without sample selection bias.

(2) Estimation results

Two models are estimated for males and females separately. Model 1 studies the effects of human capital (including family backgrounds) and the time horizon together with other social and demographic control variables. Model 2 adds social network variables to Model 1. I will first describe the findings from the male model followed by the female model.

For males, Model 1 shows that the effects of his own education and the intended length of residence in the city are negative and significant. Family socio-economic status as represented by father's education are not significant at 10% significance level but in line with the prediction from the search model. Negative coefficients indicate that the increase in these variables will result in a lower hazard of getting jobs and a longer waiting time until employment.

The effect of education, as mentioned before, is the net effect over the reservation wage and the job offer rate. Consistent more with the human capital model, the negative sign indicates, therefore, that educational attainment for males is a factor that affects one's reservation wage more than the job offer rates. A lack of significance in father's and one's own work experience in farming suggests that "irrelevant" human capital for urban jobs does not at least add any stigma to male migrants in getting jobs in Manila.

The importance of the time-horizon variable demonstrates that when consideration is given to the types of migrants in terms of their intended length of residence, it does help us understand the labor market behavior/experience of migrants in the city better. The negative sign clearly shows that "settled" migrants compared with temporary migrants are willing to spend a longer time looking for jobs.

The second model adds social network variables while retaining all the variables in Model 1. The overall patterns with regard to human capital and family socio-economic status remain stable both in terms of size and the sign of parameter estimates, except that father's education gained more significance to an expected direction. As predicted from the model, free board and accommodation (regardless of the types of relationships with respondents) and assistance from their families in Ilocos do help migrants prolong their job search periods. The number of relatives and the number of family members in Manila, in comparison, are insignificant. It appears that these two variables, which reflect the general availability of social networks prior to migration, do not measure the role played by social networks very well; it is the particular function performed by social networks that help migrants adapt to urban living, and this result indicates that the variables need to be selected/measured accordingly. Among four provinces, the origin in Abra shortens the search period compared with the La Union province origin. The PMS does not permit further analysis regarding what kind of social relationships Abra migrants had with fellow Abra migrants in Manila and non-migrants in the province in comparison with La Union migrants. These results leave room for further research regarding the differences in migrant social networks depending upon the province of origin in the Philippines.

The female models are very different from the male models in several important ways. The effects of human capital (educational attainment and prior work experience) and father's education are all absent; none of the provinces of birth are significant, nor are the presence of family members prior to arrival in the city, and free board and accommodation after migration, significant.

In contrast to the male model, the family socio-economic status as measured by father's occupation (in farming) is significant. To the extent that a household engaged in farming tends to occupy a lower social and economic strata in Ilocos (and elsewhere in the Philippines), this finding suggests that a lack of family wealth due

to occupation in farming more directly affects the daughter's job search strategy than does her father's lower human capital. Among four social network variables, it is primarily the relationships with family in home provinces ("assistance from home") that affect the job search periods. None of the other variables showing the extent of relationships in Manila attained statistical significance. Lastly, it is shown that the presence of children prior to marriage, rather than marriage, affects the process of entry to employment in Manila. The interpretation based on the search framework suggests that females with children, not whether married or not *per se*, are more discouraged from the job search (i.e., lower intensity in job search) and receive less jobs offers, resulting in a much lower chance of employment.

The comparison of male and female Ilocano migrants indicates that, in general, male search behaviors are more responsive to human capital levels (including father's education levels) and their future plan in Manila that affect their expected returns in income. While not denying the rationality of female job-seeking behaviors, the female search process is more affected by family wealth at home and their life-stage (i.e., presence of children), or factors that affect the search costs.

Table 3: Cox Proportional Hazard Model

	Males				Females			
	Model 1		Model 2		Model 1		Model 2	
	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.	Coef.	S.E.
Age at migration	0.078	0.052	0.082	0.053	0.084	0.060	0.075	0.063
Age at migration squared	-0.001	0.001	-0.001	0.001	-0.001	0.001	-0.001	0.001
Married before migration	0.315	0.134 **	0.339	0.140 **	-0.083	0.138	-0.107	0.142
Had a child before migration	-0.032	0.222	-0.072	0.225	-0.679	0.205 **	-0.663	0.214 **
Unemployment rate	-0.097	0.031 **	-0.100	0.031 **	0.065	0.028 **	0.067	0.029 **
Father with high school degree	-0.230	0.152	-0.353	0.157 **	0.035	0.141	0.141	0.148
Father in farming	0.003	0.133	-0.086	0.139	0.300	0.131 **	0.360	0.137 **
College degree	-0.360	0.145 **	-0.342	0.148 **	0.029	0.137	0.123	0.147
R's in farming	0.051	0.134	0.016	0.136	-0.057	0.259	-0.098	0.295
Intends to stay more than 3 years	-0.403	0.155 **	-0.380	0.160 **	-0.139	0.146	-0.109	0.151
Free board and accommodation			-0.287	0.121 **			0.114	0.145
No. of family members			0.021	0.047			-0.063	0.045
No. of relatives			0.000	0.004			-0.006	0.006
Assistance from province			-0.330	0.148 **			-0.322	0.179 *
Abra province			0.373	0.214 *			0.049	0.306
Ilocos Sur province			-0.260	0.179			0.113	0.188
Ilocos Norte province			0.016	0.163			0.177	0.174
N	340		340		298		298	
-2LL	-1541.42		-1532.40		-1355.71		-1351.21	
Chi Square	47.14		65.18		25.41		34.42	

**p < 0.01 *p < 0.05 (Two-tailed test)

5. Summary and Discussion

Despite numerous prior studies of migration and the urban labor market in developing countries, the study of the labor market experience of migrants leaves much room for research. This paper addresses this gap by explicitly analyzing the time spent in job search after migrants arrive at the city. Methodologically, the relevance of human capital, time-horizon, and social network variables was tested by applying the Cox proportional hazard model.

Findings indicate that, first, human capital alone is not sufficient to account for variability in the duration of the job search. Intended stay, which captures the time horizon of migrants, plays an important role in determining the search duration and thus the hazard of employment. Since the past literature is not very attentive to the question of time horizon, we should pay more attention to differences in migration types (e.g. short term versus permanent migration) that reflect the intended length of stay in the city.

Second, the effect of work experience and education are gender-specific. For males, the education effect follows more closely the traditional human capital proposition: higher levels of educational attainment result in a longer job search through a higher level of reservation wage. In comparison, human capital effect is absent for female migrants. In general, males are more responsive (if not more rational) to factors that raise their expected future income, while females are much more affected by the factors that affect the search costs.

This research also analyzed the effect of social networks on the search process. Past research suggests that migration is more than an individual decision-making process, which reflects the family strategy to enhance the family welfare. The development of migrant networks makes it easier for a family that seeks for alternative income earning opportunities to send out its family members as migrant workers.

For both male and female migrants, the assistance from home was found significant in prolonging the search period. In addition, male migrants, in particular, ben-

efited greatly from the assistance provided by someone in Manila at early stages of their stay in the city. These results clearly show that migrants with such family and non-family networks in the province of origin and the destination have greater resources while searching for jobs, thereby enjoying a greater advantage in obtaining better economic opportunities.

Finally, what this research adds theoretically and methodologically to the migration literature, and the theory of urban labor market, may be summarized as follows: Firstly, so called "ease of entry" (or lack thereof) can be, and should be analyzed in terms of factors that affect (1)job offer rates and (2)the reservation wage, where the latter factor is further decomposed into factors that affect the expected benefits and factors that affect the search costs and resources. These factors interact to result in differing unemployment periods in the city. The analysis of these factors, however, will be biased if all the observations, including migrants who found jobs and who didn't find jobs (or censored observations) are not taken into account. The application of the event history model in this paper is an attempt to address such a problem.

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1. The probability that a migrant will find a job in the formal sector within x periods after migration p(x) is defined as

$$p(x) = \pi(1) + \sum_{t=2}^{x} \pi(t) \prod_{s=1}^{t-1} \left| 1 - \pi(s) \right|$$

   where $\pi(t)$ is the ratio of new job openings relative to the number of accumulated job aspirants in period t. The definition predicts that the probability of having a job will increase as the length of residence in the city increases. For a critical review of the Todaro model, see Kannapan (1985) and Williamson (1988).

2. Todaro assumes that all the migrants intend to work in the formal sector. However, empirical evidence reveals that self-employment(in the informal sector)is often preferred (by migrants with lower human capital) to wage work at formal sector firms (Banerjee 1983; Balan, Browning and Jelin 1973; Cole and Sanders 1985; Fields 1990). Short-term migrants (either temporary or circular) are also common in many parts of the world, especially in Africa and Asia (Hugo 1982; Prothero and Chapman 1984).

3. I would like to express my gratitude for the generosity of the investigators of the Philippine Migration Survey (PMS) in making this data set available. The co-investigators of the PMS are Ricardo Abad, Institute of Philippine Culture; Fred Arnold, East-West Population Institute; Benjamin Carino, University of the Philippines; Gordon F. De Jong, Pennsylvania State University; James T. Fawcett, East-West Population Institute; and Robert Gardner, East-West Population Institute. For details of survey design, see Abad and Cariño (1981).

4. The following discussion is based on Mortensen (1986) and Devine and Keifer (1991).

5. Some such attempts are reviewed in Devine and Kiefer (1991), Chapter 7.

6. For a general introduction to event history analysis including parametric, "semi-parametric" (the Cox model) and non-parametric models, see Blossfeld, Hamerle, and Mayer (1989).

7. For the potential bias, see Tuma and Hannan (1979).

8. This variable indicates whether the family in the province sent them money in the preceding 12 months. It does not refer to the condition when respondents arrived in Manila. It is reasonable to assume, however, that those who still receive assistance (during the preceding 12 months) most likely received the assistance at earlier stage of adaptation, too.

9. For example, the average educational attainment of male and female migrants with job arrangement is 10.3 and 9.1 years, while for the group without arrangement, 11.2 and 11.8 years respectively. A significant difference in the distribution of the initial jobs is observed between these two groups: for migrants with job arrangement, the proportions in professional, clerical, manual and service/sales jobs are, 11.1%, 11.1%, 6.0% and 71.8% for female and 1.8%, 7.2%, 39.6% and 16.2% for male migrants; for migrants without job arrangement, the corresponding percentages were, 21.1%, 44.9%, 13.6% and 20.9% for female and 7.6%, 16.1%, 29.5% and 19.0%. Among male migrants, 35.1% with arrangement and 27.8% without arrangement were employed in the military services. A separate paper is in preparation detailing the process of job arrangement.

人口移動とジョブ・サーチ:
フィリピン，マニラ居住のイロカノ地方出身者の場合

新田目夏実

<要約>

　発展途上国において農村から都市へ人口移動が生じる主たる理由は，都市には農村では得られないような雇用機会が存在するからである。しかしながら移住者が流入後どのような労働経験をするかに関するシステマティックな研究は未だ少ない。本研究ではこの点に鑑み，移住者の都市労働市場における経験について，特に参入後初職を得るのに要する期間について焦点を絞り考察する。本稿ではジョブ・サーチ期間に影響する要因として特に人的資本，時間に関する選好及び社会的ネットワークを取上げ，それぞれの要因の重要性についてコックス比例ハザドモデルを用いて検証する。データはフィリピン，マニラで行われたイロカノ地方出身者に対する調査を用いた。