Gendering Interprovincial Migration in China[1]

Canfei He
Peking University

Patricia Gober
Arizona State University

Migration is a gendered phenomenon, best understood as a series of relationships between socioeconomic factors and gender. Gender differences in migration efficiencies are investigated using the 1990 Census data in China. Results indicate that, although male migration rates are higher, female migration is more efficient in the sense that it contributes to greater population redistribution than male migration. Reflecting different economic and social roles, women are more likely to state social and family reasons for moving while men indicate economic motivations. In terms of the geography of movement, women are more sensitive than men to perceived and expected regional differences in economic opportunities, especially in rural areas. Job opportunities created in urban areas and by foreign enterprises are more attractive to male migrants. Development of light manufacturing industries and the benefits derived from the presence of previous migrants draw female more than male migrants.

Prior to economic reforms in the late 1970s, population movement was highly controlled in China (Liang and White, 1996). However, recent economic transitions and industrial changes have led to an increasing level of population migration (Li and Li, 1995; Fan, 1996). The family responsibility system, which allows peasants greater autonomy in decisions, triggered growth in agricultural productivity, thereby liberating surplus labor from the agricultural sector. Development of the nonstate-owned sectors encouraged people to move for new job opportunities. Massive inflow of foreign investments also has stimulated migration to the coastal regions and southern China, where opportunities for employment in labor-intensive sectors are greatest (Liang and White, 1996; Fan, 1996; Ma, 1997; Wei, 1997). Evidence from previous studies indicates that internal migration in China is a response to geographic differences in economic opportunities (Li and Li, 1995; Fan, 1996; Wei, 1997).

Previous studies of Chinese migration described spatial patterns of temporary and permanent migration (Liang and White, 1996; Chan, 1999; Fan,

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1999; Ma, 1999; Yang, 2000), investigated small surveys of migrants (Qian, 1996; Scharping, 1997, 1999; Rozelle *et al.*, 1999), or identified individual and regional determinants of migration (Fan, 1996; Wei, 1997; Hare, 1999b; Shen, 1999; Yang, 1993, 2000; Yang and Guo, 2000; Zhao, 1999). Fan and Huang (1998) paid special attention to the gender issue in China's migration, but from the perspective of female marriage migration. Yang and Guo (1999) investigated gender differences in migration propensities, focusing on temporary labor migration in Hubei province. Li and Li (1995) examined determinants of net migration rate between 1982 and 1987 and found evidence for gender differences in migration. Several studies treated gender as a control variable and confirmed that men are more likely to migrate than are women (Hare, 1999b; Zhao, 1999; Yang and Guo, 1999).

Little research has investigated the role of migration in population redistribution in China. Even less attention is given to differential patterns and determinants of interprovincial migration between men and women. As the labor market develops, migration reallocates human resources and becomes an increasingly critical factor in regional economic dynamics, but because of the different roles that men and women have traditionally played in the Chinese society, this allocation process works differently for men than for women. Understanding gender differentials in population redistribution in China informs on the different roles that men and women play in the transition to a market-oriented economy. This study examines migration efficiency (net migration/total migration), measuring the redistributive power of migration. Specifically, using 1990 Census data, the analysis addresses: 1) gender differences in migration efficiency and 2) determinants of male and female migration flow efficiency rates.

THEORETICAL BACKGROUND

Migration is a gendered phenomenon (Chant, 1992; Bravo-Ureta *et al.*, 1996; Dang *et al.*, 1997; Yang and Guo, 1999; Kanaiaupuni, 2000). Taking gender into account of migration does not require a completely new set of variables, but rather a reconsideration of well-established determinants of migration – economic opportunities, human capital, familial considerations, and migration networks – through a gendered perspective (Chant *et al.*, 1992; Kanaiaupuni, 2000).

The Neoclassical Model of migration implies that women as well as men move in response to regional differentials in economic and noneconomic opportunities (Lewis, 1954; Todaro, 1985). This theoretical generalization

has been quite successful in explaining and predicting the volume, direction and pattern of internal migration in many countries (Fan, 1996). Thadani and Todaro (1984) formulated a model for female migration in which women's migration is a function of income differentials, the wish to find a husband in the destinations, the desire for social mobility through marriage, and social-cultural obstacles to geographical mobility faced primarily by women. The authors assert that female migration varies directly with expected income differentials, the probability of marriage in destinations as opposed to places of origins, and the probability of achieving a certain expected income through marriage. The rate of women's migration varies inversely with the strength of gender-role constraints on mobility.

The neoclassical perspective may be extended to include the gendered and segregated nature of Chinese labor markets (Knight and Song, 1995; Meng, 1998). Due to the development of foreign enterprises, private enterprises, and township and village enterprises, labor markets in urban and rural areas are emerging, but they are highly segregated by gender (Maurer-Fazio *et al.*, 1997, 1999; Liu, *et al.*, 2000; Seeborg *et al.*, 2000). Compared with men, women are generally at a disadvantage in these labor markets because of their traditional roles in the family and in the society. Park (1992) argued that Chinese enterprises often assume that women are less productive because of maternity and childcare, and thus employers are reluctant to hire them. Zhang (1999) documented that the urban labor market in Tianjin favored male over female migrants.

Hare (1999a) reported that, while women are well represented numerically in the rural industrial workforce, their wages are substantially lower than those earned by male counterparts. Large wage gaps between men and women also are well documented in urban labor markets (Maurer-Fazio *et al.*, 1997, 1999; Gustafsson *et al.*, 2000; Liu *et al.*, 2000). Market wage signals reinforce gender stereotypes and discrimination in the labor market in the sense that women have less incentive to be productive because they are not adequately rewarded for that productivity (Meng, 1998; Hare, 1999a).

Economic transition actually has weakened the institutional support for gender equality in the work place (Maurer-Fazio *et al.*, 1997, 1999; Yang and Guo, 1999). Increasingly guided by market forces and driven by cost savings and profit making, many companies have shown reluctance to hire women (Yang and Guo, 1999; Liu *et al.*, 2000). Women's access to urban employment is especially restricted (Fan and Huang, 1998). Woon (1999) found that employers in the Pearl Delta Region are more supportive of male migrants

than female migrants who attempt to obtain official status. Liu, Meng and Zhang (2000) found increasing gender wage gaps and discrimination across ownership from the state to the private, suggesting that the economic transition has widened gender differences in labor markets. Maurer-Fazio *et al.* (1997) reported particularly large gender wage gaps in private-sector firms.

Gender differences in migrant-oriented labor markets involve job preferences and choices. Studies of Chinese migration have shown that male migrants are more likely to find jobs in construction sites and heavy industries, while female migrants are more often hired in labor-intensive light manufacturing industries such as textiles, toys and electric sectors (Cai, 1997; Davin, 1997, 1999). The gendered structure of regional economies in China thus contributes to destination choices of migrants.

The human capital approach views migration as an investment decision involving an individual's expected costs and returns over time and emphasizes the importance of education, work history, and prior migration experiences (Chant and Radcliffe, 1992). Chinese women have less access to education, especially in rural areas, and theoretically gain less from their investment in migration than males. Overall, migrants are positively selected with respect to human capital, especially education, because they must overcome barriers such as cost, risk and distance. In societies where patriarchy defines relations between men and women, human capital investments often privilege men and disadvantage women, and, in so doing, lower the propensity for women to move. Human capital investment of women may be discouraged not only as an individual response to structural inequalities, but also as a reaction to socialized behavior and expectations taught in families and daily life (Kanaiaupuni, 2000). Furthermore, peasant men may improve their human capital through a wider variety of means, such as by joining the army, going to school, or participating in nonagricultural activities. Many women in the countryside remain poor and uneducated (Bauer *et al.*, 1992; Fan and Huang, 1998). Low levels of human capital may deter women's migration by limiting access to information and the ability to deal with new social environments.

Family considerations also create different migration behaviors for men and women. Previous research has labeled women "associational" migrants whose decisions are a consequence of decisions made by primary movers (Chant and Radcliffe, 1992). Implicit in this assumption is that women's migration is driven mainly by social reasons, such as joining family and marriage, while men are economically motivated migrants (Fan, 1999). In China, a traditional division of labor between productive and reproductive activities

encourages married women and those with young children to remain home while men migrate. The familial role expectation also makes women more homebound and less likely to take part in risk-taking activities such as migrating and working away from home (Davin, 1999; Yang and Guo, 1999). Household structure, in terms of marriage and childbearing, plays a more important role in female migration than in male migration because it is one of the key factors that influences women's participation in economic activities outside the home in China (Barret *et al.*, 1991). Yang and Guo (1999) noted that the propensity for female temporary labor migration was more strongly influenced by household characteristics, such as being married and having children, than by community-level factors, such as the availability of jobs. Being married dramatically reduced the likelihood of participating in temporary labor migration.

Recent migration theories highlight the importance of social networks in migration (Massey, 1990; Hugo, 1991; Massey and Espinosa, 1997; Shah and Menon, 1999). This approach argues that migration is a social process that gains its own momentum. As human networks develop between origins and destinations, they reinforce themselves and focus future migration between the same origins and destinations. Networks consist of family members, friends, and community-based relationships. Social networks mean decreased risks of migration via greater information prior to migration and facilitated job-seeking and economic assistance upon arrival (Scharping, 1997; Massey and Espinosa, 1997). Previous migration also has demonstrative effects. The contact with previous migrants makes individuals realize that they may be better off in a place other than their current residence (Hugo, 1991).

Studies on Chinese migration have paid particular attention to social networks in migration decisions (Qian, 1996; Scharping, 1997; Ma and Xiang, 1998; Rozelle *et al.*, 1999). Results from previous studies support the view that social networks facilitate and channelize migration. Rozelle *et al.* (1999) reported that the village migration network, as approximated by lagged migration, was highly significant in models of migration flows. Qian (1996) confirmed a positive relationship between social contact and migration based on a survey of five villages in Anhui, Gansu and Zhejiang provinces.

The effects of social networks in migration may be different for men and women (Kanaiaupuni, 2000). First, the costs, risks and benefits from migration differ by sex, and thus the relative importance of certain types of

networks may be greater for one sex than for the other (Menjivar, 2000). Because of prevailing ideas of female vulnerability and norms of family honor, a women moves only if there is a close relative with whom she could travel or with whom she could live (Davin, 1997, 1999). Zhang (1999) documented that most female migrants in Tianjin obtained information about the urban labor market from relatives and persons sharing the same birthplaces. Second, there are gender differences in access to social networks because previous migrants are not equally likely to help men and women or because women have less access to social networks in general (Hondagneu-Sotelo, 1994). Finally, some of the mechanisms through which social networks act, for example, the information and help they provide, are different for men than for women (Hondagneu-Sotelo, 1994; Hagan, 1998). In cases where there is a clear gender division in the labor market of the receiving regions, migrants would potentially benefit more from other migrants of the same sex who provide them with more relevant information or contacts (Hagan, 1998). Zhang (1999), for example, reported that female migrants themselves acted as vital sources of information for rural counterparts.

MIGRATION DATA IN CHINA

Migration studies in China are limited by the availability of reliable data. In contrast with the first three censuses and in recognition of the increased importance of population mobility, the 1987 one-percent sample survey and the 1990 Census included direct questions on migration (Fan, 1996). Central to the national survey and censuses is the concept of permanent residence. In the 1987 one percent sample survey, migrants to a place included: persons who migrated with their registration to this city, town or county from another city, town or county between July 1, 1982 and June 30, 1987 and lived there continuously until midnight July 1, 1987. Also included as migrants are persons who moved without their registration, left their place of registration over a half year before, and lived in this place for less than five years (Mallee, 1998).

The criteria in the 1990 Census are similar, but the residence limit was one year instead of six months, and the Census also employed a five-year lower age limit for inclusion. The general principle of the 1990 Census was to reflect residence on a de facto basis, in other words, where people are physically present, irrespective of their official registration. Enumerators were told to count 1) persons who lived and had their registration in a given place; 2) persons who had lived in that place for more than one year although their

household registration was for a different place; 3) persons who, although they had lived in that place for less than a year, had been away from the place of their household registration for more than one year; 4) persons living in that place awaiting permanent household registration; and 5) persons now working or studying abroad who were therefore temporarily without household registration, but whose registration had been in that place (Davin, 1999). A migrant is defined as a person aged five or older who moved to another city or county between 1985 and 1990 and: 1) whose *Hukou* (a registration card of living place) was in the 1990 place of residence or 2) who had stayed in the survey location for more than one year or had left the *Hukou* location for more than one year (Fan, 1996, 1999).

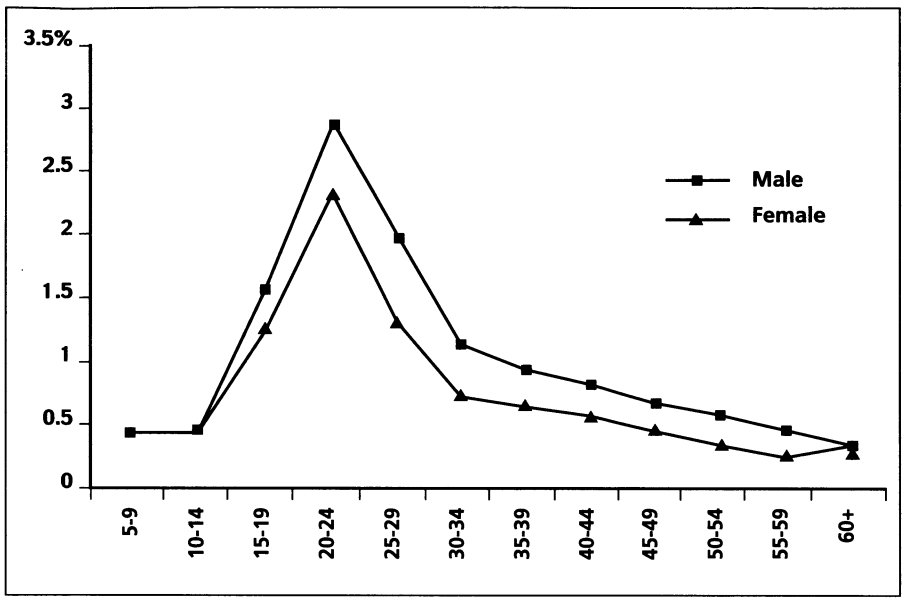
Both the intercensus survey and the Census understated interprovincial migration. The 1990 Census did not count migrants younger than five years old and excluded migrants who had spent less than one year away from their places of origin or who had returned by 1990. The 1987 survey also excluded people who had not spent more than six months in the destinations or who had returned by 1987 (Davin, 1999; Fan and Huang, 1998; Fan, 1999; Mallee, 1998). These are common restrictions on migration used by data collection agencies worldwide to discriminate moves of a significant duration and with significant effects on people and the places to and from which they move.

This study investigates gender differences in migration flow efficiency. Data are drawn from the 1990 Census, which is more updated than the 1987 one percent sample survey. No data on migrants moving into Tibet were collected in the 1990 Census. Thus, migration between Tibet and other Chinese provinces will not be considered. The migration matrices used in the study refer to migration among the 29 provinces, with 812 (29 X 29 – 29) potential migration flows for females and males separately.

GENDER DIFFERENTIALS IN CHINA'S INTERPROVINCIAL MIGRATION

The 1990 Census reported a total of 34.1 million migrants who had moved to another county or city between 1985 and 1990, which accounted for 3.01 percent of the total population. Of these, 32.42 percent were interprovincial migrants. Migration rates increase with age and reach a peak at the age of 20-24, and then decrease for both men and women. Male migrants outnumber female migrants in all age groups, except among young children (Figure I). Overall, male and female interprovincial migration rates are 1.11 percent and 0.84 percent, respectively.

Figure I. Male and Female Migration Rate by Age Group



Gender differentials in Chinese migration are reflected in migrants' educational attainment and the causes of migration. Education helps migrants acquire information and access a wider range of employment opportunities. Well-educated people are much more likely to move than the poorly educated. Migration rates for the semi-illiterate and illiterate people are 0.46 percent compared to 15.35 percent for people who hold university degrees. Most migrants have some education although male migrants are more heavily weighted toward the high end of the educational ladder while females are at the low end (Figure II). Illiterate male migrants make up fewer than 5 percent of all migrants; illiterate female migrants account for more than 15 percent of all female migrants. The average years of education for male and female migrants are about 9.5 and 7 years, respectively.

Reasons for moving also vary by gender. The 1990 Census reported nine migration reasons: job transfer, job assignment, industry/business, study/training, to friend or relatives, joining family, retirement, marriage, and other. Detailed discussion of the 1990 Census definitions are found in Fan (1999). If we assign job transfer, job assignment, industry/business and study/training as economic reasons and others as social reasons, men migrate chiefly for economic reasons and women mainly for social reasons. Econom-

Figure II. Education Attainment of Male and Female Migrants

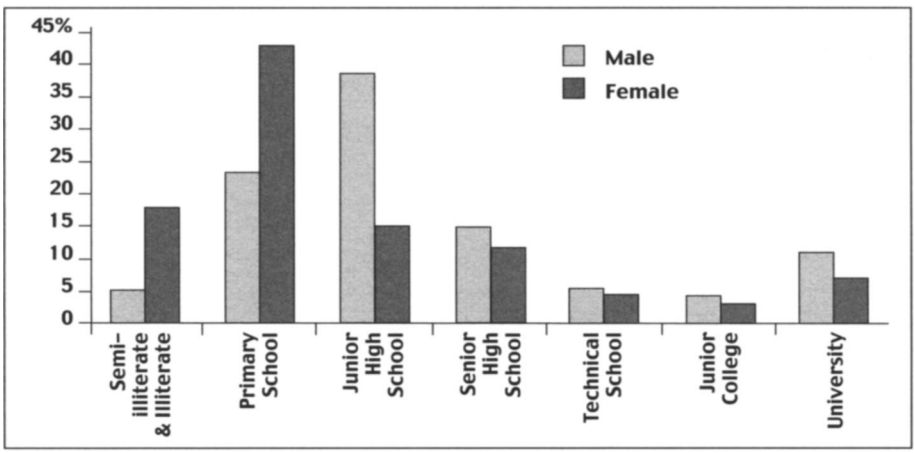
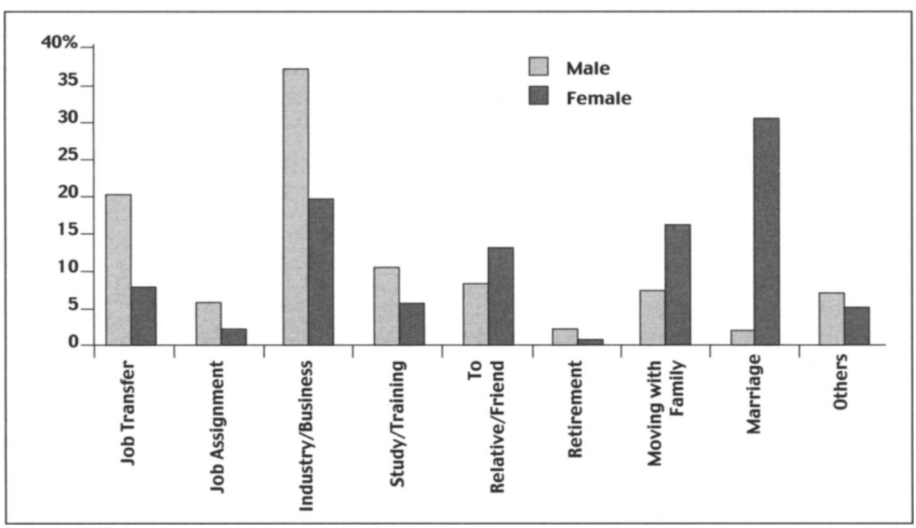


Figure III. Migration Reasons of Male and Female Migration



ic migrants account for 73 percent of all male migrants, but only 35 percent of female migrants. Family-related considerations were reported by 60 percent of female migrants, but only 20 percent of male migrants (Figure III).

In summary, this simple descriptive analysis reveals that men are more likely to move than are women, male migrants are more educated, and men are more likely to state formally that they are migrating for economic reasons.

This is consistent with the gendered human capital and familial approaches to Chinese migration. The son-preference culture limits girls' access to education and labor market opportunities outside the family (Fan and Huang, 1998). Migration as a tool of investment works more effectively for men than for women because women generally make lower salaries and thus reap smaller gains from their migration investment (Davin, 1999). In China, the family ultimately is the primary source of economic, emotional and social security. Gender and power relations within family define the actions and roles of individual members and are manifest in the normative and practical demarcation of male and female roles and status. Traditionally, men have the culturally defined obligation to provide for the economic subsistence of their families and to protect female members. The "ideal" woman is subordinate to men and primarily responsible for domestic duties. The culturally defined roles of men and women account for the male migration driven primarily by economic reasons and female migration driven by familial and social concerns (Yang and Guo, 1999).

GENDER DIFFERENCES IN MIGRATION EFFICIENCY IN CHINA

Migration Efficiency

The emergence of market economies, greater division of labor, and growing regional differences in economic opportunity in China enhance the importance of migration in regional economies. Migration reallocates young and well-educated people among provinces in response to growing differences in regional welfare, subject to the presence of social networks and the varying roles of women and men in Chinese society. Empirical studies of Chinese internal migration confirm gender differences in migration patterns (Li and Li, 1995; Fan and Huang, 1998; Hare, 1999b; Yang and Guo, 1999; Zhao, 1999).

Migration efficiency focuses on the redistributive effects of population movement. It reveals the percentage of total movement involving an area that leads to population change (Plane, 1992). Migration efficiency has two useful attributes: its size and its direction. The measure has been described as "one of the best means for standardizing migration to underscore its directionality" (Plane, 1992; McHugh and Gober, 1992). Area-based migration efficiency is expressed as the percentage ratio of net to total migration:

$$ME_i = \frac{IN_i - OUT_i}{IN_i + OUT_i} \times 100$$

where ME_i is the migration efficiency for province i; IN_i and OUT_i represent the total number of in-migrants to and out-migrants from province i. Efficiency value is positive when in-migration exceeds out-migration and negative when out-migrants outnumber in-migrants. A large value shows there is much net redistribution of population relative to total amount of migration; in other words, a large percentage of the total flow redistributes population regionally. A low value shows there is little redistribution of population. The gross in- and out-flows cancel one another (McHugh and Gober, 1992).

The concept of migration efficiency can be extended readily to specific region-to-region flows (McHugh and Gober, 1992). It is computed by dividing the net flows between a pair of provinces by the sum of the gross flows in both directions, multiplied by 100:

$$ME_{ij} = \frac{FL_{ij} - FL_{ji}}{FL_{ij} + FL_{ji}} \times 100$$

where ME_{ij} is the efficiency of migration exchange between provinces i and j; FL_{ij} and FL_{ji} represent the migration flow from province i to province j and from province j to i, respectively. Migration flow efficiency ranges from −100 to +100 percent. An efficiency value of 100 percent indicates that all movement is unidirectional, while zero efficiency suggests that equal numbers of migrants are moving in both directions, resulting in no population redistribution between the two provinces (McHugh and Gober, 1992).

The redistributional effects of migration are both scale and time dependent. Redistribution at a smaller, intraprovincial scale does not constitute redistribution at the larger interprovincial scale. Similarly, temporary movement does not translate into permanent redistribution. The problem in China is the fuzziness in the distinction between permanent and temporary movement. Many so-called temporary migrants remain at their destinations for many years and ultimately obtain official regional status there. The Census's use of the one-year staying requirement for nonregistered migrants recognizes the significance and permanence of many temporary moves. We believe these temporary, nonregistered moves reflect important social and economic changes in people's lives with significant ramifications for the places they leave and move to and should, therefore, be included in migration efficiency measures.

GENDER DIFFERENTIALS IN MIGRATION EFFICIENCY

Spatial patterns of migration efficiency for male and female migrants differ across coastal, central, and western regions (Figures IV, V and VI). Overall, male migration efficiency is more geographically diverse than female migration. The most positively efficient male migration occurs in Shanghai (65%), Beijing (64%), Guangdong (53%), Tianjin (50%) and Yunnan (31%). In addition, Liaoning, Hainan, Ningxia, Hubei, Shanxi, Xingjiang and Qinghai have significant positive efficiencies. In general, these provinces fall into two categories: 1) places such as the three municipal cities, Guangdong, and Hainan province with high income and many economic opportunities, and 2) those with rich natural resources and a specialization in heavy industry such as Yunnan, Shanxi, Qinghai, Liaoning and Xinjiang. Efficient outmigration occurs in Sichuan (42%), Guanxi (42%), Anhui (35%), Zhejiang (38%), Hebei (30%), and Hunan (27%). Those provinces have large populations, or they are geographically close to the most attractive migration destinations. For example, Hebei province is close to Beijing and Tianjin, Anhui and Zhejiang to Shanghai, Guangxi and Hunan to Guangdong.

Figure IV. Chinese Administrative Provinces and Three Regions

Figure V. Spatial Distribution of Male Migration Efficiency

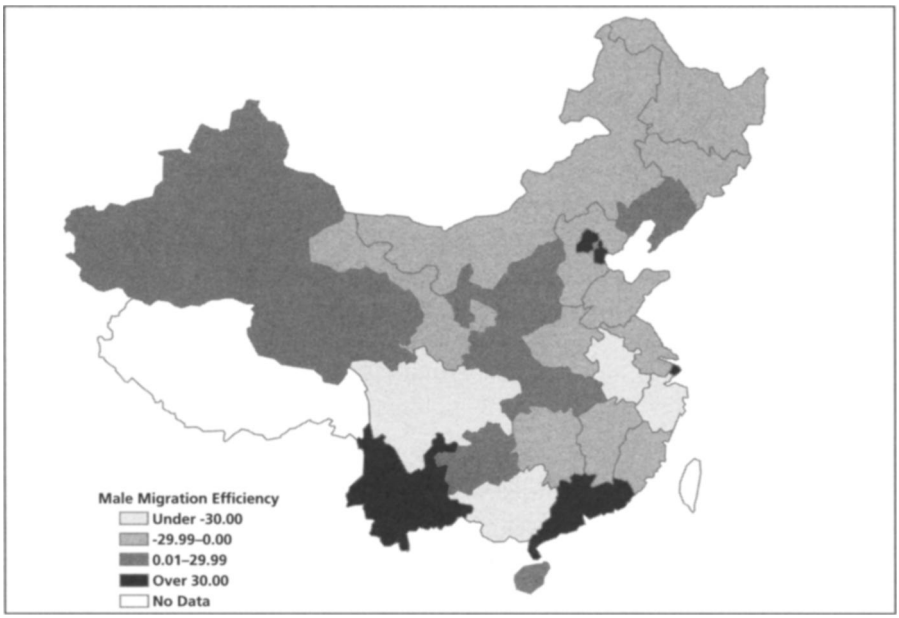
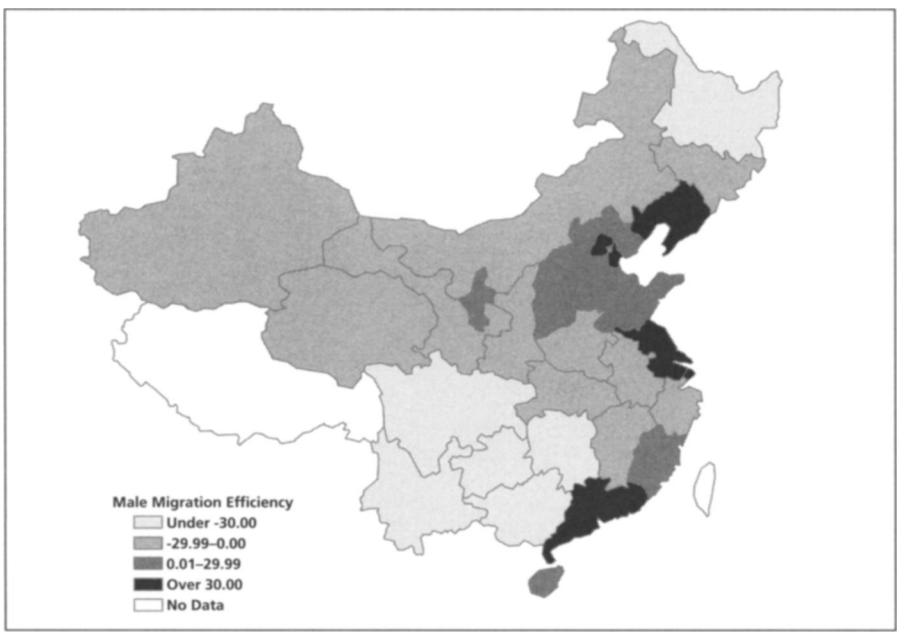


Figure VI. Spatial Distribution of Female Migration Efficiency



In contrast to male migration patterns, positive female migration efficiency is more geographically focused. Except Zhejiang province, all coastal provinces exhibit highly efficient in-migration. The inland provinces of Shanxi and Ningxia also have positive female efficiencies. The most efficient female migration streams are to Guangdong (81%), Beijing (74%), Shanghai (71%), Tianjin (61%), Jiangsu (34%), Liaoning (31%) and Fujian (26%), Shandong (26%) and Ningxia (29%). The coastal region has experienced fast economic growth, has developed many light manufacturing industries and township and village enterprises, and has attracted a large amount of foreign direct investment compared with inland counterparts.

The pattern of efficiencies relates to the pattern of migration motives (Table 1). Economic reasons are especially important in provinces with large positive efficiencies, including Guangdong (83%), Guizhou (78%), Qinghai (77%), Yunnan (74%), and Hainan (72%). Study/training also accounts for a significant percentage among the male in-migrants in Beijing (18%), Hubei (18%), Tianjin (17%), Shanghai (13%) and Liaoning (13%). Moving to friends and joining with family play a significant role in driving men to move to Xinjiang (29%), Ningxia (30%), Liaoning (28%) and Tianjin (22%).

TABLE 1
PERCENTAGES OF IN-MIGRANTS BY MIGRATION REASONS IN SELECTED PROVINCES

Region	Job Transfer	Job Assign	Work/ Business	Study/ Training	To Friend/ Relative	Retired	With Family	Marriage	Other	MEj
Male In-migration										
Beijing	10.95	8.41	48.01	17.98	5.32	0.90	3.69	1.61	3.12	63.61
Tianjin	14.86	12.04	26.55	17.37	13.98	1.71	8.33	1.04	4.12	49.52
Shanxi	13.10	4.62	52.73	5.12	5.18	0.96	6.68	1.97	9.63	17.26
Liaoning	13.95	4.62	31.30	13.00	19.08	0.65	8.84	2.64	5.92	28.53
Shanghai	18.63	3.20	44.34	13.07	7.48	3.33	3.72	1.32	4.91	64.87
Hubei	19.35	5.29	34.82	17.52	3.78	0.63	6.54	3.07	9.00	18.16
Guangdong	15.28	4.70	63.15	3.32	1.41	0.76	6.34	0.24	4.81	52.64
Hainan	8.19	4.42	59.62	1.55	13.97	0.14	5.71	1.21	5.19	27.98
Guizhou	14.51	5.54	57.32	2.12	3.62	1.41	4.63	2.97	7.88	13.70
Yunnan	13.47	4.20	56.38	3.96	3.41	0.55	3.18	6.98	7.87	31.27
Qinghai	11.82	6.42	59.12	1.84	4.70	0.33	8.38	1.40	5.99	15.22
Ningxia	12.32	7.52	40.72	1.33	13.09	0.50	16.55	2.52	5.45	19.92
Xinjiang	4.58	3.19	52.22	0.65	25.64	0.12	3.85	1.40	8.36	17.04
Female In-migration										
Beijing	7.41	5.83	27.86	14.68	18.53	0.50	10.58	12.76	1.84	74.34
Tianjin	8.40	3.23	10.27	11.19	24.74	0.35	15.53	24.24	2.05	61.39
Hebei	10.16	1.95	4.71	3.51	8.08	0.60	17.22	52.12	1.64	12.34
Shanxi	5.18	2.31	10.65	3.29	15.59	0.25	22.28	31.28	9.16	16.15
Liaoning	5.12	2.35	10.13	6.47	27.54	0.22	21.39	20.13	6.65	30.87
Shanghai	14.35	2.02	29.94	12.97	18.12	1.80	9.97	6.53	4.30	70.86
Jiangsu	10.22	1.66	9.76	5.41	6.81	1.28	12.10	50.21	2.55	34.25
Fujian	4.43	1.80	12.16	2.32	5.67	0.28	11.54	57.28	4.52	25.97
Shandong	10.18	2.19	4.74	2.18	12.88	0.82	21.44	38.29	7.29	26.22
Guangdong	6.41	1.24	59.86	1.25	2.28	0.39	7.28	18.40	2.89	81.44
Ningxia	4.86	3.49	11.19	1.28	24.26	0.19	31.50	20.56	2.67	28.69

Though social reasons are the dominant reasons for female migration overall, women who migrate to Guangdong province are drawn strongly by economic reasons directly related to job transfer, job assignment and industry/business. Study or training also accounts for significant percentages in the three municipal cities. In terms of social reasons, moving to friends or relatives plays a substantial role in Tianjin (40%), Shanxi (38%), Liaoning (49%), Shandong (34%), and Ningxia (56%). Marriage is the most important reason for women to move to Fujian (57%), Hebei (52%), Jiangsu (50%), Shandong (38%) and Shanxi (31%). Marriage and economic reasons are the two major reasons to migrate for Chinese women although Fan and Huang (1998) have shown that the two can be intertwined. Through marriage migration, women not only benefit from the resources of the husband's family, but they also are in a better position to take advantage of economic opportunities and social benefits in the destination regions (Fan and Huang, 1998; Davin, 1999).

The efficiency of population flows in the 29-by-29 matrix of provinces sheds more light on gender differences in the pattern of Chinese migration. There are many more salient flows with efficiencies greater than 75 among women than men (Figure VII and VIII). Among the 812 possible interprovincial migration flow efficiencies, 69 female flows, but only 17 male flows, have values higher than 75. Only one male migration flow but 16 female flows have an efficiency scores over 90. In general, the most efficient flows connect inland provinces to rapidly growing and modernizing regions such as Beijing, Tianjin, Shanghai, Guangdong and Hainan. There are substantial differences between the origin and the destination provinces in terms of economic opportunities, economic growth, economic structure and economic development. Strong migrant networks have emerged to redistribute population in the face of massive transformation of the space economy.

METHODOLOGY AND HYPOTHESES

The above descriptive analysis provides a general picture of gender differences in China's interprovincial migration. We attempt to identify the determinants of migration flow efficiency for females and males. The migration flow efficiency is assumed to be a function of a number of origin and destination provincial attributes and previous migration, which are likely to influence the direction of migration flow.

The model takes the following form:

$$ME_{ij} = f(FDI_{ij}, TVE_{ij}, GROW_{ij}, URBAN_{ij}, CON_{ij}, LIGHT_{ij}, EX87_{ij}, IM87_{ij})$$

Figure VII. Most Efficient Male Migration Flows (>75%)

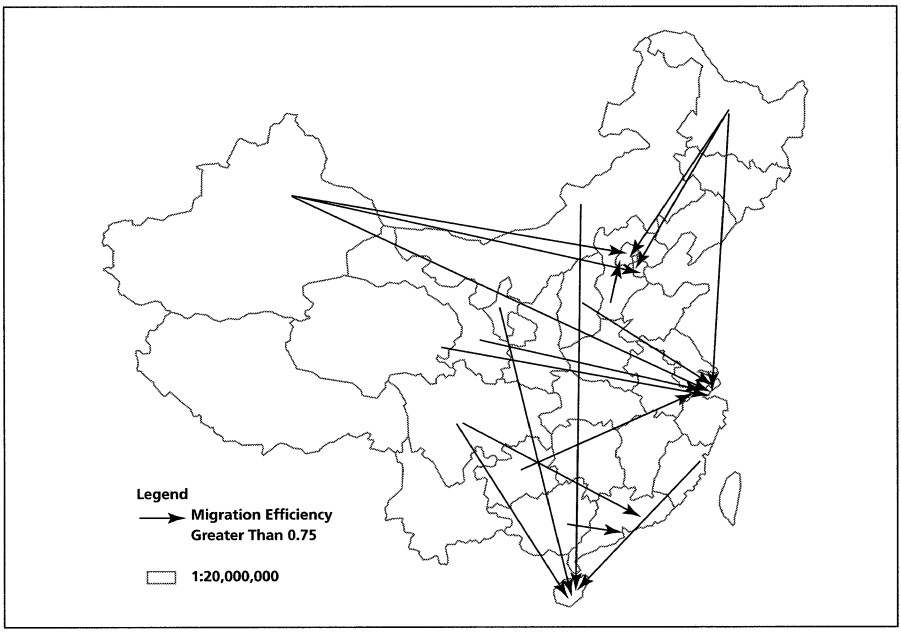
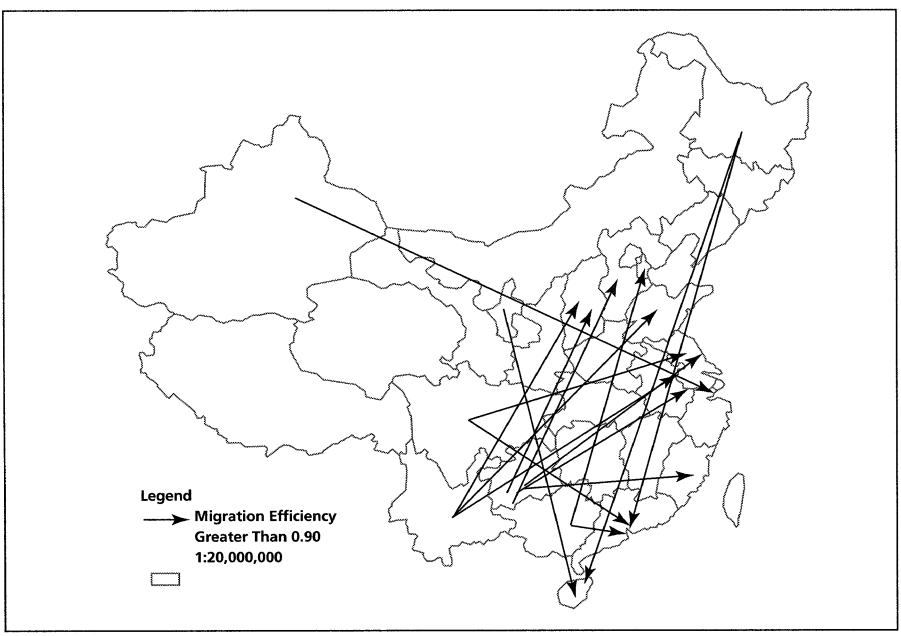


Figure VIII. Most Efficient Female Migration Flows (>90%)



That is, migration flow efficiency is a function of regional differences in per capita cumulative foreign direct investment (FDI_{ij}), development of township and village enterprises (TVE_{ij}), economic growth ($GROW_{ij}$), urbanization level ($URBAN_{ij}$), development of light manufacturing ($LIGHT_{ij}$) and construction (CON_{ij}), previous out-migration rate ($EX87_{ij}$) and previous in-migration rate ($IM87_{ij}$) (Table 2). These variables represent ratios of conditions in the destination (province j) relative to the origin (province i).

Internal migration in China is associated with the open door policy and economic reforms. Economic reforms have led to a massive inflow of foreign direct investment and the remarkable development of township and village

TABLE 2
DEPENDENT AND INDEPENDENT VARIABLES: DEFINITIONS, DATA SOURCES AND HYPOTHESES

Variable	Definition	Data sources	Expected Signs
M_MEij	Male migration flow efficiency from province i to province j	The 1990 population census (SSB, 1993)	
F_MEij	Male migration flow efficiency from province i to j	The 1990 population census (SSB, 1993)	
FDIij	Ratio of per capita cumulative realized foreign direct investment during 1986-1990 in province j to that in province i	China Foreign Economic Statistical Yearbook (SSB, 1993)	Sign: positive coefficient on M_MEij
TVEij	Ratio of the share of rural labor forces in the township and village enterprises in province j to that in province i in 1990	China Statistical Yearbook (SSB, 1991)	Sign: positive; Larger coefficient on F_MEij
GROWij	Ratio of growth rate of per capita GDP at the 1978 fixed price between 1985-1990 in province j to that in province i	China Regional Economy: A Profile of 17 Years of Reform and Opening-up (SSB, 1996)	Sign: positive; Larger coefficient on F_MEij
URBANij	Ratio of the percentage of nonagricultural population in province j to that in province i in 1990	China Statistical Yearbook (SSB, 1991)	Sign: positive; Larger coefficient on M_MEij
CONij	Ratio of percentage of construction GDP in secondary industry GDP in province j to that in province i in 1990	China Statistical Yearbook (SSB, 1991)	Sign: positive coefficient for M_MEij
LIGHTij	Ratio of percentage of light industrial output in total industrial output in province j to that in province i in 1990	China Statistical Yearbook (SSB, 1991)	Sign: positive; Larger coefficient on F_MEij
EX87ij	Ratio of out-migration rate in the time period of 1982-1987 in province j to that in province i	1% population sample survey in 1987 (SSB, 1988)	Sign: negative; Larger coefficient on F_MEij
IM87ij	Ratio of in-migration rate in the time period of 1982- 1987 in province j to that in province i	1% population sample survey in 1987 (SSB, 1988)	Sign: positive; Larger coefficient on F_MEij

enterprises in some parts of China, creating thousands of job opportunities and leading to large geographic variations in economic opportunities. Unlike state-owned enterprises, foreign enterprises and township and village enterprises rely on the nascent labor markets to hire workers (Ma, 1997). Foreign enterprises generally offer higher salaries than do domestic enterprises. Foreign direct investments, therefore, create economic opportunities and economic stimuli for migrants. Studies show that migrants tend to concentrate in economic sectors newly developed after economic reforms (Cai, 1997). The huge amount of foreign investments targeted for the coastal provinces has attracted large amounts of labor from the central and western areas. Fan (1996) and Wei (1997) found that foreign investment played a significant role in intraprovincial and interprovincial migration, but it is not clear whether males and females respond differently to these new employment opportunities. Given their higher levels of education and higher perceived income gains from migration, male migrants should be better able than females to make an early response to job opportunities in foreign enterprises. We expect that the presence of foreign direct investment, as measured by a relational variable, FDI_{ij}, the ratio of per capita cumulative realized foreign direct investments in the destination and origin provinces between 1986 and 1990, attracts both male and female migrants, but has a stronger effect on males.

Market transition brought about the development of township and village enterprises in rural areas, resulting from agricultural reforms, surplus labor, and savings. Those enterprises often focus on labor-intensive sectors such as food, textiles, clothing, and toys, demanding unskilled and semiskilled labor, particularly female workers. Li and Li (1995), for example, found that the size of the nonstate sector was significantly related to the migration propensities of females but not of males during the period 1982-1987. To measure the effects of geographically varying new job opportunities in rural areas, we include TVE_{ij}, the ratio of percentage of rural labor force in township and village enterprises in the destination to that in the origin province. We expect TVE_{ij} to be significant for both men and women but to have a larger positive coefficient in the female model.

Previous studies show a positive relationship between income level and interprovincial migration in China (Li and Li, 1995; Fan, 1996; Shen, 1999). Indeed, Scharping (1997) claimed that income difference is the most crucial determinant of internal migration. We measure income growth, $GROW_{ij}$, as the ratio of the growth rate between 1985 and 1990 in per capita GDP in the destination relative to the origin province. We anticipate a significant posi-

tive relationship for both men and women, but a stronger relationship for women. The economic reform has meant giving existing enterprises more freedom in how to remunerate workers and in whom to hire (Gustafsson and Li, 2000). Women are often assumed to be less productive and more costly (Park, 1992). The market transition actually has weakened the institutional support for gender equality in the workplace (Yang and Guo, 1999; Liu *et al.*, 2000). Women are seldom regarded highly by factory management (Woon, 1999). Economic growth indicates more expected economic opportunities and higher expected per capita income. Because of the gender discrimination in the nascent labor markets, female migrants are more likely to find jobs and expect higher per capita income in fast growing provinces. The higher probability of securing jobs and higher expected per capita income in the fast growing provinces may draw female migrants to those provinces.

Urbanization brings more opportunities for paid employment and thus stimulates population redistribution to take advantage of these opportunities. We use the percentage of nonagricultural population, $URBAN_{ij}$ – the ratio of percentage of nonagricultural population in the destination province to that in the origin province in 1990 – to represent urbanization level. Because of administration changes, many rural areas were reclassified as urban, the percent urban overstates the urbanization level in many coastal provinces. The nonagricultural population is a more accurate measurement of urbanization in China. The nascent urban labor market in China is very segregated and favors men (Zhang, 1999). Many companies have shown reluctance to hire women. Women's access to urban employment has been very restricted (Fan and Huang, 1998; Yang and Guo, 1999). We anticipate $URBAN_{ij}$ will be positively related to migration efficiency for both men and women, but we anticipate a larger coefficient for men than for women.

The nature of occupational opportunities determines the drawing force of regions for men and women. Studies show that male migrants are more likely to find jobs in construction and heavy industry, while female migrants are more likely to be hired in labor-intensive manufacturing industries and services (Cai, 1997; Davin, 1997, 1999). We include the share of construction industry output in the secondary sector in the destination relative to that in the origin province in 1990 (CON_{ij}) and the ratio of share of light industrial output in the gross industrial output in the destination province to that in the origin province in 1990 ($LIGHT_{ij}$) in the model. We expect the presence of a large construction industry to attract male migrants, while the presence of labor intensive light industries draws female migrants.

Given the importance of family relationships and social ties in Chinese society, we expect networks created by previous migrants to be important in directing migration flows (Scharping, 1997; Rozelle *et al.*, 1999). In general, migration networks increase the propensity to migrate to a specific destination because of a demonstration effect – the fact that previous migrants reduce the expected costs and risks of migration (Hugo, 1991) and demonstrate the expected benefit of migration (Taylor, 1986). Kinship, personal and community-based networks provide information about destinations and lower the barriers to migration by mobilizing financial, political and distributional resources to obtain jobs and accommodation (Davin, 1999). Sample surveys on migrants and floating populations in Shenzhen and Foshan in Guangdong provinces have shown that migrants get information about work and living conditions from relatives and friends of common origins who migrated previously (Scharping, 1997; Rozelle *et al.*, 1999). Women, who are poorly educated and have limited access to formal information from newspapers and other public resources rely more heavily on informal information from friends and relatives. The risks and costs of migration may be higher for women than for men since they are more exposed than men to risks such as rape and assault. Families may let their female members move only if they have close friends or relatives in the destinations or if they migrate with another woman (Davin, 1999). Since the job market is not favorable for female migrants, the existence of social networks is particularly important in helping female migrants look for jobs or secure jobs before they move (Zhang, 1999). In addition, women are more likely to make associational migration. We hypothesize that previous migration exerts a stronger effect on female than on male migration efficiency. To investigate the effects of previous migration, we include the ratio of out-migration rate during the period 1982-1987 in the destination province to that in the origin province ($EX87_{ij}$), and the ratio of in-migration rate during the period 1982-1987 in the destination province to that in the origin province ($IM87_{ij}$). The migration data for 1982-1987 are from the 1987 one percent population survey. We expect that $EX87_{ij}$ holds a negative sign, while $IM87_{ij}$ has positive sign.

In our migration system, there are 29 provinces. Migrants in each province have 28 potential destinations, generating 812 migration flows. Based on the 812 migration flows, we calculate the migration flow efficiency for both men and women. Migration flow efficiency is our dependent variable. To estimate the coefficients of independent variables, we could simply use half of the matrix (including 406 observations) to run the OLS estima-

tion without considering individual provincial effects. The model will be as follows:

$$ME_{ij} = \alpha_0 + \beta_1 FDI_{ij} + \beta_2 TVE_{ij} + \beta_3 GROW_{ij} + \beta_4 URBAN_{ij} + \beta_5 CON_{ij} + \beta_6 LIGHT_{ij} + \beta_7 EX87_{ij} + \beta_8 IM87_{ij} + \varepsilon_{ij}$$

where α_0 is the constant term, β_i is the coefficient for variable i and ε_{ij} is the random disturbance. Subscripts i and j denote the sending and receiving provinces respectively.

These data can also be viewed as a panel. The fundamental advantage of a panel data set over a cross section is that it allows us far greater flexibility in modeling individual provincial effects. Since we use half of the matrix, these data are an unbalanced panel. The basic framework is a regression model:

$$ME_{ij} = \alpha_i + \beta_1 FDI_{ij} + \beta_2 TVE_{ij} + \beta_3 GROW_{ij} + \beta_4 URBAN_{ij} + \beta_5 CON_{ij} + \beta_6 LIGHT_{ij} + \beta_7 EX87_{ij} + \beta_8 IM87_{ij} + \varepsilon_{ij}$$

where α_i is the individual provincial effect specific to the province i (either a sending or a receiving province), accounting for any unobservable provincial specific effects not included in the regression. The ε_{ij} term represents the remaining disturbance and varies across both sending and receiving provinces.

There are two basic frameworks used to generalize this model. The fixed effects model (FE) takes α_i to be a group-specific constant term in the regression model. The random effects model (RE) specifies that α_i is a group specific disturbance, similar to ε_{ij} (Greene, 2000). Both FE and RE models accommodate unobservable heterogeneity. In the FE model, the α_i are fixed parameters to be estimated, while in the RE model, the α_i are assumed to be random, independent and identically distributed. From this point of view, the FE model is less efficient than the RE model because of the lost degree of freedom. Unlike the FE model, the RE model relegates unobservable effects into the error term and assumes that they are uncorrelated with regressors. However, the violation of this assumption may lead the RE model to produce biased and inconsistent estimates (Greene, 2000).

Following Greene (2000), three tests are applied to choose the best statistical model: the likelihood ratio (LR) test for the OLS model against the FE model; the Lagrange multiplier (LM) test for the OLS model against the

RE model; and the Hausman specification (HS) test for the RE model against the FE model.

The LR test statistic, which concerns fixed effects, under the null hypothesis:

$$\alpha_1 = \alpha_2 = \ldots\ldots = \alpha_n = \alpha, \quad \text{is:}$$

$$LR = n*m*\log(1 + \frac{RRS_r - RSS_u}{RSS_u}) \sim \chi^2(n-1)$$

where: RSS_r and RSS_u represent the residual sums of squares in the OLS model and the FE model respectively, and n and m represent the number of sending and receiving provinces respectively. A large value for the LR static favors the FE model over the OLS model.

If the provincial effects do not exist, OLS estimators are best linear unbiased and GLS estimators are inefficient. To choose between the OLS and RE model, Breusch and Pagan (1980) have derived an LM test for the null hypothesis: $\sigma^2_\alpha = 0$. The LM statistic is:

$$LM = \frac{n*m}{2(m-1)}\left[\frac{\sum_{i=1}^{n}\left[\sum_{j=1}^{m} e_{ij}\right]^2}{\sum_{i=1}^{n}\sum_{j=1}^{m} e_{ij}^2} - 1\right]^2 \sim \chi^2(1)$$

where e_{ij} is the residuals, and n and m represent the number of sending and receiving provinces respectively. A large value for the LM statistic favors the RE model against the OLS model.

To choose between the FE and RE models, we test the hypothesis that α_i and the regressors are uncorrelated. Under the null hypothesis that the RE model is the correct specification, the HS test is based on the Wald criterion:

$$HS = [b_{fe} - b_{re}]' Var[b_{fe} - b_{re}]^{-1} [b_{fe} - b_{re}] \sim \chi^2(k)$$

where b_{fe} and b_{re} are estimators of regressors in the FE and RE models respectively, k represents the number of regressors, and *Var* is the variance-covariance matrix. A large value of the Hausman statistic favors the FE model over RE model.

STASTICAL RESULTS

Correlation analysis concluded that there are no serious multicolinearity problems in the model estimations (*see* Table 3). Table 4 and Table 5 report the regression results of OLS, FE and RE models for male and female migration flow efficiency, respectively. All model specifications fit the data better for female migration than for male migration. We consider the group effects of sending and receiving provinces separately. The LR and LM tests reject the OLS models in favor the FE or RE models, indicating the sending and receiving provincial effects in the migration flow efficiency. The Hauman's Tests generate significantly different results for male and female migration. Considering the sending provincial effects, HS tests suggest the random effects model for male migration while fixed effects model for female migration. This result indicates that the sending provincial effects are uncorrelated with the other variables in the male model. For the models introducing receiving provincial effects, the HS tests generate the completely opposite suggestions: fixed effects model for male migration and random effects model for female migration. Our analysis will focus on the most favorable models.

TABLE 3
CORRELATION COEFFICIENTS BETWEEN INDEPENDENT VARIABLES

Variables	FDI_{ij}	TVE_{ij}	$GROW_{ij}$	$URBAN_{ij}$	CON_{ij}	$LIGHT_{ij}$	$EX87_{ij}$	$IM87_{ij}$
FDI_{ij}	1.000	0.1797	0.3080	0.0139	-0.0455	0.2322	-0.1426	0.0469
TVE_{ij}		1.000	0.0490	0.1192	-0.1376	0.1073	-0.1796	0.5133
$GROW_{ij}$			1.000	-0.0029	0.1310	0.3659	-0.2309	-0.0106
$URBAN_{ij}$				1.000	-0.2235	-0.2752	0.3418	0.2332
CON_{ij}					1.000	0.0236	-0.0217	0.0615
$LIGHT_{ij}$						1.000	-0.5663	-0.1857
$EX87_{ij}$							1.000	0.2726
$IM87_{ij}$								1.000

Statistical results indicate significant gender differences in the determinants of migration flow efficiency and largely support our previous hypotheses.

Coefficients of foreign direct investment variables are significant and positive in the male model while insignificant in the female model when controlling for the sending provincial effects. The introduction of foreign direct investments mainly directed the flow of male migrants in the 1980s. Efficient male migration flows went to Guangdong, Beijing, Tianjin and Shanghai, the key locations for foreign direct investment in the 1980s. Establishment of foreign enterprises in China was a new phenomenon in the 1980s, and men responded more quickly than women given their higher levels of education and higher perceived income gains from migration.

TABLE 4
REGRESSION RESULTS OF MALE MIGRATION FLOW EFFICIENCY

	Dependent Variable: Male Migration Flow Efficiency (M_MEij)				
Variable	OLS	Fixed Effect Model (LSDV)	Random Effect Model (GLS)	Fixed Effect Model (LSDV)	Random Effect Model (GLS)
Constant	-0.2673[a]		-0.2747[b]		-0.1207
	(-2.879)		(-2.526)		(-0.986)
FDI_{ij}	0.000028[c]	0.000026[c]	0.000026[c]	-0.0000036	0.0000024
	(1.670)	(1.689)	(1.711)	(-0.238)	(0.162)
TVE_{ij}	0.0688[a]	0.1141[a]	0.1096[a]	0.0324[b]	0.0427[a]
	(4.592)	(6.835)	(6.760)	(1.984)	(2.718)
$GROW_{ij}$	-0.0536	-0.0319	-0.0344	0.0137	-0.0038
	(-1.412)	(-.667)	(-0.751)	(0.302)	(-0.088)
$URBAN_{ij}$	0.0721[a]	0.0555[b]	0.0567[b]	0.0358[c]	0.0451[b]
	(3.765)	(2.058)	(2.228)	(1.790)	(2.307)
CON_{ij}	0.1154[a]	0.1428[a]	0.1433[a]	-0.0138	0.0309
	(2.733)	(3.042)	(3.157)	(-0.231)	(0.571)
$LIGHT_{ij}$	0.0777[c]	0.0118	0.0212	0.0413	0.748
	(1.709)	(0.189)	(0.359)	(0.801)	(1.522)
$EX87_{ij}$	-0.1045[a]	-0.0537[c]	-0.0588[b]	-0.1315[a]	-0.1189[a]
	(-4.226)	(-1.904)	(-2.144)	(-4.754)	(-4.446)
$IM87i_{ij}$	0.0479[a]	0.0243[a]	0.0271[a]	0.0174[b]	0.0227[a]
	(5.974)	(2.767)	(3.169)	(2.045)	(2.741)
Provincial effects		Sending provincial effects	Sending provincial effects	Receiving provincial effects	Receiving provincial effects
# of obs	406	406	406	406	406
R-squared	0.3451	0.5753	0.3111	0.5472	0.2524
Tests	LR	LM	HS	LM	HS
Degree of freedom	28	1	8	1	8
Statistic	175.84[a]	157.55[a]	4.28	85.02[a]	13.50*

Notes: Figures in parentheses are t statistics.
[a]Significant at the 1% level
[b]Significant at the 5% level
[c]Significant at the 10% level

Development of township and village enterprises in China's rural areas is a strong driving force for both female and male migrants, but a stronger force for women than for men. New job opportunities in rural areas are more attractive to female migrants than male migrants. In China's gendered and segregated labor market, smaller scale and labor-intensive township and village enterprises provide more opportunities for women.

Growth rate of per capita GDP ($GROW_{ij}$) is insignificant in both male and female models controlling for sending provincial effects, but significant in the female model when controlling the receiving provincial effects. This suggests that female migrants respond to economic growth. Women move out of slowly growing provinces and to the rapidly growing destinations. Faster economic growth created more economic opportunities and higher

TABLE 5
REGRESSION RESULTS OF FEMALE MIGRATION FLOW EFFICIENCY

	Dependent Variable: Female Migration Flow Efficiency (M_MEij)				
Variable	OLS	Fixed Effect Model (LSDV)	Random Effect Model (GLS)	Fixed Effect Model (LSDV)	Random Effect Model (GLS)
Constant	-0.3495[a]		-0.2877[a]		-0.3342[b]
	(-3.542)		(-2.681)		(-2.518)
FDI_{ij}	-0.000011	0.000007	0.000004	-0.000015	-0.000013
	(-0.596)	(0.442)	(0.271)	(-0.922)	(-0.797)
TVE_{ij}	0.1387[a]	0.1391[a]	0.1391[a]	0.1200[a]	0.1270[a]
	(8.714)	(8.001)	(8.361)	(6.686)	(7.378)
$GROW_{ij}$	0.0665[c]	0.0433	0.0463	0.1082[b]	0.0982[b]
	(1.649)	(0.869)	(0.992)	(2.162)	(2.073)
$URBAN_{ij}$	0.0665[a]	0.0027	0.0121	0.0795[a]	0.0829[a]
	(3.269)	(0.096)	(0.472)	(3.609)	(3.864)
CON_{ij}	0.2404[a]	0.1576[a]	0.1727[a]	0.2141[a]	0.2407[a]
	(5.360)	(3.222)	(3.712)	(3.264)	(4.086)
$LIGHT_{ij}$	0.0371	0.1815[a]	0.1568[a]	-0.0632	-0.0262
	(0.767)	(2.791)	(2.629)	(-1.114)	(-0.487)
$EX87_{ij}$	-0.1967[a]	-0.1609[a]	-0.1671[a]	-0.1965[a]	-0.1876[a]
	(-7.491)	(-5.472)	(-5.945)	(-6.458)	(-6.396)
$IM87_{ij}$	0.0430[a]	0.0251[a]	0.0280[a]	0.0285[a]	0.0311[a]
	(5.053)	(2.753)	(3.194)	(3.047)	(3.433)
Provincial effects		Sending provincial effects	Sending provincial effects	Receiving provincial effects	Receiving provincial effects
# of obs	406	406	406	406	406
R-squared	0.5066	0.6925	0.4630	0.6343	0.4900
Tests	LR	LM	HS	LM	HS
Degree of freedom	28	1	8	1	8
Statistic	191.916[a]	237.22[a]	13.79[c]	92.30[a]	5.06

Notes: Figures in parentheses are t statistics.
[a]Significant at the 1% level
[b]Significant at the 5% level
[c]Significant at the 10% level

expected per capita income. The consumer goods and labor-intensive sectors were the major engines of economic growth during the post-reform era (Szirmai and Ruoen, 2000). The results belie the notion of women as merely associational migrants, oblivious to economic considerations, and depicts them instead in the neoclassical sense as moving from slow-growth to rapid-growth regions thereby reducing regional inequalities in income and wealth.

Urbanization level ($URBAN_{ij}$) is positive and significant in the male model, but insignificant in the female model controlling for sending provincial effects, indicating that a higher urbanization level in the destination attracts male migrants, but not female migrants. Controlling receiving provincial effects, urbanization exerts stronger effects on female migration efficiency, implying lower urbanization levels pushed women out of their origin provinces.

Regression results clearly show that light manufacturing industries draw female migrants, evidenced by the large and significant coefficients of $LIGHT_{ij}$ in the two female models. $LIGHT_{ij}$ is not significant in the male model. The coefficients of the construction industry variable (CON_{ij}) are significant for both male and female migration, although larger in the female model. This suggests, contrary to our expectations, that an emerging construction industry attracts female as well as male migrants. Unclear at this point is whether female migrants are finding jobs directly in construction sites or indirectly in sectors linked to the construction industry.

Previous migration rates are significant in all models and hold expected signs. Higher in-migration rate in a province during a previous period leads to more efficient migration flows to that province during the current period. Similarly, higher out-migration from a province in an earlier period stimulates more efficient migration flows out of that province during the current period. Coefficients of the out-migration rates ($EX87_{ij}$) are larger in the two female models, but coefficients of the in-migration rate ($IM87_{ij}$) do not vary by gender. This result indicates that female migrants benefit more than men from previous out-migration from origin regions, but not by previous in-migration to destination regions.

CONCLUSIONS

The main objective of this study was to investigate gender differences in China's internal migration system. We present a theoretical argument that migration grows out of a complicated web of economic and social conditions that vary geographically, mitigated by gender roles and gender relations. Gender differentials in migration reflect differing responses to economic opportunities, the gendered nature of occupational opportunities, segregated labor markets, and social and cultural constraints. Our analysis supports the idea that gender issues in migration can be understood under the guide of the conventional perspectives such as the neoclassical and human capital approaches.

Several key findings may be summarized regarding the interprovincial migration patterns of men and women. First, men are more likely than women to make interprovincial moves. The social and cultural constraints on women, low human capital investment, and gender discriminated labor markets lower the migration propensity of women. Second, men officially state that they are driven to migrate for economic reasons while women indicate social considerations related to marriage and family. Whether stated reasons reflect traditional and accepted gender roles or real motivations is unclear to us at this time.

Economic considerations may be hidden under the guise of social migration, as in the case of marriage migration (Fan and Huang, 1998). A third finding is that female migration is more efficient than male migration, resulting in greater population redistribution. The most efficient female migration flows are directed toward the coast from inland provinces, especially from southwestern and northeastern China. The most male migration flows go to the three municipal cities and Guangdong and some inland provinces.

Viewing the data structure of interprovincial migration flows as a panel, we found significant gender differences in the determinants of migration efficiency. Women are more sensitive to perceived job opportunities and expected economic opportunities and are especially attracted to provinces that experienced faster income growth and developed township and village enterprises in rural areas. Job opportunities created in urban areas and by foreign enterprises are more attractive to male migrants. Gendered mobility patterns are also influenced by the gender preference of occupation. In particular, women are drawn to provinces with concentrations of light manufacturing industries. Economic factors accounted for more variation of female migration efficiency than male migration efficiency, which supports the view that migration is more strongly geared toward economic considerations than many women openly admit when they state their official reason for moving. Economic considerations may be deeply embedded in socially accepted gender roles, as Fan and Huang (1998) have suggested. Findings also indicate that previous migration significantly influences migration efficiency, with women benefiting more than men from previous out-migration.

In many ways, this research raises more questions than it answers. We do not have complete explanations for the all differences between male and female migration; it is clear that males and females have responded differently to the economic and social changes inherent in the transition to a market economy. Differing responses are, in many ways, a reflection of gender relations and accepted gender roles in Chinese society. Especially intriguing and worthy of further study is the obvious importance of economic factors in directing female migration flows, despite the relative low priority Chinese women place on economic considerations as reasons for their moves and factors underlying more efficient migration flows for women than men.

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