Fertility desires and behaviors of temporary migrant women: The case of Anhui and Sichuan of China

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Abstract

This paper uses quantitative data and in-depth-interview materials from "Influence of migration on rural women" survey in 2000 to analyze the differences of fertility between migrants and nonmigrant in China. The author finds that first, the migrant women desire fewer children than nonmigrants and also have fewer actual ever-born children, and they also give birth later and have longer birth interval. Second, the differences not only result from selectivity of migrants but also from migration itself. Migration affects fertility through two routes: assimilation to destination and instrumental demand to change (separation between wife and husband, reluctant fertility change in order to be employed in cities). Third, migrants are not different from nonmigrant in desired children sex composition. Change of desired children sex lags behind that of desired children number and it is much harder to change since the acme of fertility culture is boy preference or “at least one boy”.

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A new social group, floating population or temporary migrants[1] emerged in China in the early 1980's and the size increased quickly after that. Today, this group numbers about 100 million according to some estimates (Hao Cheng, 1996; ChengRong Duan, 1998). The floating population is called "group in-between" by some scholars (Huang Chengxi, 1998; Huang Runlong, 2000) for two reasons. First, the floating population often moves back and forth between their original hometown and the destination where the former is often rural area and the latter urban. This group is often ignored by the offices of family planning both in their hometowns and the destinations because of the changes of residence. In this way, the floating population is a group in-between. Another reason focuses on the hard adaptability to the rural and urban of this group. The floating population often moves alone without their family, so they have to keep in touch with their hometown and have close social-economic relationships in their hometown. They cannot separate themselves from the rural area completely, although their ideas and lifestyles are influenced greatly by the city and many of them can no longer adjust to life in their hometown. However, they also can not live in the urban area permanently like the city people because of the illegality of their migration — they have little or no claim on housing, medical care and education; they do the dirtiest and most exhausting work; they are discriminated by the city people. Yet they still go to work in the city because of desire for a better life. In this way, the floating population also becomes a group in-between, a group that has close links with rural and urban area and also do not get used to the two areas lifestyle and culture well. This group has many special characteristics such as their

[1] If a person wants to be a permanent migrant he has to change his household registration. The government restricts permanent migration. It is difficult to change household identification in China.

unstable life, their variable occupation, and their short-term behavior. In this paper, we will (1) identify if there are differences of fertility between the temporary migrant from rural to urban area and their villagers who never go to urban to search job; (2) examine the influence of temporary migration on fertility and explore the routes through which migration has impacts on fertility.

Previous Studies

Studies on countries and regions out of China

As regard to the relationship between migration and fertility, demographers and economists have studied it on several occasions[2]. There are four main hypotheses proposed to explain the relationship: socialization, adaptation, selectivity and disruption (Zarte and Zarte, 1975; Goldstein and Tirasawat, 1977; Wolowyna,1980; Ribe and Schultz, 1980; Lee and Farber, 1984; Hugo M.hervitz, 1985).

First, the socialization hypothesis claims that the fertility behavior of migrations reflects the fertility preferences prevalent in their childhood environment. Rural-urban migrants are expected to exhibit levels of fertility similar to those of rural stayers and convergence towards the lower fertility levels of urban stayers is expected to occur only after at least a generation has elapsed. Evidence supporting the socialization hypothesis was provided originally by Goldberg (1959,1960) and Duncan (1965) and also obtained by Edmonston (1976). However, McGirr and Hirschman (1979) did not find persuasive evidence to this hypothesis. According to this theory, our temporary migrants' fertility desire will not change since their living duration in city is relatively short.

Second, many writers propose the selectivity hypothesis, which focuses on the well-established fact that migrants are not a random sample of the population at their place of origin. Since migrants typically constitute a selected group in terms of age, education, marital status, or occupations among others, they should be expected to possess fertility preferences different from those of nonmigrants at origin. This hypothesis believes that the migrants' fertility is lower than the nonmigrants' even before their migration if the social-economic and demographic characteristics are not controlled. The studies on

[2] Most of the studies appeared from 1950's to 1980's. For extensive literature review see Alvan Zarate and Alicia Unger de Zarate, 'On the reconciliation of research findings of migrant-nonmigrant fertility differentials in urban areas'. *International Migration review*, 9(2),1975.

Colombia by Ribe and Schultz support this hypothesis strongly (1980). Oberai and Singh's research on India (1983) also prove that the migrants is younger and better educated and have lower fertility than nonmigrants of their hometown.

Third, the adaptation hypothesis assumes that the fertility intention of migrants gradually adapt to the new economic, social and cultural environments of the destination. The fertility of the migrants will converge to the level of destination rapidly, usually less than ten years. This hypothesis argues that the rural-urban migrants face a new environment in their new place of residence and the new environment provides distinctly different price for a number of interrelated life-cycle consumption-investment choices. This include the rewards to women for labor market participation outside the family, the opportunity cost of fertility, and the chance for children to receive health care and schooling. The incentives of this new environment induce women to reduce their fertility from what it would have been had they not migrated. This hypothesis implies that even when selection effects are controlled, fertility rates of rural-urban migrants after migration will remain lower than those of rural stayers. The researches on Korean by Lee and Farber (1984,1985) and on Mexico by Lee and Pol (1985) supported this hypothesis as well as in various studies by Goldstein of Thailand (Goldstein, 1978; Goldstein and Goldstein, 1981) and study on Malaysia by Bach (1981). According to adaptation hypothesis, some of our temporary migrant will change their fertility desire and some will not according to different duration living in city and different impacts of city on their life.

Finally, the disruption hypothesis suggests that in a period immediately following a change of residence migrants would show a particular low level of fertility due to the stressful situation associated with moving and the fairly common separation of spouses during early stages of the migration process. Studies by Bach on Malaysia (1981) and by Goldstein and Goldstein (1982) support this hypothesis.

Not all of the research results support these four hypotheses. Some scholars such as Lee (1992) found the fertility differential between rural-urban migrants and rural stayers is very small in Cameroon.

Studies on China

In China, the research on the relationship between migration and fertility began at the end of 1980's. "The survey on migration of 74 Towns in China" in 1987 first attained fertility information of migrants. Some scholars studied on this data and showed that the fertility of migrants is lower than that of the nonmigrants at the origin (Yang Zihui, 1988; Tan Xiaoqing, 1994). After 1987, the government took a series of fertility survey included migration information, these surveys made research on the relationship between migration and fertility possible. Ao Zaiyu(1990) got the similar conclusion by analyzing the data of "fertility survey of 2% population in 1988". Zhou Zugeng proved that the fertility of migrants from Zhejiang, Jiangsu and Anhui province to Shanghai is lower than nonmigrants at the origin. Cheng Zaihua (1996) studied on the data of "fertility survey in1992" and drew the conclusion that the migrants have selective characteristics such as younger age and better education. He suggested that migration has "two sides of a coin" impacts on fertility, it can lower the fertility; at the same time migration give the women more freedom of fertility out of control of family planning offices, so they can give births as they like, but in general, migrants' fertility is lower than nonmigrants'. These analyses only focus on the fertility behavior and not involve fertility desire, Wu Xianjiang (2000) and Huang Runlong (2000) used the data of "fertility survey in1997" to analyze the migrants' fertility desire. They argued that the desired number of children of migrants is fewer than that of nonmigrants at the origin. These researches draw an outline of the difference between migrants and nonmigrants, but they have a common limitation that the surveys were not designed to research the relationship between migration and fertility and investigations were only undertook at the destination of migration, so the nonmigrants' fertility information was attained by indirect estimation rather than direct survey.

There are 2 surveys that are special in the fertility of migrant. The first is Hubei study conducted by researchers at the Population Institute of Wuhan University in close collaboration with members of Brown University's Population Studies and Training Center. Goldstein, White and Goldstein (1997) and Gu, Wu, and Zhu (1990) used the data of this survey to analyze the fertility of temporary migrants. They found that "the fertility of temporary migrants in the period of economic reform is apparently not significantly different from nonmigrants' fertility" and "no evidence could be obtained

which shows that temporary mobility has a pro-natalist influence". The second study is Anhui study by Liu and Goldstein (1996). Liu and Goldstein's findings for Anhui closely parallel those for Hubei.

Most of the studies on China showed that the fertility of migrants is lower than nonmigrants at the origin areas, but few of them used the information of nonmigrants directly from survey, therefore, the comparison is less convincible. Since the number of temporary population is near 100 million and one third of them is women, and since the social-economic environments, fertility awareness, fertility policy and culture are very different between the rural and urban areas, it is important to see whether the temporary migrants of women have different fertility desire and behavior compared to the nonmigrants at the origin areas; if have, we should to see what induce this differential and what impacts of temporary migration brings to the fertility. This paper will use the data of Anhui and Sichuan to probe these questions.

Definition and Theory Framework

Definition

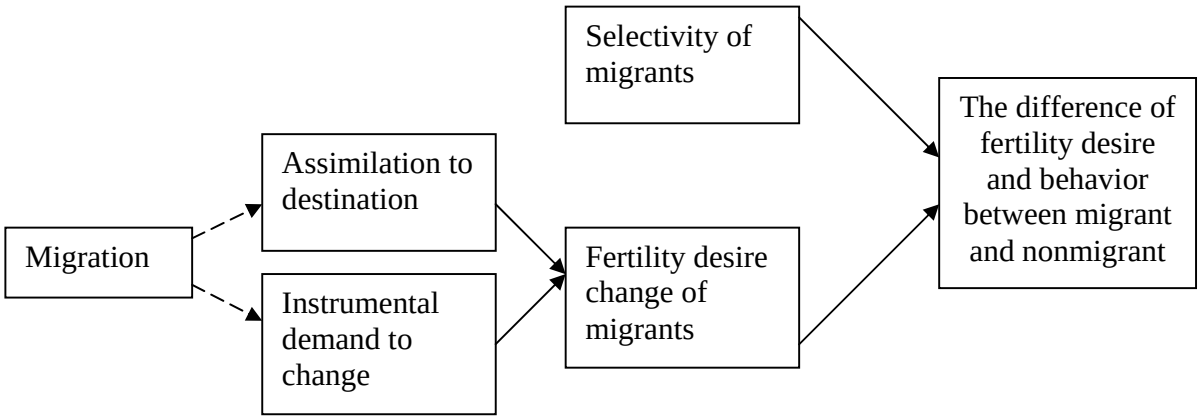
Because the definitions of "migration" and "migrant" are different between China and other countries, and because there are many names such as floating population and temporary migrant to call the group, which is like our research group, we should point out the definition of "migration" and "migrant" in our research. In this paper, migration means moving to the county or the places farer than the county from the village to search job or to work for at least one month. Migrant or migrant women or ever-out women means the women who ever have migration experience till the time of interview. Nonmigrant or nonmigrant women or never-out women means the women who never have migration experience till interview.

Theory framework

Figure 1 shows the theory framework for our research. We assume the fertility desire differences between migrant and nonmigrant exist because of two factors. The first factor is the selectivity of migrants and the second is the migration. Migration caused fertility desire change through two routes: assimilation to destination and instrumental demand to change. Assimilation to destination means the life styles and ideas of migrants tend to be

similar with that of the people in the destinations, which are often cities, and their fertility desire also tend to be similar with that of the people in the destinations. Since in general the people in cities want to have fewer children than rural people, the migrants' fertility desire will also change to desire fewer children. Instrumental demand to change means the migrants "are forced" to change their fertility desire and behavior in order to continue to work in cities. Migrants avoid to conception in order to keep the job in cities so that they can earn more money. Instrumental demand also includes the fertility results caused by separation between married couples.

Figure 1 Theory frame: the path to the difference of fertility desire between migrants and nonmigrants



Data and Analysis Method

The data come from the survey of "Influence of migration on rural women", which is supported by Ford Foundation. The interviews are taken in August and September 2000 in Anhui and Sichuan, respectively. 38 sample villages were chosen. In every village, all of the women aged 20 to 40 were interviewed and 13 women aged 16 to 19 were interviewed.

We must point out that one aim of the interview is to know the women's fertility desire, but whether the women can tell the truth under the policy is a problem. The fertility desire that we get perhaps is "the fertility desire conditional on policy"(Qiao, 1999). However, we still can compare and contrast the fertility desire between different groups under the similar family planning policy.

We will mainly use quantitative method such as crosstable and logistic regression to analyze and also depend on qualitative interview to explore.

The basic information of interviewed women

In Anhui, all of the interviewed villages belong to Huaining and Zongyang County. In these villages, the villagers began to migrate at the early 1980's. Till the late half of 1990's almost every family has somebody to migrate. Their main destinations are Shanghai, Shenyang and the cities of Zhejiang and Jiangsu province. They do the job of retailing, sewing, restaurant service and making artifact. The mean age of interviewed Anhui women is 30.07 years. The age structure and other basic information are showed in table 1.

In Sichuan, all of the interviewed villages are located in Xingwen and Changning County. Their economic developments lag behind the Anhui's Huangning and Zongyang County. The villagers in Sichuan began to migrate till the middle of 1990's and the custom of migration has been formed at the time of interview. The migrant destinations mainly are the cities of Guangdong,Xingjiang and Zhejiang Province. The migrant women mainly work in factories. The mean age of interviewed Sichuan women is 28.99;they have better education than Anhui women and the proportion of migrant women is lower than Anhui (see table 1).

Table 1 the basic information of interviewed women (%)

	Anhui	Sichuan
sample size	1565	1621
age		
16~24	11.3	14.6
25~29	31.2	40.1
30~34	41.9	35.3
35~40	15.9	10.0
education		
illiterate	29.8	4.8
primary school	49.4	68.5
junior middle school	19.7	24.5
senior middle school	1.3	2.2
proportion married women	97.4	98.9
proportion migrant women	43.8	28.8

Here, we must point out the proportion of single women is very low in our research group (see table 1). This is because most of the single women are not in their hometown but stay in cities to work in the time of interview. This is a flaw to our research since it is possible that the fertility desire differences exist between married women and single women.

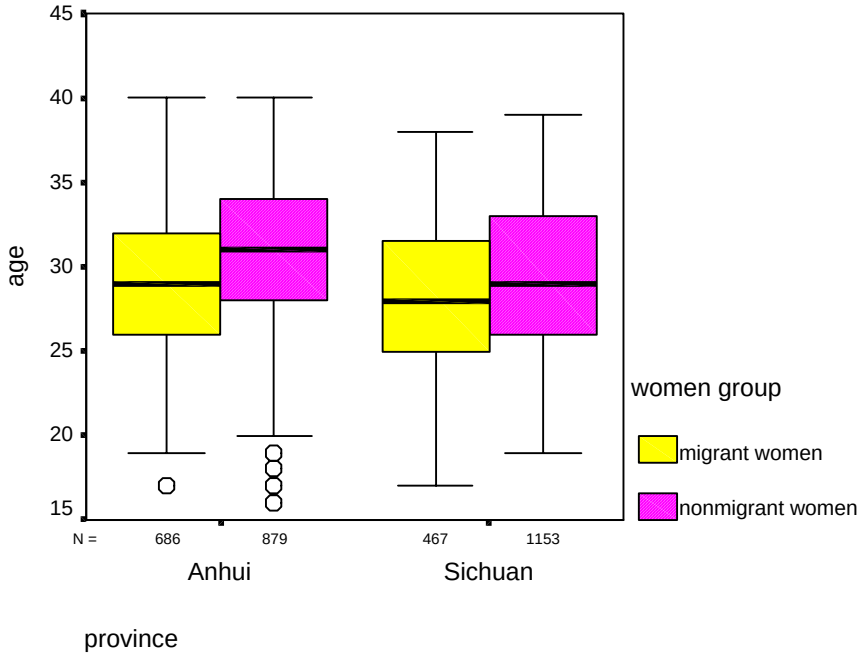
Selectivity of the migrants

According to many researchers, migrants have selectivity characters, that is, they are much younger, better educated compared to nonmigrants. These characters are also the factors that can make fertility decline. So, we should make it clear whether our temporary migrants are different with nonmigrants in age, education and other social-economic backgrounds before we see whether the fertility difference exist between this two groups. Limited by data, we only compare age, education and whether husband migrates between migrants and nonmigrants.

Age

From figure 2, we can conclude that the migrants are younger than nonmigrants in both Anhui and Sichuan. In Anhui, the proportion under 30 years old among the migrant women is 53.3 per cent, only 33.7 per cent among nonmigrant women; the median age is 29 years old for migrants and 31 for nonmigrants. In Sichuan, the age difference between the two groups is similar with in Anhui; the proportion under 30 among migrant women is 62.3 per cent, and 51.6 per cent among nonmigrants. Migrants' median age is 28 years old and nonmigrants' is 29. All of the above information tells us that the younger women have stronger tendency to move. This happens perhaps because young women have more chances to find job in the city and have less children and family burdens to bear, and also perhaps because younger women more like to change and challenge their life.

Figure 2 age difference between different women



Education

Now, we want to see whether the education is different between the two groups. When we control the age structure's impacts, it is still significant that the migrants' are better educated than nonmigrants in Anhui. But in Sichuan, the education is almost same between migrant women and nonmigrant women (See Table 2). There are two possible reasons to explain this phenomenon. First, the overall education level is higher in Sichuan than in Anhui; the illiterate women proportion is small among Sichuan women, so they have relatively enough education to go to city to find jobs. Second, the work that the migrants of Anhui do in the city is often opening stores and doing retail and need better education than migrants of Sichuan who often do physical work.

The education similarity between migrants and nonmigrants in Sichuan tells us that the education selectivity of migrant can be broken and the migrants do not always have higher education level compared to the nonmigrants.

Table 2 Education of migrants and nonmigrants by age (column percent)

		Anhui			Sichuan		
Age	education	migrant	non-migrant	total	migrant	non-migrant	total
16-24	Illiterate	4.3	13.3	7.4	2.3	2.0	2.1
	Primary school	47.4	45.0	46.6	62.8	61.7	62.1
	Junior high school	45.7	38.3	43.2	31.4	32.9	32.3
	Senior high school or higher	2.6	3.3	2.8	3.5	3.4	3.4
	Sample size	116	60	176	86	149	235
25-29	Illiterate	15.7	34.0	24.6	2.0	5.4	4.3
	Primary school	56.2	47.7	52.1	69.0	70.9	70.3
	Junior high school	26.1	17.5	21.9	28.6	21.5	23.7
	Senior high school or higher	2.0	0.9	1.5	0.5	2.2	1.7
	Sample size	249	235	484	203	446	649
30-34	Illiterate	25.7	40.8	35.1	4.3	6.1	5.7
	Primary school	56.7	48.7	51.7	71.6	71.3	71.4
	Junior high school	17.6	9.3	12.4	22.0	21.2	21.4
	Senior high school or higher		1.2	0.8	2.1	1.4	1.6
	Sample size	245	407	652	141	425	566
35-40	Illiterate	24.3	48.3	41.1		10.2	8.0
	Primary school	48.7	36.1	39.8	67.7	59.4	61.1
	Junior high school	25.7	14.5	17.9	26.5	27.3	27.2
	Senior high school or higher	1.4	1.2	1.2	5.9	3.1	3.7
	Sample size	74	172	246	34	128	162

Whether husband ever migrates earlier than wife

Whether does the husband's migration have influence on the women? In order to answer this question we will compare the proportion of husband's migration between nonmigrant and nonmigrant women. To migrant women, we will see what is the proportion of husband migration earlier than them; to nonmigrant women, we will see what is the percentage of ever-migrated husbands.

From table 3, we find out that the migrant women's husbands tend to stay in home and the nonmigrant women's husbands are more likely to migrate especially in Anhui (see table 3). It seems strange. In fact, it is reasonable if we take account of the fact that the family and the land need care. The interesting question is why the situations in Anhui differ that of Sichuan. We have no idea from the data.

It is obvious that the selectivity of migrant exist in age, education and husband's migration, especially in Anhui. We also find out not every migrant group has selective characteristic in every social-economic and demographic aspect.

Table 3 Whether husband ever migrate earlier than wife (column percent)

	Anhui			Sichuan		
	Ever-out women	Never-out women	Total	Ever-out women	Never-out women	Total
husband never out or ever out but not earlier than wife	70.0	37.1	51.3	75.3	71.9	72.9
husband's out earlier than wife	30.0	62.9	48.7	24.7	28.1	27.1
sample size	654	865	1519	449	1146	1595

Differences of fertility desires between migrants and nonmigrants

As many scholars pointed out, fertility desires include not only the desired children number but also the desired children sex and desired birth timing (Mu Guangzong). However the latter are often ignored in research. Based on the data we will analyze the desired children number and the desired children sex.

Desired Children number

In China, difference exists between desired children number and ever-born children number because of the intervention of family planning policy. In most rural areas, a couple can only give one birth if the first birth is a boy, and can have the second baby if the first baby is a girl under the policy, which is called "one and a half policy". If a couple wants to have more than two children, their desires can't be meted. With social-economic development and government' propagation of "one child" policy, the traditional ideas of "more children, better fortune" is fading, so the gap between desired number and ever-born number is narrowing but still exists. Fertility behavior is limited by policy, so the ever-born children number more or less conceals the difference between

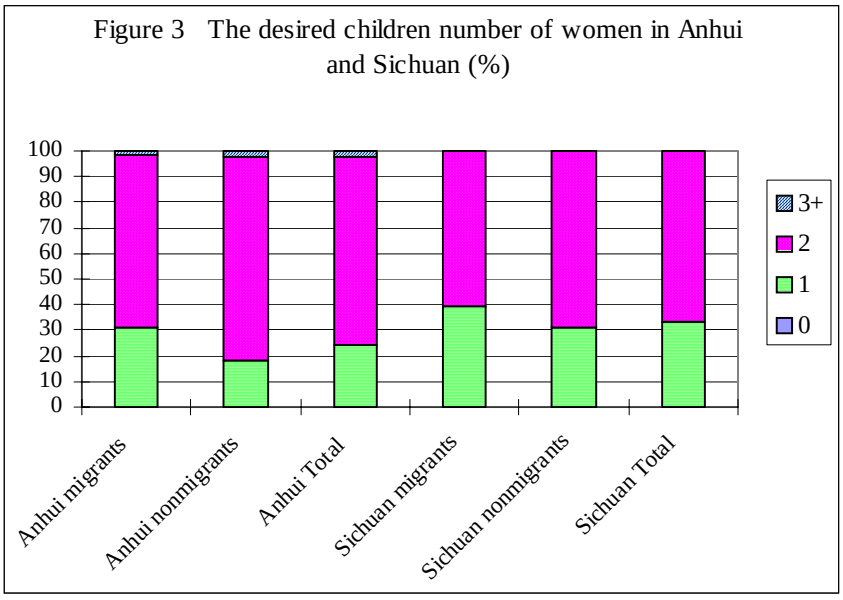
different people. Therefore, the desired children number is a better index to reflect people's ideas and difference though it is also influenced by the policy[3].

Now, we turn to see what is the desired children number of migrants and nonmigrants, and whether there is significant difference between the two groups.

In Anhui, 74.0 per cent of women want to have two children, and 24.0 per cent want to give one birth; only 30 women among 1562 Anhui women desire three or more children and only one women say her desired children number is zero.

In Sichuan, more women want to have only one child than in Anhui (See Figure 3); the proportion is 33.0 per cent. 66.4 per cent among 1574 Sichuan women want to have 2 children and only 5 women and 4 women desire three or more children and no child, respectively. It is obvious that in general, Sichuan women desire fewer children than Anhui. This related three factors. The first is different fertility idea and culture. The people's idea of "more children, better fortune" is stronger in Anhui than in Sichuan. The second factor is the strength of policy implementation. The policy is stricter in Sichuan than in Anhui. The third possible factor is the age and education difference between two provinces. Sichuan women are younger and better educated than Anhui women.

Figure 3 The desired children number of women in Anhui and Sichuan (%)



[3] Some people is not willing to tell the truth about their fertility desires under the policy if their desired children number is more than the number that policy suggests.

The difference of fertility desired children number is significant between migrant women and nonmigrant women. The migrant women's desired children number is fewer than nonmigrants'. In Anhui, the proportion women who want to have only one child (31.3%) among migrants is higher 13 per cent than among nonmigrants (18.3%). In Sichuan, the former (39.1%) is higher about 9 per cent than the latter (30.6%).

When we control age, the difference between the two groups is still significant in Anhui (See Table 4). In Sichuan, migrants under 34 desire fewer children than nonmigrants, but in 35-40 years old group, migrants desire more children than nonmigrants. It seems that the Sichuan migrant women aged 35 or over is an exception. We don't know what exactly cause this group's speciality, yet there are two reasons that perhaps can explain it. First, this group sample size (34 women) is too small to be representative. Second, the migration objection of the migrants aged 35 or over is to have more babies.

Table 4 The desired children number in different women groups (column %)

	Desired	Anhui			Sichuan		
age	number	Ever-out	Never-out	Total	Ever-out	Never-out	Total
16-24	0	0.9		0.6			
	1	50.0	36.7	45.4	59.0	41.5	48.0
	2	49.1	63.3	54.0	41.0	58.5	52.0
	Sample size	114	60	174	83	142	225
25-29	1	30.4	22.0	26.3	40.2	33.6	35.7
	2	69.2	77.1	73.0	59.8	66.4	64.3
	3+	0.4	0.8	0.6			
	Sample size	250	236	486	199	431	630
30-34	0					1.0	0.7
	1	25.7	15.6	19.4	32.4	25.1	26.9
	2	71.8	81.7	78.0	67.6	73.2	71.8
	3+	2.4	2.7	2.6		0.7	0.5
	Sample size	245	410	655	139	418	557
35-40	1	24.0	13.4	16.6	11.8	26.0	23.0
	2	74.7	81.4	79.4	85.3	73.2	75.8
	3+	1.3	5.2	4.0	2.9	0.8	1.2
	Sample size	75	172	247	34	127	161

In general, the difference of desired children number between migrant women and nonmigrant women is significant and migrant women desire fewer children than nonmigrant women. Now, we are interested in what causes this difference. Do the social-

economic characteristics of the individuals or idea changes based on migration or both of the two factors causes the differences? In the following sections, we'll check these two factors impacts, that is, impacts of selectivity and impacts of migration.

Desired Children Sex

Son preference is a character of china's traditional fertility culture and it is still strong in today's China especially in rural China. Some researchers concluded that the fertility culture is "at least one boy" culture in contemporary rural area. In order to have a boy, some couples choose abortion when they know the baby is a girl using modern medical technology such as ultrasonic wave; some couples leave their hometown to avoid the intervention of their village family planning office. Son preference seems didn't changed much when the desired children number become fewer and fewer.

We have known that the migrant women desire fewer children than nonmigrant. Now, we want to know whether thee is any difference of desired children sex between the two groups.

How to measure the desired sex preference is a big problem. Here, we analyze the desired sex composition by desired children number. From table 5, we can say son preference still exist and is stronger among the women who desire only one child than the women who intend to have two children. The fact that about one third of women who desire one child want to have a boy tells us it is possible that people make sex choice. At the same time we also can't exclude the sex choice possibility among the women who intend to have two children under "one and a half child" policy.

It is clear that there is no significant sex preference difference between migrant women and nonmigrant women (see table 5). Migrant desired children number is fewer than nonmigrants, but desired children sex is almost the same between the two groups. It seems that, compared to desired children number, sex preference changes is less linked to the individual's social-economic characteristics and its changes lag behind the changes of desired children number.

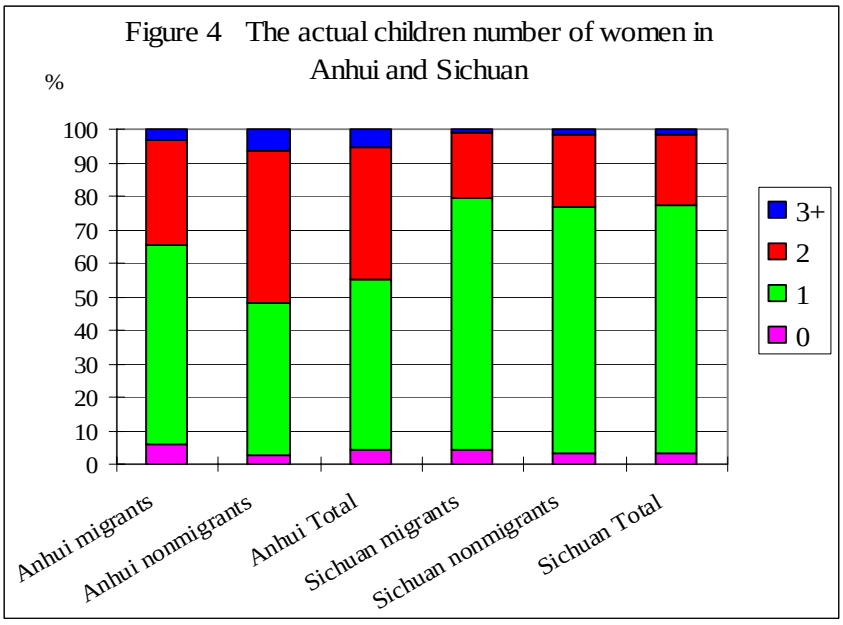
Table 5 Children sex preference in different women groups（column %）

		Anhui			Sichuan		
	Sex preference	Ever-out	Never-out	Total	Ever-out	Never-out	Total
The women Who desire only one child	One boy	31.4	34.8	32.9	24.3	28.2	26.9
	One girls	3.2	5.0	4.0	12.1	6.5	8.4
	Don't care sex	65.3	60.2	63.1	63.6	65.3	64.7
	Sample size	213	161	374	173	337	510
The women Who desire two children	One boy one girl	75.4	81.2	78.6	76.7	72.9	73.9
	Two boys	1.0	1.0	1.0		0.3	0.2
	One boy and don't care the other's sex	4.8	3.1	3.8	2.9	4.0	3.7
	Two girls					0.9	0.7
	One girl and don't care the other's sex		0.3	0.2	0.7	0.5	0.6
	Don't care sex	19.7	14.4	16.5	19.6	21.4	20.9
	Sample size	456	681	1141	275	768	1043

Difference of fertility behaviors between migrants and nonmigrants

Differences of actual children number

Figure 4 shows that the ever migrated women have fewer children than never migrated women both in Anhui and Sichuan. In Anhui, the proportion of women who have no child among migrants is 3.5 percent higher than that among nonmigrants. The proportion of women who have 1 child among migrants is 14 percent higher than that among nonmigrants and the proportion of women who have 2 or more children among migrants is about 18 percent lower compared to that among nonmigrant women. In Sichuan, the difference is not as large as in Anhui, but migrant women also have fewer children than nonmigrants. We know that the migrant women are younger than nonmigrant, which may affect the actual number of children. So, we controlled age to see whether the difference still exists. The actual children number in every age group is fewer among migrants than among nonmigrants, suggesting that the difference still exist when we controlled age's effect.



Difference of women's age at 1st and 2nd birth

The women's age at 1st and 2nd birth is related to the actual children number and the period total fertility rate. If women postpone their fertility experience, the period fertility will lower. Here, we want to identify whether migration history is helpful to postpone fertility experience.

Our study shows that if the women ever migrated before 1st child's birth, their age at 1st birth is older than nonmigrants'. The mean and median age at 1st birth is 22.95 and 23 for migrant women, 22.26 and 22 for nonmigrant women. The nonmigrant women had the 1st child earlier than the women who ever migrated before 1st child's birth. About 20 percent of nonmigrant women gave the 1st birth before 21 years old, and 75 percent had the 1st child before 24 years old. For migrant women, about 10 percent had the 1st child before 21 years old and 65 percent before 24 years old.

The age at 2nd birth for the women who ever migrated before 2nd child's birth is 1 year older than nonmigrants'.

Difference of birth intervals

The interval between marriage and 1st birth or the birth interval between 1st and 2nd child is also an important factor to total fertility rate. Our study shows if the women ever

migrated in the period between marriage and 1st birth, or in the period between 1st birth and 2nd birth, the interval between marriage and 1st birth or the birth interval between 1st and 2nd child is longer than nonmigrants'.

The mean and median interval between marriage and 1st birth for those who ever migrated during this period is 19.91 and 14 month, and for nonmigrants is 14.84 and 12 month, respectively. About 90 percent among nonmigrant women gave the 1st birth in two years after marriage. And only about 75 percent among migrant women had the 1st child in two years after marriage.

The birth interval between 1st and 2nd child is much longer for those who ever migrated during this period. The mean and median birth interval is 52.96 and 53 months for those ever migrated women and 41.49 and 36 months for those nonmigrants. About 30 percent among nonmigrant women gave the 2nd birth in two years after 1st birth, and 70 percent in four years. For those who ever migrated during the period between 1st birth and 2nd birth, only about 10 percent had the 2nd child in two years after 1st birth and 44 percent in four years.

From the above analysis, we know that the fertility desire is different in desired children number but not in desired children sex between migrant women and nonmigrant women. Besides the difference in desired children number, migrant women also actually have fewer children than nonmigrant women. What caused the children number difference? Why the desired children sex is similar? In the next sections, we will answer these questions.

The causes of differences of children number between migrant and nonmigrants

Is migrant selectivity or migration itself the cause of differences of desired children number between migrants and nonmigrants? We do logistic regression to see what are the factors to make migrants children number differ with nonmigrants. Here we will only show the results from analysis on desired children number since the analysis on actual children number has similar outcomes.

Since only 5 women desire no children, we can neglect this group when we do logistic regression. And, since only 35 women desire 3 or more children and the

difference of desired children number focuses on whether you want to have one child or you want to have two children, we combine the women who want to two children and the women who desire 3 or more children as a group. Therefore, our dependent variable has two groups: the first is the group desire 2 or more children and set its value as 0 and the second is the group desire only 1 child and set its value as 1. According to the independent variables, we build two models. Model 1 includes all of the women and has 9 dependent variables, which are county, average income of the village, women's education, women's age, women's marriage status, whether women's family have two-or-more-floor house, whether women's family have color TV, self-evaluation of income (evaluate herself income level in the village) and whether women ever migrated. Model 2 only excludes the single women and has the other eight dependent variables of model 1 except marriage status and it also adds the following dependent variables: husband's education, whether husband ever migrated, women's first age of marriage and ever-born children number.

In model 1, the dependents of county, average income of the village, women's education, women's age, women's marriage status, whether women's family have color TV and whether women ever migrated are included in the regression equation. Different counties have different impacts on desired children number and in fact this reflects the policy's impacts. In model 2, the dependents of county, average income of the village, women's education, women's age, women's first age of marriage, whether women ever migrated and husband's education are included in the regression equation.

From the outcomes of the two models (see table 5), we see that education and age of women have strong impacts on desired children number. Significant difference of desired children number exists between women who is illiterate and women who have junior middle school level; the relative risk of desiring only one child of the latter is 1.5 times of the former, that is to say, the latter has more tendency to desire only one child compared to the former. The younger women are more likely to desire only one child compared to the older women; the relative risk of desiring only one child of women aged 35-40 is only about 36 per cent of that of the women aged 16-24.

In both models, the variable "whether the women ever migrated" is included in the regression function and the ever-migrated women have more possibility to desire one

child when other characteristics such as age, education and family wealth are controlled. This means migration can lower women's desired children number. The logistic models show that the difference between migrant women's desired children number and nonmigrants' result from two reasons: selectivity of migrants and migration.

Our models show that better educated and younger women desire fewer children. Since the migrant women are better-educated and younger than nonmigrant, their desired children number should be fewer than nonmigrant. We can say that before migration, the ever-migrated women desired fewer children than never-migrated women since the selective characteristics of migrants that can lower fertility are relatively constant.

Migration is significant to lower desired children number when other variables are controlled. Now, the question is how migration lowers the desired children number.

Table 5 The variables that are significant in logistic Regression of whether the women desire only one child among all women (migrant and nonmigrant)

	Model 1(N=3063)		Model 2(N=3025)	
variables	B	Exp(B)	B	Exp(B)
county（Anhui:Huining）				
Anhui:Zongyang	-1.5525***	0.2117	-1.7958***	0.1660
Sichuan:Xingwen	-.2046	0.8150	-.5972***	0.5504
Sichuan:Changning	.0175	1.0177	-.2027	0.8165
Women education(illiterate)				
Primary school	.2176	1.2431	.3126*	1.3670
Junior middle school^{+}	.3996**	1.4912	.3987*	1.4899
Women age(16-24)				
25-29	-.4077**	0.6652	-.3464**	0.7072
30-34	-.7639***	0.4658	-.3918**	0.6758
35-40	-1.0255***	0.3586	-.5078**	0.6018
Income of village	-.0004**	0.9996	-.0005***	0.9995
Whether women migrate(never migrate)				
Ever migrate	.2700**	1.3100	.2335*	1.2630
Does the family have color TV (no)				
Yes	.2409*			
Marriage status (single)				
Ever-married	-1.0949***	1.2724		
The age of first marriage			.0530*	1.0544
Husband education (illiterate)				
Primary school			-.6406*	0.5270
Junior middle school			-.6111*	0.5428
Senior middle school^{+}			-.2980	0.7423
The number of ever-born children (0 and 1child)				
2+			-1.4825***	0.2271

Note: the group in round bracket is the reference group; *** means p<0.001, ** p<0.01, * p<0.05

Migration's influence routes on children number

In our theory framework, we assume that migration through two paths to affect the fertility: assimilation to destination and instrumental demand to change. How to measure these two aspects? We choose the following variables to measure the assimilation to destination: how long the migrant come back home since last migration, how often they back home during their out period, the cumulative year in the destination, the destinations type (cities or rural), housing situation, the migrants main associator in the destination. We choose job type and whether migrate with children to measure the instrumental demand to change. According our assumption, if the above variables are different, the migrant women's desired children number will also be different. So, we take logistic regression among the migrant women and included all of the above variables and the women's other characteristics such as age and education that we can get.

From the outcome of logistic regression, we find out in the variables, which are used to measure assimilation to destination and instrumental demand to change, only the variable "how long the migrant come back home since last migration" and the variable" housing situation" are significant to affect desired children number (see table 6). The model shows that the shorter the migrant stay in home since last migration, the fewer the migrant women desire children. The migrant women who lived in dormitories when they were in the destinations desire fewer children than women who rent with their husband.

The regression didn't get satisfactory outcome to explain how migration affect the desired children number. This perhaps has two reasons: first, the variables are not good to measure assimilation to destination and instrumental demand to change; second, the assimilation to destination and instrumental demand to change involved in the ideas change in a large part, so it is difficult to analyze using quantitative method. But we can conclude that the assimilation to destination have more or less influence on desired children number from the outcome that the shorter the migrant stay in home since last migration, the fewer the migrant women desire children.

Now, we will use the in-depth interview resource to discuss and check whether the two routes exist.

Table 7 Logistic Regression of whether the women desire only one child among the migrants （N=1046）

variable	B	Exp(B)
county（Anhui:Huining）		
Anhui:Zongyang	-1.3866***	0.2499
Sichuan:Xingwen	-.1682	0.8452
Sichuan:Changning	.4218	1.5247
Women education(illiterate)		
Primary school	.1691	1.1842
Junior middle school^{+}	.4631*	1.5890
Women age(16-24)		
25-29	-.6845***	0.5043
30-34	-1.0477***	0.3507
35-40	-1.5774***	0.2065
Income of village	-.0009**	0.9991
how long the migrant come back home since last migration(less than 2 years and 2 years)		
3 years and more	-.2780*	0.7573
Housing situation （dormitory）		
Rent with husband	-.5324**	0.5872
Live in the home of employer	-.1803	0.8350
Rent alone or with relatives	-.0665	0.9357
Ever-born children (0 or 1 child)		
2+	-1.4866***	0.2261

Note: the group in round bracket is the reference group; *** means p<0.001, ** means p<0.01, * means p<0.05

Discussion and conclusion

Discussion

From the above quantitative method we have known that the difference of desired children number exist between the migrant women and nonmigrant women and selectivity of migrant and migration are the two factors cause the difference. But it is still not clear how migration lower desired children number and why there is no difference of desired children sex between the two groups. It seems hard to answer these questions only depend on quantitative data. Fortunately, we ever took in-depth interviews, so we can use the in-depth interview records to probe the questions.

Fertility desire is belong to the category of conscious awareness or idea. Its forming and changing have invisible and obscure attribute; even the interviewed migrants perhaps don’t know when and how it forms and changes. We have proved that migration has

independent impacts on desired children number and we assume that the impacts happen through two paths: assimilation to destination and instrumental demand to change. The in-depth interviews prove this assumption in a large part.

Most of the in-depth interviewed migrant women said that after a short period of living in cities, they began to imitate the city people's dresses and they began to make up, which is very rare in their hometown; they wear the skirts that can't cover their shoulders and backs, which are impossible to wear and will induce slanderous gossips in their hometown; some migrant women color their hair like the city girls. In general, the migrant women pay more attention to sanitation and health than the nonmigrant women and they said the habitat of sanitation formed after they arrived cities. Most of the migrants have more knowledge about contraception and intercourse than nonmigrant and they were not as shy as the nonmigrants when are asked these questions. The migrant women are more talkative than nonmigrants in general and are more open-minded. The changes happened not only to the life style but also to the ideas. Most of the migrants can bear the cohabitation and think it is not strange after they live in the cities for a short or long period. Some young girls cohabitated with their boyfriends and said they would not do this if they were in hometown. The migrant women pay more attention to their own development compared to the nonmigrants who pay much attention to their husbands and families. Their life styles approach to the styles of the city people and they become more individualism in their behaviors and in their minds. They become more independent to the children when talk to their future life; some migrants said "I should depend on myself even when I am old. It is the safest way", "There are pensions for the old in the cities. We can pay the pension from now for our old life". All of this changes in lifestyle and in ideas make it is possible to lower their desired children number.

The rural migrant women often model themselves on the people in the cities because they believe the life style in the cities is better than that of rural. Some migrant ever mentioned, "The couples in cities have only one child. They still live well and are happy. So I don't think one child is a bad thing".

In general, the impacts of assimilation and adaptation to the destination have been seen on these migrants. In fact, our quantitative data show that the longer the migrants stay in hometown since last migration, the more children they desire. This is reasonable

when we consider the adaptation or assimilation. Most of the migrant women said that they could no longer get used to the life in their hometown after they lived or worked in cities because many ideas and customs are different between their hometowns and the cities. For example, they can't wear fashionable clothes in their hometowns and can't be intimate with their boyfriends. They also can't bear the dirty in rural and the work in the land. However they have to stand it because their families and their main social and relative relationships are there and they have to often go back. Using their own words," This is the local custom. We must practice it when we come back and we have to come back because our family is here".

Migration also lowers the desired children number through the instrumental demand to change. Many migrant women said in order to continue to work in cities they give up the ideas that have more children. One woman said, "If you have pregnancy, you will be fired. This is a big loss to us". This is true. The migrant women can earn much more money in cities than in their hometown and it is hard to them to find a good job. So when they had a good job, they would try their best to keep the job. Therefore, they would be seldom to go home and would not desire more children.

But why migration doesn't change the migrants' desired children sex? In our research, it seems that the change of desired children sex lags behind that of the desired children number. This is the same with the research of Feng Xiaotian (2001) who summarized all of the literatures about fertility desires and found in China the desired children number changed much but the desired children sex didn't change. But why does the change of desired children sex lag behind? We postulate the following factors as the causes, which need to be further exploration. First, the acme of fertility culture in rural china is the boy preference, not the number of the children (Mu Guangzong, 1996); Second, the children number is limited by policies but sex preference is not, so when people talk about their desired children number, they tell the interviewers the number that is approximate to the number policies permit, so it seems the desired children number change faster than desired children sex.

Conclusion

In this paper, we find out the following conclusions:

First, the differences of fertility desire between migrant and nonmigrant women do exist, but only exist in desired children number, not in desired children sex. The migrant women desire fewer children than nonmigrants and also have fewer actual ever-born children, and they also have childbearing at later age and have longer birth interval.

Second, the differences not only result from selectivity of migrants but also from migration itself. Migration affects fertility through two routes: assimilation to destination and instrumental demand to change (separation between wife and husband, reluctant fertility change in order to be employed in cities).

Third, the family planning policies have relatively strong influence on desired children number. But we do not know whether it is only the phenomena that appear when the interviewed women answer the question or it really changes women's idea about fertility.

Finally, the change of desired children sex lags behind that of the desired children number and it is much harder to change. The reasons are not pretty clear and need to continue study.

Our study does not include the desired timing and the aim of fertility. Aim of fertility is important in fertility intention. However, it is hard to measure and hard to make clear. We also do not include the condition of destinations except the destinations type because of data limitation. All of the above are flaws to our research. However, we got some interesting outcomes and raised some important questions. These not-answered questions are good and challenge topic to study.

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