

The Influence of Migration on Chinese Korean Women's Fertility Behavior

Zhang Jingyue^{1,*}

¹Jilin University, Changchun City, Jilin Province, China

*Correspondence: Jilin University, Changchun City, Jilin Province, China. E-mail: zjyz13@mails.jlu.edu.cn

Received: December 30, 2015

Accepted: January 15, 2016

Online Published: January 31, 2016

doi:10.5430/sass.v3n1p10

URL: <http://dx.doi.org/10.5430/sass.v3n1p10>

Abstract

Chinese Korean population had experienced negative growth for consecutive seventeen years through year 2013. Two main reasons contributed to such negative growth: One is fertility rate of such population continued to decrease; the other is Chinese Korean migration. Migration led to total population reduction, affected women's fertility concepts and influenced women's fertility behavior, resulted in the decline of Chinese Korean fertility level. In this paper, we investigated the influence degrees of migration on fertility behavior through two aspects. First, we used Cox proportional hazard model to examine the influence degree on the intervals between first marriage and first fertility of Chinese Korean women. The Cox model showed that influence degree of migration on intervals between first marriage and first fertility is quite deep; the intervals between first marriage and first fertility of migrated women is much shorter than that of women without migration. The shorter the intervals between migration and fertility, the greater a woman's desire of migration when she gave birth, and the shorter of her interval between first marriage and first fertility. Then we analyzed the risk of the 2nd fertility through the discrete-time hazard model. The influence factors of 2nd fertility are more complex than the 1st fertility; many other factors such as social, economic and cultural ones in addition to migration, however, migration is one of the most important influence factors of having a 2nd fertility. The risk for 2nd fertility of migrated women is relatively large.

Keywords: *Chinese Korean; fertility rate; migration; fertility behavior; women*

1. Introduction

China has 55 minorities, each one of them has its own formation history and unique development characteristics. As one of the Chinese minorities, Chinese Korean's formation history and unique development characteristics are the most unique of all Chinese minorities. Chinese Korean came from Korean Peninsula in the late 19th century; it is a national community formed in a unique historical and geographical environment. When the People's Republic of China was founded in 1949, the Koreans left behind in China became Chinese citizens, comprising an ethnic minority group (Author, 2014).

While other minority populations have increased steadily, the Chinese Koreans illustrate a different phenomenon since People's Republic of China was founded in 1949 (Author, 2014), the number of Chinese Koreans has declined year by year. The 2010 Chinese National Census shows that Chinese Koreans were 1.83 million (China population Statistics Yearbook, 2012:38), contrast to 1.92 million in 2000 Chinese National Census (China population Statistics Yearbook, 2002:230), Chinese Koreans diminished nearly one hundred thousand in 10 year span. The population growth rate of the Koreans is the lowest of all the 56 nationalities of China, including the Han majority. Their illiteracy rate is the lowest and their college attendance rate is the highest (Choi, 2001). Chinese Korean is the only ethnic group whose total population is over one million and whose growth rate is nearly zero (Zhou, 2003). Thus, they are considered to be in a relatively advanced demographic and socioeconomic position (Poston, Chang, & Hong, 2006). Because Chinese Korean population demonstrates typical representation and advancement of other minorities, their population study provides important referencing points for studying other minorities in China. Therefore, Chinese demographers, sociologists and ethnographers pay great attention to the problems of Chinese Korean population (Wu, 2001).

As economic globalization has rapidly spread over the world, migration issues are no longer limited to European or North American countries. In North-east Asia, where governments have traditionally been relatively unconcerned with immigration, the influx of new workers and residents is an issue which has now begun to be addressed (Park, Han, & Kim, 2013). After the reform and open-up policy of China in 1978¹, our socialist market economy system has developed and improved continuously, Chinese Korean's consciousness of economic development became denser than ever, therefore they began to migrate to major or coastal cities of China which are more developed. After China and Korea established diplomatic relations in 1992, more and more Chinese Koreans work abroad due to their inherent cultural and language advantages which are similar to Korea through the manner of work, study and marriage, etc.

In addition, many Chinese Korean women stayed in Korea through cross-border marriages. Rapid expansion of economic ties and the establishment of diplomatic relations between Korea and China in 1992 triggered massive waves of marriage migration by Korean-Chinese women to rural areas in Korea (Kim, 2010). The first case of Chinese Korean trans-national marriage goes back to December 1990, When a Chinese Korean woman from Yanji City, Jilin Province of China, married a Korean man in Paju City, Gyeonggi Province of Korea. Since then the number of Chinese Korean brides migrated into Korea increased rapidly (Hong, Song, & Park, 2013). The number of Chinese Korean brides migrated into Korea continued to grow: 1,500 in 1993, 7,000 in 1995, and 10,000 in 1996. In 2006, the number of such women exceeded 31,000 (2008 Annual Statistics, Ministry of Justice). After 2006, although the growth rate slowed down, these brides still constituted of a very significant segment of marriage migrant population in Korea (Hong, Song, & Park, 2013) – they account for 24% of the 109,461 migrant brides in Korea by October 2009 (Monthly Statistics reported by the Korean Immigration Service in October 2009).

Some domestic scholars recognized migration is the main effect factor for the negative growth of Chinese Korean population due to further exploration of migration problems of Chinese Korean population in recent years. Migration influences the growth of Chinese Korean population through two aspects: First is that migration leads to the declines in their populations; second is that migration affects Chinese Korean women's fertility behavior, thus further cause reduction of the growth of Chinese Koreans.

Yin (2004) and Park (2010) researched the phenomenon of the negative growth of Chinese Korean population from 1990s in 20th century; they concluded that migration was one of the most important influence factors for the negative growth of Chinese Korean population. Wang (Wang & Wang, 2011) and Yang (Yang, Wang, & Liu, 2011) analyzed the influence factors of Chinese Korean migration and Chinese Korean women's migration, and they concluded that the main migration population is working-age population; since more and more women have entered the work force, many women migrated to ROK to work and some of them even left from their residence permanently through cross-border marriages. Lin and Shen (Lin & Shen, 2006) take the foreign-related marriages of Chinese Korean women as examples to probe into the relations between resource and exchange in marriage with exchange theory.

A large number of migration, especially Chinese Korean women's migration greatly affected Chinese Korean women's fertility behavior and the structure of Chinese Korean population. Limited research has so far failed to substantiate such the following connections: The influence factors of Chinese Koreans' fertility behavior, the influence factors of migration on Chinese Koreans' fertility behavior, and the degree of above effect. Wang (2005) analyzed the influence factors of fertility desires for Chinese Korean women and concluded that both migration and population urbanization factors drove Chinese Korean women's desire to fewer birth. In terms of determination of fertility level, however, fertility desire cannot completely replace fertility behavior. So we must further study the influence factors of fertility behavior. In this paper, we divided fertility behavior into two aspects: first is the interval between first marriage and first birth, in other words the probability of fertility risk of married Chinese Korean women; and the other is the probability of having second children of Chinese Korean women who had first one. Chinese family planning policy stipulated that minorities can have a second children, but they cannot have a third one, and Chinese Korean women tend to fewer births by themselves, therefore the number of Chinese Korean women who have the third birth or higher in our sample are very few, so we did not analyzed the circumstance of third birth or higher.

Particularly, most current analyses of relationships between migration and fertility are related to the fertility behavior of immigrants. This paper, however, tried to further analyze the influencing factors for fertility behaviors of Chinese Korean women, by comparing the fertility behaviors of migrants to that of non-migrants in places of origin.

2. Concept Definition and Research Foundation

According to Chinese population registration system², the definition of migration is a kind of official change in household registration, dependent on permission from the appropriate units at both origin and destination (Goldstein.A, Goldstein.S, & Guo1991). The definition of “migration” usually is “the resident movement of people from one place to another” (Yin, 2006). People who move without a change in registration are considered as floating population and are still counted as residents of their place of origin, regardless of how long they have lived at the place of destination (Yang, Wang, & Liu, 2011). It is therefore somewhat different from the general definition of “migration” in China and in this paper. The definition of migration described in this paper is that if any one leaves his/her origin for at least a month, whether his/her changes their household registration or not. All the research objects of this paper are born in China. The definition of “cross-border migrated women” is that any women who left her domicile place for at least a month by the time of our investigation. And the definition of “non-migration women” is any women who did not leave her domicile place or left the domicile places more than a month by the time of our investigation.

There are four main theoretical perspectives or models that have been suggested for explaining differentials in fertility behaviors and attitudes between migrants and non-migrants. (Majelantle & Navaneetham, 2013) The four theoretical perspectives can be named as generational (socialization), adaptation, selectivity and disruptive. (Kulu H, 2005)

The generational theory advocates that rural fertility is generally higher than urban fertility. It starts from the premise that fertility goals are formed during women’s childhood and also reflect family environment during childhood. It would take migrants a long time, even a whole generation, to adapt to the attitudes and behavior of urban life. Initially, the fertility of migrants would be higher than the same woman population in the city; however, migrants’ living concept gradually approaches to that of urban populations after living in the city for a long period of time, therefore, fertility level will be more and more close to the city local population.

The adaptation model confirms that the adaption of urban fertility concept by migrants occurs gradually over time after migrants arrived in the city and this process does not require a generation’s time period. According to Ribe and Schultz (Ribe & Schultz, 1980), the adaptation model considers that the difference of fertility is somewhat restricted by different families’ different value and income. The migrants’ fertility is coincided with that of city local population if the above factors are not considered.

The selection hypothesis suggests that comparing with rural non-migrants, the age structure of migrants is younger, cultural quality is higher, and the desire of development is stronger, so they are not satisfied with the living conditions of rural settlements, rather they hope to go to the superior region, for the sake of their better development, migrants will consciously control their marriage and the birth of their children. Goldstein and Goldstein confirm that in the early stages of modernization, migrants’ fertility is lower than the city local population; but after mass rural migrants enter into the city, migrants’ fertility became higher than the city local population (Goldstein.S & Goldstein.A, 1982).

Disruptive perspective emphasizes that the migration behavior itself tends to reduce fertility rates. The potentially disruptive influence of spousal separation on fertility is well recognized (David.C, 2009). Migration behavior will disrupt fertility rates from the following aspects: Migration will lead to husband and wife separation, this in turn will become a barrier to children's physiological interference; when migrants entering a new environment, their life habits and ideas are different from the new environment, they will feel nervous and stressed out. Those factors could disrupt migrants’ fertility rates.

In China, the research on migrants’ fertility intentions and fertility behavior started with the late 1980s (Chen & Wu, 2006). But most of the research were about the comparison of non-migration women and immigrated ones; there are rare research about the comparison of fertility behavior between non-migration women and out-migrated women. In this paper, we will make a preliminary research and exploration on Chinese Korean non-migration women and migrated women.

For Chinese Koreans, selection hypothesis and disruptive perspective are more appropriate than other models for the relationship between migration and fertility. Comparing with non-migrants, the age structure of Chinese Korean migrants is younger, and the desire of development is stronger, so they are not satisfied with the living conditions of origin settlements, rather they hope to go to the superior region. For the sake of their better development, Women migrants will consciously control their marriage and the birth of their children. The most frequent disruptions involved in migration are spousal separation (Millman & Potter, 1984). Such disruptive effects of migration which

leads to reduced fertility (Yang, 2000), and Chinese Korean women migrants were affected by the fertility notion of destination, they will also adjust their fertility behavior.

3. Data and Method

The data used came from a survey concerning the migrated population conducted in minority areas in 2012 by Chinese National Population and Family Planning Commission. The research mainly used the data of Chinese Korean women of this survey, and combined with our “door-to-door” investigation and colloquia. The samples for this analysis are constituted of women of fertility age who were ever married and provided detailed life history information. The sample size is 2452 persons. For each woman, we gathered information includes many personal information including age, gender, nationality, household category³, educational level, income and marital status.

First, we used Cox proportional hazard model to examine the influence factors on interval of first marriage to first fertility for Chinese Korean women. We chose this method because the fertility information of Chinese Korean women in the dataset is specific to the month which supported this method. This model can consider duration time and censoring information and we can use more information effectively, which is suitable for the research of interval of first marriage to first birth. The function expression of the model is below: $h_0(t_j)$ represents the baseline hazard function, and the risk of the “i”th observation individual is

$$h(t_{ij})=h_0(t_j)e^{[\beta_1X_{1ij}+\beta_2X_{2ij}+\dots\beta_{pij}]}$$

Take logarithm on both sides of the equation, we get the expression as the following:

$$\text{Log}h(t_{ij})=\text{log}h_0(t_j)+[\beta_1X_{1ij}+\beta_2X_{2ij}+\dots\beta_{pij}]$$

Which X is the collection of predictive variables(concomitant variables). $X=(X_1, X_2, \dots X_p)$, $\beta_1X_{1ij}+\beta_2X_{2ij}+\dots\beta_{pij}$ is the risk index.

The concomitant variables of the model are age of first marriage, education level, household category, marriage alignment, migration destination and migration type.

In modeling the influence factors on order-specific birth, the discrete-time hazard model (Allison, 1984) will be used, which allows the estimation of the annual order-specific birth transition probability (Yang, 2000).The function expression of the model is as following:

$$\text{Log}ith(t_j)=[\alpha_1D_1+\alpha_2D_2+\dots\alpha_jD_j]+[\beta_1X_1+\beta_2X_2+\dots\beta_pX_p]$$

We will examine the secular trend and the influence of Chinese Korean women’s 2nd fertility after the family planning policy and the opening reform policies carried out through this model. The main merit of the discrete-time hazard model is that we can examine the fertility probability of various periods under the condition of controlling ages. The basic observational unit in the model is person-years at risk. Every Chinese Korean woman who exposed to the risk of an order-specific birth had her own observation record on an annually basis. We will make survival analysis on the 2038 Chinese Korean women at fertility ages. After transforming the data, we got 33223 person-years and 7 concomitant variables: age, education level, having-sons, policy period, house category, migration destination and migration type.

As noted earlier, Chinese family planning policy stipulated that minorities cannot have a third or higher birth, and Chinese Korean women tend to fewer births by themselves, so that the numbers of Chinese Korean women who have the third or higher birth in our sample are very few; therefore we did not consider the circumstance of third or higher birth.

4. Interval of First Marriage to First Fertility

We begin with the Cox proportional hazard model.

Education levels were divided into 4 categories: illiterate or semi-illiterate; primary school; junior school; senior school and college degree or above. Household categories are agriculture and non-agriculture.

The women’s age range in our data is quite wide, so we chose the women in fertility age had married between 1978 and 2012 as our objects. But the time span of 1978 to 2012 is a long period, so we classified the first marriage time of Chinese Korean women into 4periodsaccording to Chinese and Korean labor migration policies(namely marriage

alignment): The first period is the women in fertility age who married before 1978: At the late 1970s and early 1980s China just began to overall implement family planning policy, and 1978 is the first year of Chinese reform and opening policies, so we can deem the year of 1978 to be a vital node of our country, regardless of population or economic reasons. Although minorities stipulated by Chinese family planning policy could have a second birth, in another words Chinese Korean women are not controlled under the Chinese family planning policy, Chinese Korean women still affected by such policy because they tend to give less birth by their own. The second period is between 1979 and 1992: After Chinese reform and opening policies carried out, our socialist market economy system has developed and improved continuously, Chinese Koreans began to migrate to major or coastal cities of China which are more developed and Chinese Korean migration became more and more frequently. The third period is between 1993-2007: after China and Korea established diplomatic relations in 1992, Chinese Koreans were no longer satisfied with domestic migration, a large number of Chinese Koreans began to live abroad due to their inherent cultural and language advantages which are similar to Korea through the manner of work, study and marriage and so on; Furthermore, Korea introduced a new policy in 2007 for the Chinese Koreans - the “access to employment” visa policy (H-2 visa), which stipulated that Chinese Koreans could go to work in Korea by obtaining the H-2 visa. Since Korea has made the policy for Chinese Koreans to migrate more flexibly in recent years, Chinese Korean migrants increased considerably and the trend for female migration is even more pronounced (Yang & Zhang, 2014), so the fourth period is between 2008 to 2012 (Our investigation conducted in 2012).

Migration destinations are non-migration; domestic migration and cross-border migration. We classified Chinese Korean women according to their migration types, divided them into 5 categories: non-migration women and the women migrated over 120 or more months after fertility; women migrated 72-120 months after fertility; women migrated 36-71 months after fertility; women migrated 0-35 months after fertility; women migrated before fertility, respectively. Generally speaking, if a woman intend to migration when she gave birth, she will consider migration factor into her fertility behavior, and the closer the interval between migration and fertility, the stronger the desire of migration when she gave birth.

Table 1. Mean and Median of Chinese Korean Women’s Interval of First Marriage and First Fertility

	Survival Time	Standard Error	95%Confidence Interval
Mean	29	0.805	(27, 31)
Median	17	0.419	(16, 18)

Notes: 11540 person-years for 2450 observations are included.

Data Sources: Survey concerning the migrated population conducted in minority areas in 2012

First, we got the mean and median of Chinese Korean women’s intervals between first marriage and first fertility with Kaplan-Meier estimation method of survival function (table1). The mean of Chinese Korean women’s intervals between first marriage and first fertility is 29 months, and the median of Chinese Korean women’s intervals between first marriage and first fertility is 17 months. It is observed that Chinese Korean women’s intervals between first marriage and first fertility is longer than other ethnics, it is said that the time of Chinese Korean women’s first fertility after marriage is later than other ethnics.

We built 2 models in table 2; the Chi Square of the first model is 69.689, and has a respectively high imitation degree. The destination of the first model is to examine which factors mostly influence Chinese Korean women’s interval between first marriage and first fertility without adding the migration types concomitant variable. We can conclude from model1 that neither of age of first marriage, household category and education level have any significant effects on Chinese Korean women’s interval of first marriage and first fertility; This illustrated that the ages of first marriage for Chinese Korean women are respectively average, and there is no significant change among various age group. Household category has no significant influence on Chinese Korean women’s interval between first marriage and first fertility either, regardless agriculture or non-agriculture category. Education level also has no significant influence on Chinese Korean women’s interval between first marriage and first fertility, but if we only assess the risk value and no matter whether it is significant or not, we can find that the risk value of women at primary school level is the greatest, in another words the risk of fertility of women at primary school level is the greatest, and the risk of fertility of other education level groups are less.

In the first model, the effects of marriage alignment and migration destinations are significant. Compared with the women at fertility age married before 1978, the intervals between first marriage and first fertility of women married

between 1979 and 1992 is the shortest, the next is the group of women married between 1993 and 2007, and the period of 2008-2012 is not significant. In the late of 20th century 1970s and the early of 1980s, after Chinese family planning policy carried out, China began to advocate late marriage and late fertility, Chinese Koreans responded national policy positively, most Chinese Korean marriageable youth chose late marriage, due to the age of marriage is older, they tended to fertility earlier after marriage than before, and the interval of first marriage and first fertility of women married in this period is the shortest. In 1992, China and Korea established diplomatic relations, many Chinese Korean women went abroad to work, and they must separate with their husband for long period of time, although some of them can work abroad with their husband, they cannot afford the high fertility cost abroad, so if couples married at the period of 1993-2007 and want to work abroad, they would have fertilities as soon as possible, and then work abroad. We can also get the similar conclusion with the migration destination, the interval of first marriage and first fertility of women of domestic migration is longer than women of cross-border migration, this is due to women of domestic migration can meet their husband easier, and cost of fertility in domestic is lower, so they did not need to have fertility in a hurry right after marriage.

Table 2. Cox Proportional Hazard Model of Chinese Korean Women's Interval of First Marriage and First Fertility

Concomitant variables	Model 1 Exp(B)	Model 2 Exp(B)
Age of first marriage	0.994	0.997
household category (non-agriculture)		
Agriculture	1.090	1.001
Education level (Illiterate or semi-illiterate)		
primary school	1.232	1.181
junior school	0.953	0.936
senior school	1.063	1.059
college degree or above	0.937	0.936
Marriage alignment (First marriage before 1978)		
1979-1992	1.439***	1.194
1993-2007	1.276*	1.067
2008-2012	1.199	1.063
Migration destination(Non-migration)		
Domestic migration	0.759***	0.736***
Cross-border migration	1.078*	1.108*
Migration type (Non-migration & migrated over 120 months after fertility)		
72-120 months after fertility		1.697***
36-71 months after fertility		1.565**
0-35 months after fertility		1.779**
Migrated before fertility		1.557**
Chi square	69.689	90.452
Person-years		11,540
Observations		2,450

* Significant at the 0.05 level. ** Significant at the 0.01 level. *** Significant at the 0.001 level

Reference group is in the bracket

Data Sources: Survey concerning the migrated population conducted in minority areas in 2012

We divided migration into two destinations in model 1, then we divided migration into 4 types in model 2 as we noted earlier. The Chi Square of the model 2 is 90.452, and the imitation degree is very good. When we added migration type, the results of marriage alignment are not significant for the interval of first marriage and first fertility. This illustrated that only migration affect Chinese Korean women's interval of first marriage and first fertility. We can concluded from model 2 that interval of first marriage and first fertility of women migration within 10 years after fertility is more shorter than non-migration and women migration more than 10 years after fertility. The interval of first marriage and first fertility of women migration within 0-35 months after fertility is the shortest. We think the shorter the interval of migration and fertility, the greater the woman's desire of migration when she gave birth, she must consider the factor of migration into her fertility behavior. If a woman migrated within 3 years after fertility, we believe that her fertility behavior is for migration. In the process of the investigation we found that since 20th 1990s, Chinese Koreans began to migrated cross-border, and women migrated within 72-120 months after fertility are focus in 20th 1980s, and China advocated late marriage and late fertility at that period, this result matched with our explanation of marriage alignment of 1979-1992. After migration, women may adjust their fertility behavior influenced by the fertility concept of migration destination, but their interval of first marriage and first fertility are still shorter than non-migration and women migration more than 10 years after fertility.

5. Risk of the 2nd Fertility

We analyzed the risk of the 2nd fertility through the discrete-time hazard model. In this model, the categories of education level, house category and migration destination are similar to the Cox proportional hazard model of Chinese Korean women's interval of first marriage and first fertility

The samples of the model are women at fertility ages that had a child between 1978 and 2012. We divided the span of 1978 and 2012 into 4 policy periods: the first period is women have 1st fertility before 1978; the second period is the time between 1979 and 1992; the third period is the time between 1993 and 2007; the fourth period is the time between 2007 and 2012;

Due to limitations of our dataset, we made some minor adjustments to the migration types; we divided Chinese Korean women with one child into 4 categories: non-migration women and the women migrated over 120 or more months after fertility; women migrated 72-120 months after fertility; women migrated 0-71 months after fertility and women migrated before fertility, respectively.

In addition, we added the interval of 1st and 2nd fertility, ages and have sons as co-variables.

In table 3, we established 2 models; the first model examined the influence factors on Chinese Korean women's 2nd fertility without adding migration types. Almost all influence factors are significant. The longer the interval of 1st and 2nd fertility is, the smaller the trend of 2nd fertility. The trend of 2nd fertility gradually became smaller with increasing age. The risk of 2nd fertility for Chinese Korean women would reduce by 12% as they age every year. Compared with women of non-agriculture house category, the risk of women with agriculture house category is greater; this is similar to most research about fertility. Different from our traditional argument, it is widely believed that people with higher education level tend to have fewer children, but in our model, the risk of 2nd fertility of Chinese Korean women with higher education level is greater than illiterate or semi-illiterate women. It is likely because illiterate or semi-illiterate women cannot get more job opportunities, and they cannot earn enough money to afford their children's life quality and education. Since most Chinese Koreans hope their children live better, receive a good education so when they consider higher cost of having more children, their 2nd fertility risks are actually lower due to affordability. Chinese Koreans with college or higher education level do not want to return their hometown, generally they will choose domestic migration, because they can get more satisfactory and higher income jobs, they don't necessarily need to leave their native place. Due to higher income, better live condition and couple rarely separate with each other, they have ability to have a 2nd child, so the risk of women with college or higher education level is higher.

Table 3. Risk of Chinese Korean Women's 2nd Fertility

Concomitant variables	Model 1 Exp(B)	Model 2 Exp(B)
Interval of 1 st and 2 nd fertility	0.922***	0.919***
Age	0.886***	0.888***
household category (non-agriculture)		
Agriculture	1.400***	1.427***
Education level		
(Illiterate or semi-illiterate)		
primary school	0.998	0.976
junior school	1.075***	1.195***
senior school	1.339*	1.194
college degree or above	1.718***	1.742***
Have living son	1.930***	1.942***
Policy period		
(First fertility before 1978)		
1979-1992	0.515***	0.427***
1993-2007	0.744***	0.603***
2008-2012	0.551***	0.466***
Migration destination (Non-migration)		
Domestic migration	1.727***	1.790***
Cross-border migration	0.816*	1.270*
Migration type		
(Non-migration & migrated over 120 months after fertility)		
72-120 months after fertility		1.796***
0-71 months after fertility		0.330***
Migrated before fertility		0.530
Person-years		33224
Observations	2038	

* Significant at the 0.05 level. ** Significant at the 0.01 level. *** Significant at the 0.001 level

Reference group is in the bracket

Data Sources: Survey concerning the migrated population conducted in minority areas in 2012

In many parts of China, people often have concept of “son preference”, generally speaking, the risk of the 2nd fertility will significantly reduce with probability of proceeding to a second birth for women who already have a first-born son (Goldstein.A, Michael W & Goldstein.S, 1997).The strong bias toward male children in Chinese culture continues in many areas despite government efforts (Virginia, 2012).But in our 2nd fertility risk model, the result is just contrary. The risk of 2nd fertility of women who have a living son is high. This is due to Chinese Korean fertility concept is not “son preference”, but is “both son and daughter”. This can be fully reflected in Chinese Korean traditional marriage customs, when Chinese Korean couple got married, they usually wish the bridesmaid of the bride is a mother who has both son and daughter; this means their marriage is perfectly satisfactory; they can also have both son and daughter. In addition, Chinese Koreans pursue “the true, the good, and the beautiful”, they have high demand and definition for “beautiful”, if their 1st child is a son, and they usually want to have a beautiful daughter, many Chinese Korean families strive hard on their daughter's clothing and education, so the risk 2nd fertility of women having a daughter is low. In our survey process, many women expressed this viewpoint. Ms Park, 36 years old, came from Helong city, Yanbian Korean autonomous prefecture of Jilin province, said that,

“I have a smart and cute daughter, she's 11 years old, my husband and I spend much money on her clothing and education, we hope she will always be the most pretty princess in the fairy tale.”

When we asked her whether intend to have a 2nd child, she made clear that she didn't want to have a 2nd birth, she only want to take care of her daughter well.

Ms Kim, 28 years old, came from Longjing city, Yanbian Korean autonomous prefecture of Jilin province, said that,

My first child is a son. Many of my friends have beautiful daughters, so I want to have a pretty daughter, too. My husband and I had a 2nd child last year, she is a beautiful girl, we were very happy, and now my friends admired me very much.

In the two models, the risk of 2nd fertility of women birth after 1978 is lower than birth before 1978, regardless of the policy periods. This illustrates that Chinese family planning policy influenced Chinese Korean women's 2nd fertility greatly. Although Chinese family planning policy stipulated Chinese Koreans can have the 2nd fertility, many Chinese Korean families didn't choose to have the 2nd birth on their own. Compared with families that only have one child, in the case of equal income, having a more child means the cost of living is higher, every child cannot get the same life condition and education level with the only child. Chinese Koreans always attached great importance to children's culture and quality training, they didn't hope their children are worse than others, affected by many factors, many Chinese Korean families choose to have only one child on their own.

From the point of migration destination, the risk of 2nd fertility of domestic migration women is higher than others, and the risk of cross-border migration women is not as high as domestic migration women. This is likely because people with medium education can only undertake the so-called "3D jobs" (dirty, dangerous, difficult), and they earn considerably more for these in Korea than they would in China. But those with college education or more, tend to migrate less because they can live well in China with better education and do not need to leave their homes to pursue uncertain lives elsewhere (Yang & Zhang, 2014). We explained this point earlier from the analyses of education level that women who migrated domestically can live with their husband, and the cost of fertility is lower than abroad, living conditions are better, so the risk of cross-border migration women is not as high as domestic migration women.

It is different from the case of the analyses of the interval of first marriage and first fertility when we added migration types into model 2: the second model has little change. This illustrates that the influence factors of 2nd fertility are more complex than the 1st fertility. Most couples will have a 1st child after marriage, but they will consider more social and economic factors into the fertility behavior in terms of their 2nd fertility. For Chinese Korean women, migration is still one of the most important influence factors of having 2nd fertility. The risk of 2nd fertility of women who migrated 72-120 months after fertility is higher, and we think the main reason is the ages of these women are older, most women didn't consider migration as an influence factor for their 2nd fertility; the risk of 2nd fertility of women who migrated 0-71 months after fertility is lower. We think one reason is that many women's fertility concept changed after migration, and the other reason is that migration tends to lead to couple-separation with each other for long time, thus they cannot have a 2nd fertility.

6. Conclusions

Fertility behavior is not only a biological process, but a social process, so fertility behavior is not only influenced by biological factors, but also influenced by social, economic, culture, fertility willing, fertility attitude, family structure, population policies and so on (Yin, 2006). Although migration is one of the most important influence factors of Chinese Korean women's fertility behavior, it is affected by many other factors. Social, economic, culture and many other factors greatly affect fertility behavior. Even migration effect is reflected through social, economic and culture factors. The main motivation of migration is to earn more money and get a better life, so economic factor is the most important influence factor for migration. In addition, motivation alone cannot support the action of migration, social migration policy, similar culture and language are all made cross-border migration become easier. The changes of economic situation and fertility concept after migration in turn, will also affect the fertility behavior.

Apart from migration, the history and the culture customs of Chinese Koreans also greatly affect women's fertility, and tend to lead to the decrease of Chinese Korean fertility level. First, the attachment of great importance to children's quality education promoted them to reduce the number of children; second, Chinese Koreans have good customs of respecting elders. They not only look after elders carefully, celebrate elder's birthday grandly, but also consider August 15 as festival of elderly, and the whole family get together to celebrate for elders. Many researches showed that the concept of "rearing children for old age" is the most important factor of the formation of more fertility culture. Some people worry about no one takes care of them when they are older, so they usually have more children as their "pension insurance". The customs of respecting elders and policies of concerning elders carried by government made Chinese Koreans have no worries about their elderly life, so they don't need to have more children (Wang, 2005).

In conclusion, many influence factors affect Chinese Korean women's fertility behavior. Migration, especially women migration is the most important influence factors for fertility behaviors of Chinese Korean women, which led

to the negative growth of Chinese Koreans. For a national community, keeping a certain number of populations is the basic condition of its survival and development (Zheng & Li, 1998). So our government may need to carry out some measures to control the negative growth of Chinese Korean population. The basic method could include enhancing their income, reducing the rate of migration, etc. In addition, government could also encourage Chinese Korean family to have 2nd children, reward the families having 2nd fertility, reduce the cost of fertility and reduce the education cost of Chinese Korean children.

Acknowledgement

This work was supported by the Chinese National Social Science Fund under Grant 13BRK023 and Graduate Innovation Fund of Jilin University under Grant 2015054.

Notes

Note 1. Before 1978, Chinese economic system was planning economy, also known as command economy; it is the economic system which planned production, resource allocation and product consumption in advance. In 1978, China put forward reform and opening up policy, conducted a series of adjustment to the national economy, Chinese economy has greatly improved.

Note 2. On January 9, 1958, China introduced the first household registration system<The household registration regulations of the People's Republic of China>, established a set of strict registered permanent residence management system. It consisted of seven population registration system, respectively were permanent, temporary, births, deaths, emigration, immigration and change and so on. Chinese population management based on this system for a long time. At present the household registration system of the People's Republic of China divides the population according to the geographical relationship and family members, the household registration is divided into agricultural and non-agricultural.

References

- 2008 Annual Statistics, Ministry of Justice.
- Allison, P. D. (1984). *Event History Analysis*. SAGE Publications, Beverly Hill, CA
- Chen, W., & Wu, L.L. (2006). The study of the relationship between migration and fertility study. *Population studies*, 1, 13-20.
- China population Statistics Yearbook, 2002,230
- China population Statistics Yearbook, 2012, 38
- Chisung, P., Seung, J. H., & Pan, S.K. (2013). The Formation of Social Constructions of Female Marriage Migrants and Female Work Migrants. *Asian Women*, 29(4), 107-140.
- Choi, W.G. (2001). The Korean Minority in China: The Change of its Identity. *Development and Society*, 30(1), 119-141.
- David, C. (2009). Spousal Separation, Selectivity and Contextual Effects: Exploring the Relationship between International Labour Migration and Fertility in Post-Soviet Tajikistan. *Demographic Research*, 21(32), 945-975. <http://dx.doi.org/10.4054/DemRes.2009.21.32>
- Goldstein, A., Goldstein, S. & Guo, S.Y. (1991). Temporary Migrants in Shanghai Households. *Demography*, 28(2), 275-291.
- Goldstein, A., White, M. J. & Goldstein, S. (1997). Migration and fertility in Hubei province, China. *Demography*, 34(4), 481-492.
- Goldstein, S. & Goldstein, A. (1982). The impact of Migration on Length Birth Intervals: An Analysis Using Life History Data for Malaysia. Annual Meeting of the Population Association of America, San Diego, California.
- Hong, Y.H., Song, C.Z., & Park, J.L. (2013). Korean, Chinese, or what? Identity transformations of Korean Chinese migrant brides in South Korea. *Asian Ethnicity*, 14(1), 29-51.
- Kim, D.S. (2010). The rise of cross-border marriage and divorce in contemporary Korea. *Asian Cross-border Marriage Migration Demographic Patterns and Social Issues*, 2, 127-153.

- Kulu, H. (2005). Migration and Fertility: Competing Hypothesis Re-examined. *European Journal of Population*, 21, 51-87. <http://dx.doi.org/10.1007/s10680-005-3581-8>
- Lin, M.X. & Shen, S.F. (2006). Resource and exchange in marriage. *Population Research*, 30(3), 50-55.
- Majelantle, R.G. & Navaneetham, K. (2013). Migration and Fertility: "A Review of Theories and Evidences" *Journal of Global Economics*, 1, 1-3. <http://dx.doi.org/10.4172/economics.1000101>
- Millman, S. R. & Potter, R. G. (1984). The fertility impact of spousal separation. *Studies in Family Planning*, 15, 121-126.
- Monthly Statistics reported by the Korean Immigration Service in October 2009.
- Park, M.L. (2010). Analysis on Reasons of Population Negative Growth of Yanbian Korean Ethnic in 90's of 20th Century. *Dongjiang Journal*, 27(1), 55-63.
- Poston, D.L.Jr., Chang, C.F., & Hong, D. (2006). Fertility Differences between the Majority and Minority Nationality Groups in China. *Population Research and Policy Review*, 25(1), 67-101. <http://dx.doi.org/10.1007/s11113-006-0003-5>
- Ribe, H., & Schultz, T.P. (1980). Migrant and Native Fertility at Destination in Colombia: Are Migrants Selected According to Their Reproductive Preferences? Unpublished monograph.
- Virginia, N. (2012). Graduate Women's Beliefs about Gender Roles in China. *Asian Women*, 28(2), 55-79.
- Wang, H.B., & Wang, X. (2011). Analysis of influence factors for migrations of Yanbian Korean minority. *Population Journal*, 186(2), 69-74.
- Wang, H.B. (2005). Analysis of influence factors for Fertility Desire of Yanbian Korean Women. *Population Journal*, 151(3), 42-45.
- Wu, T.X. (2001). Analysis of Chinese Korean Population Problem. *Heilongjiang National Series*, 66(3), 104-105.
- Yang, X., & Zhang, J.Y. (2014). Migration by Chinese Korean Women. *Journal of Women's Studies*, 20(4), 95-121.
- Yang, X., Wang, X.F., & Liu, W.J. (2011). Outflows of Chinese Koreans in Yanbian Prefecture. *Asian and Pacific Migration Journal*, 20(3-4), 1-13.
- Yin, H. (2004). The Policies and Status of Foreign Workers in Korea. *Population Journal*, 1.
- Yin, H. (2006). *Introduction to demographic*. Beijing: China Population Publishing House.
- Zheng, X.Z., & Li, C.H. (1998). Chinese Koreans' Social Development Status and Countermeasure Research. *Journal of the Central University for Nationalities (Philosophy and Social Sciences Edition)*, 6, 28-35.
- Zhou, F. (2003). Analysis of China's Ethnic Population Based on the 2000 Census. *China's Ethnic Groups*, 9, 5-10.