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## **THE EFFECT OF HIGHER EDUCATION EXPANSION ON THE MARRIAGE MARKET IN CHINA**

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### **Abstract**

*China's higher education expansion policy started in 1999. It brought about rapid increase not only in the number of college and postgraduate enrollment, but also changed its gender ratio. A shift to female dominance under the traditional marriage mode further increased the risk of matching difficulties and failures. This paper assessed the impact of college enrollment expansion in the marriage market, evaluated the consequences of rapid expansion of higher education through the perspective of the marriage market, specifically, for females. Use Census data between 2005 and 2015 to analyze the marriage choice of graduate students, and urban survey were used to analyze the marriage choices of undergraduates. SPSS 22.0 was used, testing results show that significantly negative association of college enrollment expansion with the marriage market. The greater the density of interventions for enrollment, the higher the decline in marriage rates. However, women who have higher education have chosen to be single. The recommendations are strengthen marriage awareness in college; determine intervention measures, adjust the university curriculum and educate college students about*

marriage and childbearing; help graduates prepare for participation in the marriage market in order to produce a family; and enrich relevant knowledge and information that will lead them to accurate expectations to avoid search failure in the marriage market.

## Keywords

Marriage Market, Higher Education Expansion, Education Level, China

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# 1. Introduction

## 1.1 Background

China has maintained remarkable high-speed growth in recent decades, but the demographic changes have brought the traditional growth model driven by labor-intensive industries to an end. In order to make economic growth sustainable, increasing labor productivity will be a new source of growth. China's higher education expansion policy started in 1999. From less than 1 million enrollment before 1999 to more than 8.4 million enrollments in 2017 (Figure 1), it brought about rapid increase not only in the number of college and postgraduate enrollment, but also changed its gender ratio. According to the gender ratio report of college students, the proportion of female -male student ratio in 2010 was 50.36% which became 52% in 2018 (Yearbook, 2018). It cannot be ignored that women have begun to dominate in the higher education community which has led to a postponed entry into the marriage market. Higher educational attainment among women led to a shortened searching time for a marriage partner enhances failure rates, and a shift to female-dominance under the traditional marriage mode further increased the risk of matching difficulties and failures.

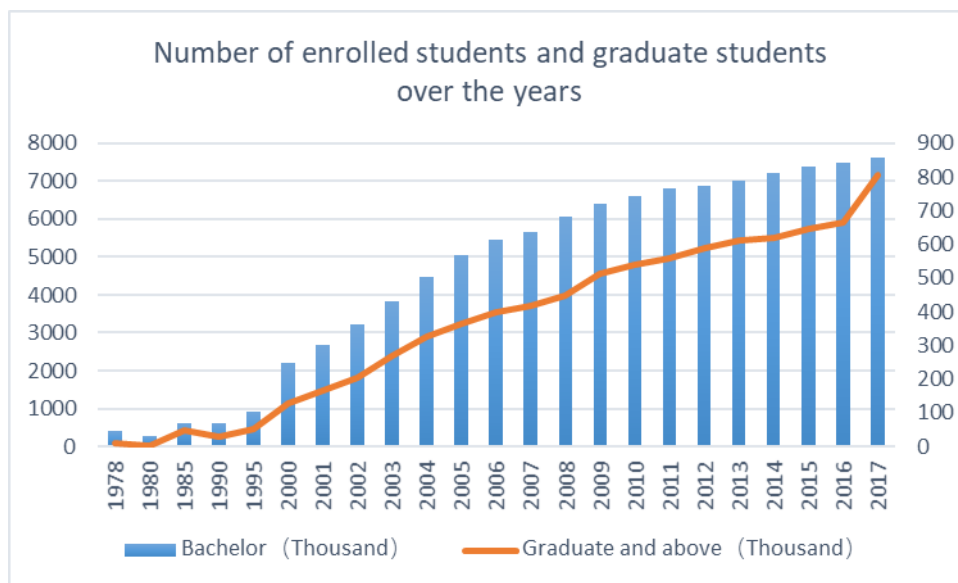


Figure 1: Number of Enrolled Students and Graduate Students, 1978-2017

## **1.2 Statement of the Problem**

In China, the ways in which college enrollment affects the marriage market are as follows: First is scale. In 1998, the proportion of college students enrolled in the college-age is less than 5% of, the number of graduate students enrolled was even less than 2%, marital problems of this small group did not have a big social impact and attention. However, in 2013, about 700 million college enrollees accounted for about 44% of college-age population while 611,000 graduate enrollees for about 4% of school-age population queue. This scale could not be ignored. Although the expansion of university enrollment is limited to the scale of high school students recent years, the number of graduate students is still rising. Second is the change in gender structure. After the expansion of enrollment in colleges and universities, the number of female college and female postgraduate students is increasing, and the female in enrolment ratio has also continued to increase. In 2017, with the drop of age at 18-34 years old in the higher education group, the female ratio increased from 45.9% to 51.9 %. This makes the marriage problem of highly educated women should not be ignored. (Yearbook, 2018)

Specifically, the study intends to address the question: If higher education continues to expand, will there be an “excess” of educated women who remain unmarried?

The original intention of expansion was to delay the time for young people to enter the labor market, in order to alleviate the employment pressure at that time. The unexpected effect is that Chinese higher education has entered the stage of popularization. There is also an unexpected side effect of the expansion of colleges and universities, which together increase the years of education of the new growth labor force. In the minds of many, there are concerns that education may overdevelop. If there is any excess of unmarried educated women, it may affect the balanced development of economic and social aspects. This paper mainly focuses on its impact on the marriage market.

## **1.3 Objectives of the Study**

The general objective of this study is to evaluate the impact of Chinese college enrollment expansion to the marriage market. Specifically, the researchers aim to achieve the following objectives: to assess the consequences of rapid expansion of higher education through the perspective of the marriage market

## **1.4 Hypotheses**

In the process of studying the impact of higher education expansion on the marriage market, the most important factor to consider is the increased female-male student ratio. Based on the changes in the Chinese labor market and the marriage market environment, are the following hypothesis:

Hypothesis 1: The higher the educational attainment of females, the lower the marriage rate.

Postponed entry into the marriage market shortens the searching time and enhances failure rates. A shift to female-dominant higher education system increases matching difficulties under traditional assort.

A study suggested the phenomenon of “leftover males” and “leftover females” appeared at the same time (Wu, 2014). The extended length of education has delayed the recruitment of females in the marriage market, and the natural constraints of the life cycle have shortened the time for childbearing, the risk of search failure and withdrawal from the marriage market due to frustration. Higher education (including postgraduate education) delays the age at which men and women enter the marriage market, so the frustration effect occurs both in women and in men. Accordingly, Hypothesis 1 is proposed.

Hypothesis 2: There is a significant negative association between college expansion with marriage rate.

Enrollment expansion in colleges and universities has changed the male dominated gender structure. Under the traditional marriage model in which women prefer higher-educated spouses and males prefer to be less educated, more women who have received higher education are faced with a relatively reduced potential spouse supply, resulting in a lower marriage rate, thus Hypothesis 2 proposed based on this.

## **2. Frameworks of the Study**

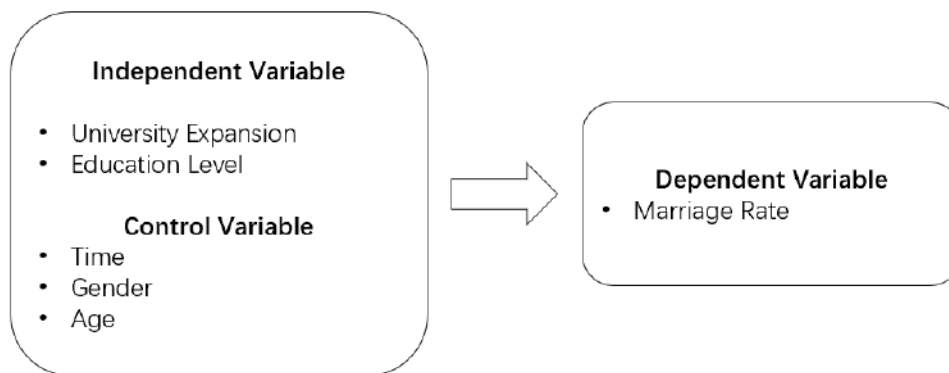
### **2.1 Theoretical Framework**

The potential spouse supply of highly educated women in the marriage market is decreasing, but the “male high- female low” model has not changed, resulting in highly educated women either extending their search time or falling out of the marriage market due to frustration. Limited to the data, the author only observed the changes in the marriage market in the relatively short period of the expansion of the school, and the conclusions on the marriage choice of female college students or female graduate students still need further observation: Highly educated women who have not achieved marriage matching before a certain age limit. What choices will be made after exceeding this limit? If they choose to withdraw from the marriage market, it will have three adverse effects on Chinese society: First, it reduces the total fertility rate and reduces the number of people born. Today, with low fertility, these potential new populations can not only improve the age structure of the population, increase the supply of long-term labor, and alleviate the pressure of aging, but these new populations will grow in a better family environment and be China's future high human capital. group.

Second, although these women without marriage and family have a competitive advantage in the labor market, they may become vulnerable groups after they enter their homes because of the lack of care for their families and children. Third, if the urban marriage market reduces a group of highly educated women, it is necessary to attract a corresponding number of women from the countryside to balance the urban marriage market. This will squeeze the most unskilled low-education men in the rural marriage market, making this group a deprived person in the marriage market. If these highly educated women are still searching after the age of marriage, the probability of a successful match may increase. Even if they have missed the birth stage, establishing a family will effectively alleviate the second and third adverse effects. This paper comprehensively uses data from several national census and sample surveys, as well as national survey data on women's status to study the marriage choices of urban high-education women, and to compare and analyze the marriage squeeze faced by rural low-education men in the urban process (Wu, Liu, 2014).

## **2.2 Conceptual Framework**

A general framework for studying the effect of Higher Education on Marriage Decision among the Population in China is shown in Figure 2.



**Figure 2:** *Framework for the Effect of Education Expansion on the Marriage Rate in China*

The definitions of the variables and the expected signs of the coefficients are presented in Table 1. The choice of the variables was limited by the available data from the Year book.

**Table 1: Definition, Measurement and Expected Signs of Variables**

Variable	Definition (Measurement)	Expected Sign
<i>Marriage rate</i>	The ratio of the number of marriages in a given period to the number of people in a certain range during the same period.	
<i>University Expansion</i>	Percentage increase in enrollment per year	-
<i>Education Level</i>	Higher education is bachelor or graduate, lower education high school	-

The descriptive statistics of the variables considered are shown in Table 2.

**Table 2: Descriptive Statistics of Variables**

Variable	Mean
<i>Marriage rate</i>	
25-29 female	0.471
30-34 female	0.850
25-29 male	0.349
30-34 male	0.819
<i>University Expansion</i>	
2000-2005	0.384
2005-2015	0.040
<i>Education Level</i>	
Higher	0.292
Lower	0,708

There is one set of large sample microdata that can be used to test the aforementioned hypothesis, the National Census Bureau's 2005 Census and the 1% population sampling urban survey in 2015.

### 3. Research Methodology

#### 3.1 Research Design

In China, between 2005 and 2015, the marriage rate of male and female graduate students has dropped significantly (Table 3). In 2010, the marriage rate of female graduate students fell below 50%. The decline in the marriage phase of ages 25-34 is particularly evident. Because graduate students

have different enrollment numbers in different years, comparing the changes in the marriage rate in the total sample can only provide a general information.

**Table 3:** *Proportion of Spouses for Graduate Students of different Ages*

Proportion of spouses for graduate students of different ages						
(Unit: % )						
	2005	2010	2015	2005	2010	2015
Age	Female			Male		
20-24	5.2	3.3	1.6	1.4	1.8	1
25-29	59.1	45.5	36.7	42.2	34.8	27.9
30-34	87.8	85.7	81.6	83,3	84.2	78.3
35-39	90.5	91.9	88.8	94.4	95.1	92
40-44	87.9	92.8	90.6	95.1	97.4	95.9
45-49	88.2	94	90.9	93.9	97.9	97.1
50-54	77.4	88,4	88.8	90.3	95.9	96.7
55-59	94.1	90.9	89.5	92.7	95.5	96.8
60-64	68.8	86.8	88.8	92.2	95,8	95.5
65 and above	77.5	74.8	72,9	85	95.7	89.5
Total	63.3	62	49,4	70.5	76.2	60.1

Source: Census data for the relevant year.

It can be inferred that there will be fewer and fewer graduate students in the 30-34 and 35-39 age groups. The proportion of spouses in these two age groups decreased from 2010 to 2015 compared with 2005-2010. The marriage rate has two statistical methods: “having a spouse” and “having a marriage experience.” This article uses “with a spouse”. Some scholars have found that highly educated women are not married, but the age of marriage is postponed (Isen and Stevenson, 2010; Goldstein and Kenney, 2001). Marriage choices in different life cycle queues are different. To accurately assess long-term changes in the marriage rate, longer observations and studies are needed to ensure that this change is fully demonstrated. Under the current data conditions, the interpretation of the estimation results should be more cautious. In order to ensure that the estimation results are both factual and have sufficient sample size, the age range needs to be selected: the age is too small, the graduate students have not entered the marriage market or they are allowed to have further search; the strategy of selecting the age queue is similar to In the non-parametric estimation, the "bandwidth" should be carefully selected, taking into account the estimation efficiency and sufficient samples.

In the process of rapid expansion of higher education, the gender structure has undergone significant changes. Before 1998, males and college graduates had a significant advantage. Since the expansion of college enrollment, the number of women in higher education has increased faster,

narrowing the gender gap. Table 4 shows that in the age group over 30 years old, whether it is undergraduate or postgraduate, the proportion of males is 60% or even 70%. However, in recent years, the proportion of male undergraduates in the young population has dropped to 50%, male graduate students even dropped to 44% - 46%. Female graduate students have surpassed men in number.

**Table 4: Proportion of Men in Different Groups of Education**

Proportion of men in different groups of education						
(Unit: % )						
	2005	2010	2015	2005	2010	2015
Age	Bachelor			Graduate		
20-24	60.1	50.4	50.4	58.8	44.2	46.3
25-29	60.8	52.3	50.4	59.5	50.8	49.4
30-34	65	57.9	53.3	67.1	61	55.3
35-39	70.4	62.2	57.7	77.6	68.6	62.7
40-44	70.7	68.6	61.5	83.6	76.8	68.7
45-49	68.1	69.3	67	80.9	81.2	76.7
50-54	72.5	68.6	68.6	82.4	80.3	79.3
55-59	71.9	72	67.1	87.9	85.2	77.5
60-64	77	70.6	70.4	82.8	84.8	80.1
65 and above	79.3	76.1	72.9	76.9	82.8	79.2
Total	65.2	59.7	54.9	69.6	63.6	56.6

Source: Census data for the relevant year.

If male prefer spouse with similar or slightly lower education level, among undergraduates and graduate students over the age of 35, women are more likely to find matching spouses because of the higher proportion of men; in younger groups under 34, the sex ratio is changed. It is not good for women. If the matching model is the same, women who have received higher education will find it harder to find the corresponding spouse. In particular, female graduate students face the dual risks of increasing age and reducing the number of candidate spouses.

How do different educational groups in the marriage market match? According to the marital class hypothesis, under normal circumstances, both men and women will prefer the opposite sex of the same class (Choo and Siow, 2006, Schwartz and Mare, 2005). However, if there is a decrease in men, men will find more women in higher classes. The First World War led to a decline in young men in France, and women in higher classes had to “married” to lower-class men (Abramitzky, *et al.*, 2011).

The level of education is taken as the proxy variable of the class in which it is located. Table 5 shows that from 2005 to 2015, the basic pattern of marriage matching is that the husband's education level is higher than that of the wife. According to the display preference, most women choose men



with equal or higher education levels as husbands. In women who have received higher education, this preference still exists and there is no sign of change: in 2005, the degree of education was junior college. The proportion of women whose husbands are equal or higher is 69.2%, compared with 73.6% in 2015; the proportion of women whose education is undergraduate is equal or higher in their husbands. The years were 64.4% and 65% respectively; the highest education classification for female graduates was also graduate students, with the proportions of the two years being 48.1% and 48.6% respectively. Women who have received higher education have no change in their education requirements: if they do not find a husband with a similar or higher education level, they may choose to be single.

**Table 5: Education Status of Spouses Aged 25-34**

Education status of spouses aged 25-34				
(Unit: %)				
	WIFE		HUSBAND	
	Same Education	Husband Higher	Same Education	Wife Higher
<b>2005YEAR</b>				
Illiteracy	14.9	85.1	54	46
Primary school	39.1	59.8	56.7	34.2
Junior high school	62.7	29.1	62.3	16.6
High school	49.1	23.1	46.9	7.3
College	45.9	23.3	32.4	6
Bachelor	56.7	7.7	28.6	1.5
Graduate and above	48.1	—	17.3	—
<b>2015YEAR</b>				
Illiteracy	15.4	84.6	53.6	46.4
Primary school	38.1	60.7	56.8	33.7
Junior high school	67.1	25.4	67.7	11.7
High school	49.7	25.3	43	9.3
College	47.5	26.1	39.6	9.4
Bachelor	57.6	7.4	36.3	2.1
Graduate and above	48.6	—	22.6	—

Source: Census Data of 2005 and the 1% Population Sample Urban Survey of 2015.

In turn, men are willing to find a wife whose education level is lower than their own. The higher the educational attainment of men, the greater the proportion of women whose education is lower than their own. Enrollment expansion in colleges has changed the gender ratio of higher education groups, but the pattern of women looking for spouses has not changed, making their risk of

matching failures increase. In the face of the increase in female university graduates, the matching pattern of men in the marriage market began to change: the proportion of men whose education is junior college is equal to or higher than that of their wives, which increased from 38.4% in 2005. 47.3% by 2015; males with an undergraduate education level, whose wife’s education level is equal or higher, increased from 30.1% in 2005 to 38.4% in 2015; The proportion of graduate students also rose from 17.3% in 2005 to 22.6% in 2015.

In the marriage market, 10 years is not long in experience, but it can be judged cautiously: men have begun to adjust their spouse choices according to the changed environment, and women's choice of spouses has not shown significant changes. This may be the reason why the "leftover woman" phenomenon is more serious than the "leftover man". Whether women will adjust over time to adapt to changes in the supply and demand of the marriage market, and still need to update the large sample of data to analyze.

Women prefer higher-educated husbands and begin to dominate in higher education, and women seem to be less flexible in the marriage market, reducing their marriage rate. This paper selects the population group of 25-34 years old as the observation object, and compares the proportion of male and female spouses and their changes in different survey (or census) years, shown as Table 6:

**Table 6: Education Level and Marriage Possibility**

Education level and marriage possibility								
(Unit: % )								
	1990	2000	2010	2015	1990	2000	2010	2015
	Female				Male			
High school	94.7	90.4	89.9	86.7	91.3	87.4	86.2	82.9
College	89.6	87.4	86.2	81.8	88.8	84.2	83.5	78
Bachelor	85	85.6	81.4	77.3	78.4	82.3	80.2	75.2
Graduate and above	—	76.5	71.4	61.8	—	77.8	77.4	65
Total	94.1	89.5	87.8	83	90.4	86.3	84.6	79.9

Source: Census Data for the Relevant Year

The proportion of spouses in each education group is declining, but the group with higher education level has a greater decline, and the gender difference is obvious: the proportion of male graduate students with spouses decreased from 77.8% in 2000 to 2015. 65% of the year; the proportion of female graduate students dropped from 76.5% to 61.8%. After the age of 25, it is the age of marriage for graduate students, but nearly 40% of women are not married.

In the census and the 1% population sample urban survey, the data generation process is

consistent, and can be combined to construct a mixed cross-section data. Based on the characteristics of Chinese academic system and the characteristics of data structure, this paper constructs a natural experimental framework from the population cohort, and recognizes the groups that have been enrolled by college enrollment as accurately as possible to capture the impact of enrollment expansion on the marriage market. In the marriage market, this article considers the 35-44-year-old cohort as the “control group”, which has passed the age of higher education or even postgraduate education during this period; 25-34 years old is regarded as the “intervention group”. This is mainly for “graduate students”: according to the Chinese academic system, the undergraduate degree is usually 22-23 years old, and the graduate student is 25-26 years old; however, part of the graduate enrollment comes from “on-the-job candidates” and observes the graduate students. The age distribution is much more discrete than undergraduates.

Based on the data analysis, this paper assumes that graduate enrollment will affect college graduates aged 22-28. They graduated at aged 25-34, if they graduated over 35 years old, their chances of being affected by college enrollment will be small. This judgment comes from the age of the graduates studying in 2015: less than 4 for those aged 35 and over. 5%. The 25-34-year-old group is regarded as an intervention group for enrollment expansion in colleges and universities, and relatively accurately covers the students and researchers enrolled in the enrollment. The age of admission to the doctors will be large, and this article is not identifiable, but the doctoral students account for about 1/8 of all graduate students. When it is not possible to accurately distinguish, the estimates are not degraded but not large.

**Model: Marriage Rate**

The marriage rate has two statistical methods: “having a spouse” and “having a marriage experience.” This article uses “with a spouse”. Some scholars have found that highly educated women are not married, but the age of marriage is postponed (Isen and Stevenson, 2010; Goldstein and Kenney, 2001). The data structure characteristics and the distinction between the groups affected by the expansion of colleges and universities make this paper construct the following empirical equation:

$$M_i = \beta_0 + \beta_1 E_i + \beta_2 C_i + \varepsilon_i \quad (1)$$

The dependent variable  $M_i$  of equation is marriage rate; independent variable  $E_i$  are education levels;  $C_i$  is for the enrollment expansion of colleges and universities.  $\beta_0$  is the intercept, that is, the initial marriage rate, and  $\beta_1$ ,  $\beta_2$  are the regression coefficients corresponding to the independent variables, respectively. SPSS 22.0 was used to regression analysis for hypothesis testing.

## 4. Results and Discussions

### 4.1 Statistical Results

In this paper, two strategies are used to detect the effects of two independent variables: first, expand the selection of control groups to see the impact of education and enrollment expansion; second, sub-age observation, it is expected that with the increase of age, the coefficient will shrink and It became insignificant.

Table 7 reports the results of the regression analysis of the impact of education level on the ageing queue 25-34. First, undergraduate graduates are used as postgraduate control groups to observe the relative marriage choices of graduate students. The results are reported in the left pane. It can be seen that the graduate marriage rate of 25-34 years old is significantly lower than that of undergraduates, whether it is a full sample or a sex-sex sample. In the whole sample, the coefficient of  $\beta_1$  of education level is -0.048, which is statistically very significant. It can be interpreted as a graduate student who has been involved in the expansion of recruitment. During this period, the marriage rate dropped by 4.8 percentage points; compared with undergraduates, female graduate students fell by 6.6 percentage points; male graduate students fell by 3.8 percentage points.

**Table 7:** *The Impact of Education Level on the Ageing Queue Regression Analysis Results (Dependent Variable: Marriage Rate)*

	Postgraduate - Undergraduate			Undergraduate - High school		
	All samples	Female	Male	All samples	Female	Male
Education	-0.048	-0.066	-0.038	-0.039	-0.050	-0.041
	(0.010)	(0.019)	(0.013)	(0.003)	(0.005)	(0.004)
OBS	253 812	99 455	154 357	1 377 164	641 618	735 546

Note: Control Variables are Gender, Age (aging of queue 25-34). Standard Error in Parentheses

Second, the high school graduates are used as the undergraduate control group and the results are reported in the right pane. In the total sample, compared with high school graduates, the undergraduate students aged 25-34 fell by about 4 percentage points during this period; female undergraduates dropped by 5 percentage points; male undergraduates fell by 4 percentage points. It can be seen that the marriage rate of graduate students is significantly lower than that of undergraduates, and the marriage rate of undergraduates relative to high school students is also significantly reduced. This is consistent with Hypothesis 1: The higher the education level for female, the lower the marriage rate. Postponed entry into marriage markets shortens the searching time and enhances failure rates. A shift to female-dominant higher education system increases matching difficulties under traditional assort. Education extension will reduce the probability of successful search.

**Table 8: Results of Impact on Enrollment Expansion in Colleges and Universities**  
 (Dependent variable: Marriage rate)

	Postgraduate – Undergraduate		
	All samples	Female	Male
University Expansion	-0.107	-0.117	-0.101
(25-29)	(0.018)	(0.027)	(0.024)
OBS	171 163	66 413	104 750
University Expansion	-0.016	-0.033	-0.008
(30-34)	(0.011)	(0.21)	(0.013)
OBS	173 468	63 388	110 080

Note: Control variables are gender, age (aging of queue 25-34). Standard error in parentheses.

Table 8 reports the test results of impact on colleges and universities enrollment expansion. In the graduate and undergraduate samples, the coefficient  $\beta_2$  of university expansion by the controls of 25-29 years old is not only larger, but also statistically significant. Especially in the female sample, the probability of marriage for female graduate students has dropped by 11.7%. In the university expansion by the controls 30-34-year-old sample, the coefficient  $\beta_2$  is close to zero and is not statistically significant. In the low-age cohort, the coefficient  $\beta_2$  of women is significantly greater than that of men. Hypothesis 2 is also tested: There is a significantly negative association of university expansion with marriage rate.

#### 4.2 Statistical Analysis

According to the statistical results, this article only lists the equation for the marriage rate of highly educated women caused by the most concerned expansion. as follow:

$$M_i = 0.748 - 0.066E_i - 0.117C_i \quad (2)$$

The equation showed that education level has a negative relation to marriage rate, that is, marriage rate decreases when female education level increases or have higher education level. The effect of education level to marriage rate is -0.066 which is significant at  $\alpha=0.05$  (sig= .001). University expansion has a negative relation to marriage rate of female, that is, marriage rate decreases when enrollment expansion of university increases. The effect of university expansion to marriage rate is -0.117 which is significant at  $\alpha=0.05$  (sig= .001).

One factor that guarantees the validity of this study's conclusions is that more than 90% of the unseparated family samples (92% to 94% for women with bachelor's degrees or less) were matched. The graduate population is slightly lower, but the matching rate is also 89%. It is inferred that the effect on the estimated results is not significant.

In this paper, in the face of an imperfect evidence: if after the enrollment expansion of gender structure change, make the status of women in the marriage market, so, men, for women supply were increased and more favorable in the marriage market, selected the scope and quantity of the larger, however, the census data show that male graduate marriage rates are falling. The data from the urban household survey were limited to a sample that did not look specifically at male graduate students, but even among undergraduates, a decline in male marriage rates was not observed over a longer period of time. The two figures are inconsistent with the evidence for men.

Are there other major social changes that have led to changes in the marriage choices of the higher education community? One factor often suspected is the sharp rise in housing prices in big cities since 2002. Does rising housing prices reduce the incentive to get married? A view at China's environment suggests otherwise: rising housing prices are the same for any income group, and graduate students' higher incomes, decent jobs, easier access to housing loans and disguised welfare housing give them an edge in the marriage market. But the real concern about the decline in marriage rates due to the expansion of college enrollment is the larger group of people who are willing to marry, a complier group that is unlikely to be deterred by housing availability.

## **5. Conclusions and Recommendations**

### **5.1 Conclusions**

Since 1999, the rapid expansion of the scale of higher education along with increasing enrollment of high school, the education level of young population rapidly improves. However, with international comparisons, according to the annual report of OECD: Japan is one of the countries with the highest proportion of young people receiving higher education: among the 25-34 age group, the proportion of people with higher education is 60%, ranking second in the OECD countries. In which the proportion of young women in higher education is slightly higher than young men, the ratio is the 62% and 59%, respectively. Only 18% of Chinese youth (aged 25-34) have received higher education, while the average for OECD countries is 44%. Although the Chinese men and women is very balanced in every level of education, in 36 OECD members and 10 partners countries, China has the highest proportion rates who did not receive the high school education at 25-34-year-old stages, among 64% of the age group did not complete this level of education, which much higher than the average of OECD members (15%) (OECD, 2018). The huge gap is not only the space and motivation to catch up, but also the basis for us to believe that the scale of China's higher education is still not excessive today.

However, the probability of women not receiving a higher education is significantly higher.

Under the condition that China's working-age population begins to decrease and the total fertility rate is far below the replacement level, China will suffer multiple losses: not only will it further reduce the number of births, but it will also reduce the population of the most optimal family. This group of people with the most biological and sociological advantages is not born, blocking the intergenerational transmission of human capital in the family - parents with higher education are more conducive to their children's education (Currie and Moretti, 2003). At the micro level, when these unmarried people enter old age, even if they can accumulate enough pensions for themselves, they will lack the care and comfort within the family and face higher physical and mental health risks (Liu Q., 2009).

For hypothesis 1, The higher the education level for female, the lower the marriage rate. The results can support it. More than 30 years of population control policies have led to serious gender imbalances. Marriage squeeze and social risks caused by men have always been a concern of all sectors of society.

For hypothesis 2: There is a significantly negative association of college expansion with marriage rate. The results can support it. This paper studies the impact of college enrollment expansion on the marriage market after 2000. Due to data limitations, this article can only observe the marital status at the latest in 2015. We have seen that the marriage rate of undergraduate and graduate students has dropped significantly before the expansion of enrollment, both men and women, but the marriage rate of women has declined even more. The probability of marriage for female graduate students has dropped by 11.7%.

In conclude, expanding the scale of higher education can make them more adaptable in the market, thus reducing the risks they face in structural transformation and industrial upgrading. The improvement of human capital in the whole society is the driving factor for economic growth. Therefore, to further expand the scale of higher education, the direction is correct. However, the process of enrollment expansion and its impact should be studied and dealt with in depth, because the adverse effects of enrollment expansion on the marriage market have already emerged. For all levels of government that are keen on economic growth and constantly seeking growth sources, this negative impact is still did not attract enough attention.

## **5.2 Recommendations**

Some policy implications can be derived from the conclusions of this paper:

- This incident has affected nearly half of the country's families. Secondly, women's dominance in higher education is a fact that developed countries have experienced. To improve the status quo of the higher the education level for female, the lower the marriage rate, we should use this

as a starting point to find intervention measures, such as whether we can adjust the curriculum at the university level and educate college students on marriage and childbearing. Providing proper sex education helps the female and male to maintain a good relation with the opposite gender, helps in reducing crimes related to child abuse, women abuse etc. (Anjana Joy, 2018). Also, had online classroom teaching experiences for LGBTQ (Lesbian, Gay, Bisexual, Transgender, and Queer), will have a positive impact on the psychological and social practices of this segment of the population (Trevor G. Gates, 2018). Help graduates prepare for participation in the marriage market and to form a family.

- The long-term impact on the expansion of colleges and universities requires attention and research. To reducing the impact of college expansion on marriage rate, for those young people who have the willingness to form a family. They should not neglect the marriage market choices that they will inevitably face in the future because of their lack of relevant knowledge and information or inaccurate expectations, leading to search failure.

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