

The Influence of Enrollment Expansion Policy on Marriage Market

Aiai Shi
Shanghai University
School of Economics
Shanghai, China
1329308005@qq.com

Abstract—Based on the China's two latest censuses and other relevant data, it is learned that the expansion of college enrollment has expanded the size of the university population and, at the same time, reduced the male female ratio, which has a great impact on the marriage market. Combining basic economic theory with the traditional marriage model, this paper analyzes the mechanism of how the college enrollment expansion policy influences the marriage market and establishes empirical models confirms the assumptions. The conclusion is that the university enrollment expansion policy significantly reduced the marriage rate of people who are affected by the expansion, and postpones the age of their first marriage, especially for men.

Keywords—College enrollment expansion policy, Marriage market, Male female ratio

I. INTRODUCTION

Since 1999, China has begun to implement the policy of enrollment expansion on higher education. The gross enrollment rate of higher education, which has been popularized, has increased from 9.67% in 1998 to 45.7% in 2017. At the same time, the sex ratio of college students is also declining constantly. The expansion of higher education has given many young people in China more opportunities to receive higher education and has injected lots of human resources into the development of socialism with Chinese characteristics. The traditional marriage model believes that women will choose men who have higher incomes and higher academic qualifications. Men tend to look for mates who have same or lower incomes and lower academic qualifications. In this marriage mode, the higher education enrollment policy will lead to late marriage and late childbearing of the high-education population. The marriage rate of these people who are aged for marriage is declining gradually. And this trend is becoming more and more serious and will have a profound impact on our society. At present, there are few studies on the impact of education policies and systems on the marriage market, but this field deserves more scholars' attention.

II. THE MECHANISM OF COLLEGE ENROLLMENT EXPANSION IMPACT ON THE MARRIAGE MARKET

Based on the theory of rational man supposition, utility maximization is the goal pursued by individuals in market. It is assumed that the individual utility function is an increasing function of income in the labor market and marriage earnings in the marriage market. When making a marriage decision, both men and women will fully consider the pros and cons. When the total utility of marriage is less than the sum of the utilities of being two singles, the marriage match will fail. That is to say, the two parties will remain singles. Referring to the ethics of intertemporal choice in economic theory, regarding accepting higher education as an investment in oneself, one can obtain more returns to consume in the future, or higher labor incomes and find a better mate. Higher academic qualifications can enable individuals to earn high incomes in the labor market and find their mates who have higher incomes and higher academic qualifications in the marriage market. However, accepting higher education means pushing back the time of acquiring these two kinds of incomes and it's more likely to fail in searching for a companion in the marriage market. What's more, under the traditional marriage mode, the university's enrollment expansion policy has led to a decline in the proportion of men and women with a high degree of education, and the number of women is more than that of men now. The less matching males further reduce the successful chances of matching in the marriage market.

III. DATA

The data of "National population by age, gender, education level, marital status" in the data of the fifth and sixth national census data of China in 2000 and 2010, and the relevant data of "first marriage age and education level" are selected, which is integrated into the following chart.

Marriage rate= X_1/Y_1

X_1 represents the number of people who have been married in a certain age group

Y_1 represents the total number of people in a certain age group

Male to female ratio= X_2/Y_2

X_2 represents the number of men

Y_2 represents the number of women

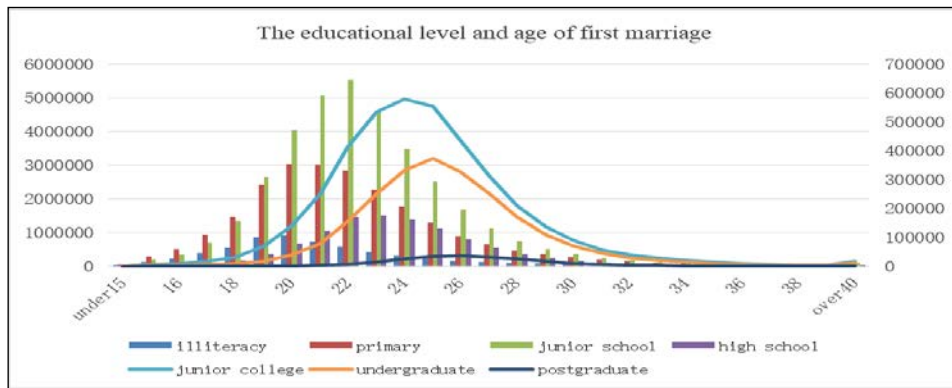


Figure1. Relationship between education level and first marriage age

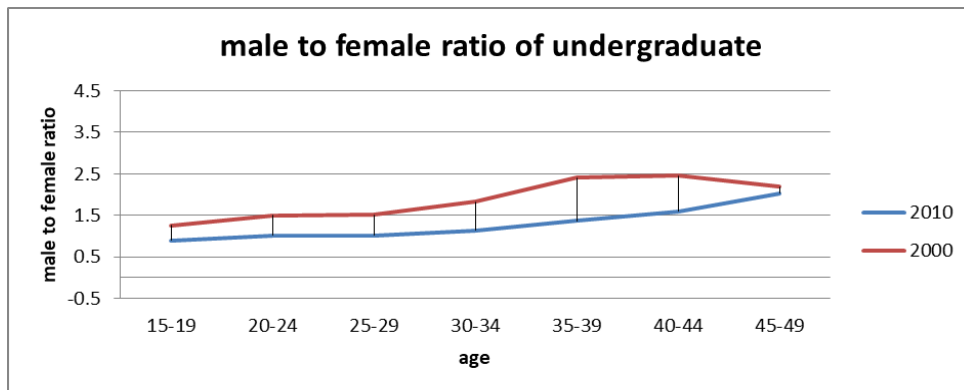


Figure 2.Male to female ratio of Undergraduate

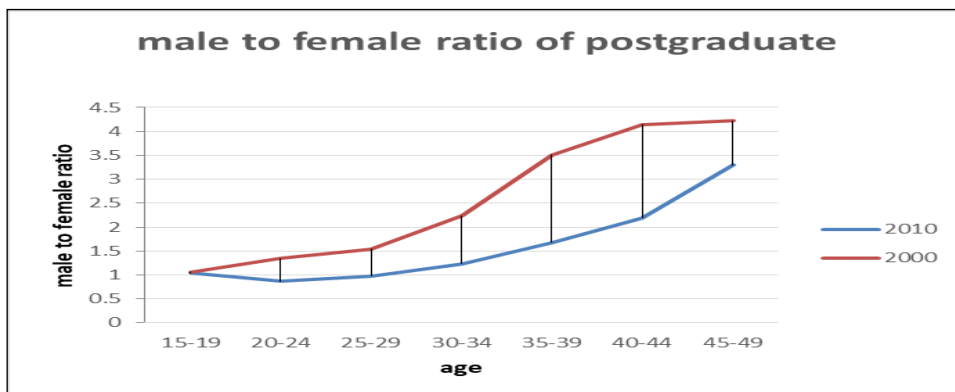


Figure 3.Male to female ratio of postgraduate

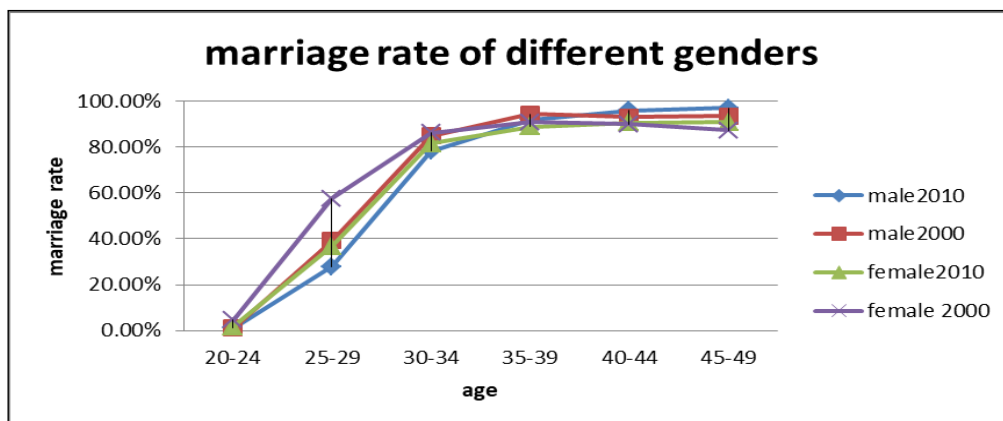


Figure 4.Marriage rate of different genders before and after the college enrollment expansion policy of postgraduate

The Figure 1 clearly shows that, as the level of education increases, the age of first marriage gradually increases, and the higher the level of education, the higher the time cost of searching in the marriage market. Figure 2 and figure 3 show that under the influence of the enrollment expansion policy of colleges and universities, the proportion of males and females in higher education institutions is decreasing, both undergraduate and postgraduate. As is shown in Figure 4, before the age of 30, women's marriage rate is higher than that of men. This phenomenon is closely related to China's social environment where women face greater external pressure to marriage than men. After 35 years old, men's marriage rate will overtake that of women. Under the traditional marriage mode, women will choose her companions with higher ages, academic qualifications, and incomes. Men will choose women whose age, education, and incomes are the same or lower. The college expansion enrollment policy has enabled more women to enter higher education institutions for further education, delayed the time of entering the marriage market, reducing the supply of women in the marriage market, reduced the probability of successful matching, and delayed the first marriage age of men who is delayed by receiving education further, and marriage rate man who is aged for marriage.

IV. EMPIRICAL ANALYSIS

Model 1: Testing the impact of enrollment on marriage rate

$$Marr = \alpha + \beta_1 T + \beta_2 I$$

Marr represents the marriage rate; T is the standardized time variable, which is respectively recorded as -1 to -6 from 1995 to 2000, and 6 to 1 from 2005 to 2010; I is a logical variable: I=1 represents the time after 2005. I = 0 represents the time before 2000. The data of the census is the time-point data. Take the data of the sixth census in 2010 for example, if the enrollment time of the 18-year-old population is 2010 (assuming that the undergraduate entrance age is 18 years old and the postgraduate enrollment age is 22 years old), the 19-year-old population in the data will be enrolled in 2009 and so on. Since the data in 2010 is time-point data, there is distortion of the data: if the marriage rate of the enrolled population in 2000 is tested by the 2010 sixth census data (28 years old in 2010), these people would have been in the marriage market for 6 years. Therefore, it is necessary to control the time of entering the marriage market and compare the people who have entered the marriage market before and after the intervention.

Undergraduate data: Since the marriage rate of 18 and 19 is not only extremely low but also cause data distortion, the data of these two years will be removed, and the data of 20, 21, 22, and 23 will be retained. The marriage rate of college students whose ages varied from 20 to 23 years old is correspondingly cut out from the sixth census data, and the enrollment time is correspondingly 2008, 2007, 2006 and 2005; correspondingly, students from the same age group are cut out from the fifth census, The years of admission is correspondingly 1998, 1997, 1996 and 1995. The data of graduate students and college students is handled the same.

Source	SS	df	MS	Number of obs	=	8
Model	.00208105	2	.001040525	F(2, 5)	=	8.32
Residual	.000625262	5	.000125052	Prob > F	=	0.0257
				R-squared	=	0.7690
				Adj R-squared	=	0.6765
Total	.002706312	7	.000386616	Root MSE	=	.01118

marr	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
t	.0144102	.0035363	4.07	0.010	.00532	.0235005
i	-.0735514	.019369	-3.80	0.013	-.1233409	-.0237619
_cons	.0518068	.0104604	4.95	0.004	.0249174	.0786963

Figure 5.The influence of the college enrollment expansion policy on the marriage rate of undergraduates

Source	SS	df	MS	Number of obs	=	12
Model	.238018324	2	.119009162	F(2, 9)	=	21.62
Residual	.049549795	9	.005505533	Prob > F	=	0.0004
				R-squared	=	0.8277
				Adj R-squared	=	0.7894
Total	.28756812	11	.026142556	Root MSE	=	.0742

marr	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
t	.0789445	.012542	6.29	0.000	.0505726	.1073164
i	-.6340365	.0976879	-6.49	0.000	-.8550219	-.4130512
_cons	.4534461	.0533341	8.50	0.000	.332796	.5740962

Figure 6.The influence of the college enrollment expansion policy on the marriage rate of undergraduates

It can be seen from the test results that the coefficient of variable I is significantly negative whether it is undergraduate or postgraduate, which confirms that the enrollment of higher education significantly reduces the marriage rate of higher education population in the same age group.

Model 2 The Influence of college enrollment expansion Policy on Gender Differences in Marriage Market

$$MARR = \alpha + \beta_1 gra + \beta_2 fel + \beta_3 age$$

MARR represents the logarithm of marriage rate; gra and fel are dummy variables: gra=1 represents the postgraduate student, gra=0 represents the undergraduate student; fel=1 represents the female, and fel=0 representative the male. The regression results by software are as following:

Source	SS	df	MS	Number of obs = 48		
Model	4.02514573	3	1.34171524	F(3, 44)	=	36.56
Residual	1.61475798	44	.036699045	Prob > F	=	0.0000
				R-squared	=	0.7137
				Adj R-squared	=	0.6942
Total	5.63990371	47	.119997951	Root MSE	=	.19157

marr	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
fel	.0125532	.0553015	0.23	0.821	-.0988996	.124006
gra	-.0493787	.0553015	-0.89	0.377	-.1608315	.0620741
age	.0337808	.0032381	10.43	0.000	.0272548	.0403068
_cons	-.3861218	.1156241	-3.34	0.002	-.6191469	-.1530967

Figure 7. The Influence of College Enrollment Expansion Policy on Different Genders in Marriage Market

The model test result shows that the goodness of fit is high, and the F test shows that the equation is overall significant. When the gender and age are given, the marriage rate of women is higher than men in the same age group by 1.26%. When the gender and age are given, the marriage rate of postgraduate students is 4.94% lower than that of undergraduates. With the expansion of higher education enrollment policy, more and more people enter higher education institutions for further study and the time of entering the marriage market is postponed. Due to the growth of the expected value of marriage incomes, the search time is added, and the age of first marriage is delayed, and the marriage rate in the aged for marriage group declines. Under the influence of Chinese backward patriarchal attitudes, many parents used to be only willing to support boys' education. With the progress of social civilization, this backward phenomenon has gradually disappeared, and women have gained equal access to enter school and get higher education. With the policy of college enrollment expansion deepening, the proportion of men and women receiving higher education is declining. Women investing in education have higher requirements for the quality of their partners. They will choose mates with higher academic qualifications and higher incomes, which further delays the first marriage age of men and reduces the marriage rate of men.

V. CONCLUSION

There have been investigations and studies by the professor Huijun Liu showing that "married and unemployed" women have the highest happiness, the "married with jobs" are the second, the "unmarried workers" are the next, the "Unmarried without work" are the last, we can see that the happiness brought by marriage to the individual is higher than the happiness brought by the work incomes. Higher education can bring much more and better job opportunities, but it also delays the marriage age and the time of happiness. Late marriage and late childbearing are a loss of utility, both personally and socially.

The college enrollment expansion policy has brought far-reaching influence on the marriage market while expanding the number of highly academic qualification women and men in China and changing the proportion of men and women. Married people affected by the enrollment expansion policy enter the higher education institutions for education, which postpones entering the marriage market and the age of first marriage is delayed, also. Among them, the higher marriage enrollment policy has a greater impact on the first marriage age of men. With the continuously deepening of enrollment expansion in higher education, it has fostered more high-quality talents for the society, which is conducive to promote China's socialist economic and cultural construction, but it also makes most high-educated, high-quality populations marry late. Since 1978, China officially has taken the family planning policy into the Constitution which implemented the family planning policy to adapt population growth to economic and social development, and advocated a couple to have a child. With the implementation of the family planning policy, China's demographic dividend tends to disappear. In recent years, the implementation of the second child policy have reversed this trend, and these growing high-education populations' late marriage and late childbearing will make the second child policy resulting in demographic dividend is delayed.

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