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THE DELAY AND FALL IN MARRIAGE IN US: AN ANALYSIS OF HOW THE ECONOMIC GROWTH IMPACTS THE DECISION TO MARRY AND A LOOK FORWARD TO THE FUTURE

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Abstract

In the last century after WW2 we have seen advances in the overall economic development of the world and a tremendous rise in education and health. Women across the countries felt the wave of feminism and rise in their welfare through more awareness, education and the better healthcare facilities. With these trends one particular trend can be seen: the fall in the marriage rate in the population and delay of the marriage. This phenomenon can be seen in the good lights that increase in the median age of marriage means less child marriage and people marrying at a mature age. But like everything else, it also carries some future problems. This study is aimed at the finding the potential relationships of this phenomenon with the probable causes behind it like economic growth, expansion in healthcare or expansion in education levels in both man and woman and analysing some potential problems that may arise along with it in the United states of America.

1. Introduction

Marriage is a union between two person where they set some particular obligations and rights between them. The importance of marriage is tried to be described by different theories. On one point of view marriage is seen as a social custom and people marry because societal norms say so. But in the other end, it is seen as an economic relationship where the cost of living is tried to be minimised through taking the full advantage of the comparative advantages of the both sexes. Change in the trends of female participation in tertiary education and the emerging of the concept of career woman is changing the dynamics of marriage pattern among the people. This study is aimed to analyse the dynamics of marriage trends in the United States of America.

2. Review of Literature:

Goldsterin, J. R. & Kenney,C.T. (2001) analysed the trend in marriage rate and age of the people of the USA in their first marriage on the people born in 1940-60s. They found that people are marrying later in life and they found that marriage rate is found to be highest among the highly educated woman. It is also concluded in the study that the gains from marriage tends to be the highest when both the partners are highly educated and women who are less educated are more likely to remain single.

Goldin, C., & Katz, L. F. (2000) associated the rise of the birth control pills to delay the marriage age of women in the USA. Though abortion was legalised in the 70s, the pill actually increased the reliability of the contraception and made young women to continue with their professional

and educational careers to continue without the fear of unwanted pregnancy. Women who invested in their higher education delay marry at least to the point of their completion of their initial career preparation.

Santos, C., & Weiss, D. (2013) linked the variable income volatility to the delay in marriage rate stating that income volatility decreases the will to marry hence young individuals wait to a point that where they can at least ensure a higher income with less volatility. They found that rising income volatility explains 26% of the decline in marriage. The decrease in the price of home inputs also explains about 20% of this decline. The decrease of the gender wage
gap has a small effect on this.

Jordan B Peterson (2018) wrote that the decline in marriage in the new era can be explained by the shortfall of university educated men in the recent years. Due to the phenomenon that women try to marry someone who is equal or more educated/qualified than them.

3. Objective:

The objectives of the study is to find out

a. How the gap of in the enrolment in tertiary education between men and women are affecting the marriage rate in the USA

b. How rise he female enrolment in tertiary education and the female participation rate in the labour market is affecting the median age of marriages in the case of females in the USA

4. Methodology:

The study is based on the secondary data. The variables included in the study and their definitions and the sources are given below.

Table 1: Varaiables, definitions and Data source

Serial no	Variable	definition	Data source
1	Marriage rate in USA(Y_1)	the number of marriages per one thousand people per year	Centers for Disease Prevention and Control, united States
2	Median Age at First Marriage (female) in USA (Y_2)	Median age of females who gets married for the first time	U.S. Census Bureau, Current Population Survey, March and Annual Social and Economic Supplements
3.a	Male tertiary education enrolment rate (X_{1a})	Gross enrolment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education (in %)	World bank data
3.b	Female tertiary education enrolment rate (X_{1b})	Gross enrolment ratio is the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education (in %)	Word bank data
4.	The difference between male and	X_{1b}-X_{1a} (in %)	

The study is aimed at to test the relationship between variables via OLS. Hence the stationary tests must be done to rule out the potential for spurious regression. Unit root test (augmented dickey- fuller) is performed on each series. It is found that all the series here are stationary.

4. a. The rationale behind choosing the time period: (1995-2017)

Goldstein and Catherine T did the study on the cohorts of 1940-1960s. A person born in early 1960s are almost 30 by the end of the year 1995. The median age of marrying was 27 for men and 25 for women then. The other studies too limited the analysis upto the year 2000.

Another interesting dynamics seen the field of education is that the difference between university enrolment between men and women in the United States of America. The 21st century is showing the increasing gap between the numbers of university enrolled women and men. Women are showing a very rapid increase in their enrolment in the tertiary education.

4.b.1 Model 1: For Marriage rate:.

Hence the proposed model is $Y(1) = \beta(0) + \beta(1).X(1)+\beta(2)\ln X(2)+u$

The rationale behind the model is:

a. The difference between higher education enrolment between men and women are expected to impact the marriage rate negatively. As women prefers to marry across or up the economic hierarchy.

b. The per capita income captures the fact that as income rises people gets more financial independence and choices and they may prefer not to marry.

4.b.2 Model 2: For Delay in marriage:

The proposed model is $Y(2) = \beta(3) + \beta(4).X(1b) + \beta(5).X(3) + v$

The rationale of the model:

a. Women delay marriage as they get the opportunities for higher education.

b. As women finds more career opportunities they tend to delay their marriage

5. Result:

Model1: (dependent variable: Y1)

Table 2.1 regression results of model 1

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	63.1462	8.2665	7.6388[.000]
LN	-5.0215	.80382	-6.2470[.000]
X1	-.063576	.018200	-3.4931[.002]

Model2: (Dependent variable: Y2)

Table 2.2 regression results of model 2

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
INPT	54.9492	7.4522	7.3736[.000]
X1B	.020193	.012348	1.6354[.118]
X3	-.53877	.11315	-4.7616[.000]

6. Conclusions:

Model 1:

Marriage rate is found to be negatively related with the excess of enrolments of women in the tertiary education than that of men and the

result is statistically significant. This result can have these potential interpretations:

a. A woman marries a man who is either equal or more educated than her.

b. Higher educated woman are more independent financially or emotionally so that they don't want to get married and sacrifice these sense of independence.

Marriage rate is also found to be negatively related to the per capita income. The result here is also statistically significant. This result has these potential interpretations:

a. As people get richer they have more financial freedom.

b. The comparative advantages of each sex in a marriage is getting decreased with more innovations. E.g. Cooking for the family was historically a task which was mostly done by females of the household. But now with modern technology men can cook with ease and hence the decision to marry may go down.

c. As people prosper economically they tend to get more information about birth control methods, they may never get into the bond of marriage which they would have if the fear of pregnancy may be there.

Model 2:

The median age of the females at their first marriage rate is found to be positively related with the tertiary education enrolment rate. But the relationship is found to be not statistically significant. It is found to be negatively related with the labour force participating rate of females and it is found that the relationship is statistically significant. This means that as

the female labour participation rate increases the median age of marriage go down. Which is interesting as the expected result was completely opposite of this one. The potential interpretation for this result is:

More women are getting into higher education but they are not being able to find a proper employment. This is why a woman may wait until she finishes her education but then she marries eventually at a later age.

7. Discussion:

The study found one interesting result is that marriage rate falls as the gap between female and male enrolment in tertiary education increases. Interestingly the gap is decreasing in the recent years. The male tertiary education enrolment jumped drastically from 73% to 77% in 2009-2010 period. It may be seen as a response towards the recession of 2008. Hence it will be very interesting to see if the gap closes further down the road.

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Appendix

Dataset:

year	Y1	Y2	X1a	X1b	X1	X2	ln x2	X3
1995	8.9	24.5	69.16431	89.60844	20.44413	37813.76	10.54043	57.868
1996	8.8	24.8	68.57418	89.4795	20.90532	38369.16	10.55501	58.171
1997	8.9	25	66.6747	85.61752	18.94282	39356.09	10.58041	58.719
1998	8.3	25	62.31021	81.75553	19.44532	40614.41	10.61188	58.752
1999	8.6	25.1	63.04192	82.8331	19.79118	41942.71	10.64406	58.92
2000	8.2	25.1	58.6307	77.40939	18.77869	43434.69	10.67901	59.026
2001	8.2	25.1	58.6805	77.97988	19.29938	44726.97	10.70833	58.809
2002	8	25.3	66.37649	90.05129	23.6748	44728.6	10.70837	58.591
2003	7.7	25.3	67.67156	93.33526	25.6637	45087.37	10.71636	58.458
2004	7.8	25.3	67.81563	95.25051	27.43488	45980.51	10.73597	58.154
2005	7.6	25.3	66.93172	95.19016	28.25844	47287.59	10.764	58.243
2006	7.5	25.5	68.77082	98.27297	29.50215	48499.81	10.78932	58.337
2007	7.3	25.6	69.41766	98.84382	29.42616	49405.77	10.80782	58.26
2008	7.1	25.9	70.93422	99.85549	28.92127	49856.28	10.8169	58.459
2009	6.8	25.9	73.27885	102.7056	29.42671	49319.48	10.80607	58.144
2010	6.8	26.1	77.70586	108.2529	30.54704	47648.81	10.77161	57.502
2011	6.8	26.5	79.01522	109.4981	30.48288	48466.82	10.78863	56.93
2012	6.8	26.4	78.17828	108.9376	30.75932	48862.42	10.79676	56.701
2013	6.8	26.6	75.07691	103.1126	28.03569	49596.42	10.81167	56.292
2014	6.9	26.6	75.39736	102.5994	27.20204	50161.08	10.82299	56.111
2015	6.9	27	75.75902	102.7473	26.98828	51015.14	10.83988	55.834
2016	7	27.1	76.06227	102.2938	26.23153	52099.27	10.86091	55.994
2017	6.9	27.4	74.99719	102.0113	27.01411	52534.37	10.86922	56.313