Student Debt and Family Formation

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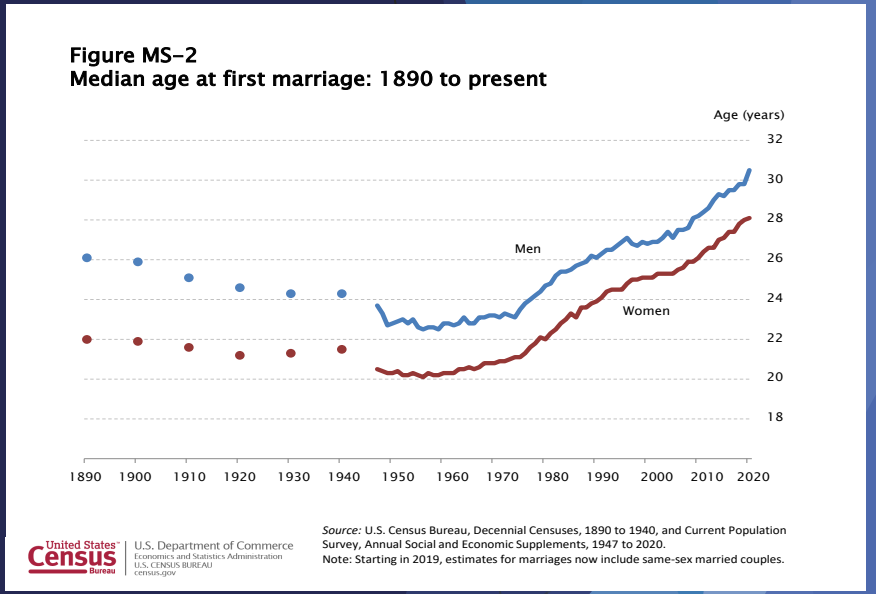
Agenda

- Background
  - Research Question and Why it's Important
- Relevant Literature
- Data and Methodology
  - Background on Data Source
  - Independent and Dependent Variables
  - Overview of Model
- Results
- Conclusions
- Possible Improvements for Future Studies

Background

- Research Question
  - Does Student Debt Affect Young Peoples' Timing of Family Formation?
  - Why Does This Matter?
- Student Debt
  - Trends
- Family Formation
  - Marriage
  - Childbearing
- Implications of Trends



Relevant Literature

- Student Debt
  - Debt Effects on Future Income/Wealth – Scott-Clayton (2018) and Elliot and Nam (2013)
- Marriage
  - Financial Strains and Marriage – Bozick & Estacion (2014) and Parker & Stepler (2017)
- Marriage and Childbearing
  - Connections between Marriage and Childbearing – Martin, Hamilton, Osterman & Driscoll (2019) and Nathan & Pardo (2019)
  - Trends in Birth Rates - US Census Bureau (2020)
- Student Debt and Marriage
  - Graduate Studies Debt and Marriage – Gicheva (2016), Sieg & Wang (2018), and Bozick & Estacion (2014)
- Gaps Evident in the Literature

Data

- Data Sources
  - Panel Study of Income Dynamics (PSID)
    - Transition Into Adulthood (TAS) supplement
- Variables
  - Dependent Variables
    - Married and Children variables
  - Independent Variables
    - Total Student Debt
    - Age, Degree, and Male

Table #1: Summary Statistics for Cohort A

	2009					2013				
Variable	Observations	Mean	Std. Dev.	Min	Max	Observations	Mean	Std. Dev.	Min	Max
Whether Married	667	0.08696	0.28198	0	1	667	0.23688	0.42549	0	1
Whether Has Children	667	0.20690	0.40538	0	1	667	0.38531	0.48703	0	1
Total Student Debt	667	4.57942	11.22175	0	160	667	9.99196	25.54764	0	315
Age of Respondent	667	20.36732	1.74113	17	23	667	24.39130	1.72896	21	27
Obtained Degree	667	0.09595	0.29475	0	1	667	0.28786	0.45310	0	1
Male	667	0.43628	0.49630	0	1	667	0.43628	0.49630	0	1

Total Student Debt is measured in thousands of $USD

Table #2: Summary Statistics for Cohort B

	2011					2015				
Variable	Observations	Mean	Std. Dev.	Min	Max	Observations	Mean	Std. Dev.	Min	Max
Whether Married	610	0.06066	0.23889	0	1	610	0.18033	0.38478	0	1
Whether Has Children	610	0.18033	0.45153	0	1	610	0.31803	0.46609	0	1
Total Student Debt	610	4.39350	11.60200	0	100	610	7.88251	19.01947	0	165
Age of Respondent	610	19.61967	1.71527	17	23	610	23.64426	1.72293	21	27
Obtained Degree	610	0.06557	0.24774	0	1	610	0.25738	0.43755	0	1
Male	610	0.50984	0.50031	0	1	610	0.50984	0.50031	0	1

Total Student Debt is measured in thousands of $USD

Methodology

- Organizing Data for Analysis
  - Use of cohorts across time
- Model
  - Comparison of observations in two different time frames
  - Dichotomous dependent outcome variables
  - Probit regression model
    - Predicting probability of outcomes for dependent variables
    - Cumulative distribution function in probit regression

Results

Table #3: Regression Results for Married and Children - Cohort A

	2009		2013	
Variable	**Married**	**Children**	**Married**	**Children**
Total Student Debt	0.00023	-0.00649***	-0.0017*	-0.00438***
	(.0008)	(.00202)	(.00092)	(.0014)
Age of Respondent	0.03136***	0.06022***	0.05654***	0.06331***
	(.00626)	(.00944)	(.01018)	(.01176)
Obtained Degree	-0.00482	-0.18544**	0.04619	-0.26741***
	(.02828)	(.0229)	(.03872)	(.03879)
Male	-0.03997**	-0.10333***	-0.06242*	-0.21674***
	(.01914)	(.0294)	(.03257)	(.03769)
Observations	667	667	667	667
R-squared	0.0781	0.1035	0.0576	0.0708

Standard errors are reported in parentheses.
*, **, *** indicates significance at the 90%, 95%, and 99% level, respectively.

Table #4: Regression Results for Married and Children - Cohort B

	2011		2015	
Variable	**Married**	**Children**	**Married**	**Children**
Total Student Debt	-0.00166*	-0.00251*	-0.00011	-0.00344***
	(.00095)	(.00141)	(.00076)	(.0012)
Age of Respondent	0.02005***	0.04891***	0.03824***	0.07165***
	(.0045)	(.00836)	(.00881)	(.01147)
Obtained Degree	-0.00989	-0.07937*	0.00774	-0.24327***
	(.0212)	(.03414)	(.03575)	(.03604)
Male	-0.05973***	-0.08523***	-0.08249***	-0.15428***
	(.01707)	(.02805)	(.03074)	(.03793)
Observations	610	610	610	610
R-squared	0.1418	0.0857	0.048	0.1136

Standard errors are reported in parentheses.
*, **, *** indicates significance at the 90%, 95%, and 99% level, respectively.

Conclusions and Possible Improvements

- Interpreting the Results
  - Results of Regression on Married Variables
    - Trends over time for either cohort
  - Results on Regression on Children Variables
    - Trends over time for both cohorts
- Conclusions
- Possible Improvements for Future Studies
  - Improvements in the Dataset
    - Timeframe for panel study
    - Trends in data and restrictions on observations
  - Improvements in Modeling
    - Control variables
    - Change variables