

Measuring Marriage Rates over Time: Implications for Empirical Analyses

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Research Questions

- Does the use of a stock measure of marriage (marital status) produce different results than a flow measure (entry into marriage/marital history)?
- If so, why?

Motivation

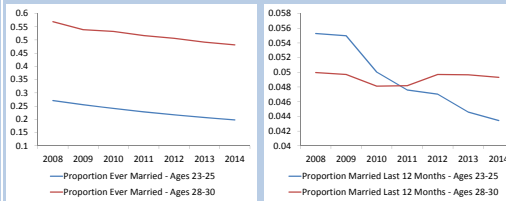
- Several papers using flow data make the case that it is superior to stock data (Lichter, McLaughlin, and Ribar 2002; Bitler et al. 2004; Schaller 2013; Klerman and Haider 2004)
- Nonetheless, a number of papers use data on marital status from several different sources:
 - Current Population Survey Annual Social and Economic Supplement
 - U.S. Decennial Census
 - Tax Data

Comparing Entry into Marriage Using Stock and Flow Data

- Use the 2007 through 2013 American Community Survey (ACS)
- ACS collects data on marital status since 2000 and marital history since 2008
- Using marital history information, the first marriage rate can be calculated as the proportion of the single population married in the prior 12 months or prior calendar year
- Using marital status information, comparing the change in the proportion ever married simulates a first marriage rate

First, A Graphic Comparison by Age Group

- The stock and flow outcomes show divergent trends
- Proportions Ever Married v. First Married in the Last 12 Months for All Aged 23-25 and 28-30 over 2008-14



Source: 2008 through 2014 1-year ACS data.

Using These Different Outcomes in Analyses

- In a difference-in-differences (DD) framework, using the stock measure "ever married" as the outcome and comparing changes in that proportion simulates a first marriage rate
- In an ordinary least squares (OLS) framework, stock measures can be used to construct first marriage rates by subtracting the prior year $y-1$ proportion ever married for a given age $a-1$ from the current year y proportion for the subsequent age a :

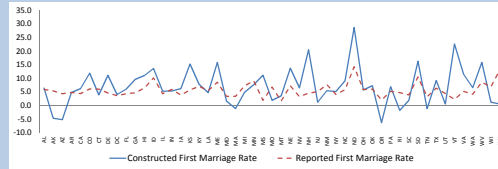
$$FirstMarRate_{Constructed,y,a} = \frac{EverMar_{y,a} - EverMar_{y-1,a-1}}{SinglePop_{y,a} - SinglePop_{y-1,a-1}}$$

The constructed rate can then be compared to the reported (flow) rate

Comparing Constructed Versus Reported Rates By State

- For some states, constructed and reported rates are similar, but for other states, they vary dramatically

First Marriage Rates for Women Aged 25 over 2011-12



Source: 2011 through 2012 1-year ACS data.

Comparing Constructed Versus Reported Rates in a State-Level Analysis

- To formally compare results, we examine a state-level OLS analysis using flow and stock measures
- Results from flow outcomes are large and consistent in magnitude and significant, while results from stock outcomes lack significance and are sometimes opposite-signed

The Relationship Between Unemployment Rates and Marriage Rates for Women Aged 28-34

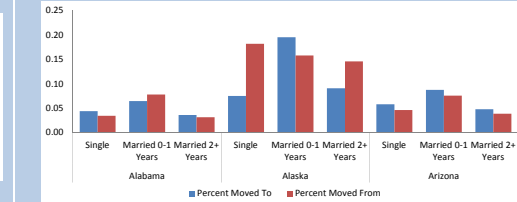
	Reported - Prior CY		Reported - Prior 12 Mo.		Constructed	
	Log Rate	Rate	Log Rate	Rate	Log Rate	Rate
Unemployment rate	-0.040**	-3.303***	-0.037**	-3.497***	-0.027	1.485
	(0.015)	(1.222)	(0.018)	(1.405)	(0.107)	(6.569)
Observations	306	306	306	306	267	306
R-squared	0.691	0.688	0.682	0.658	0.433	0.311

Source: 2007 through 2013 1-year ACS data. Robust standard errors clustered at the state level in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

What Might Account for the Different Results?

- Cohort effects?
- Differential migration by marital status?

Migration Rates by Marital Status for Women Aged 18-49 for Three States



Source: 2008 through 2013 1-year ACS data.

Comparing Reasons for Migration

- Results suggest drivers of migration vary by marital status

Regression Results for Relationship between State-Year Unemployment Rate and Net State Migration by Marital Status for Women Aged 18-49

	Single	Married 0-1 Years	Married 2+ Years
Unemployment Rate	-0.0014**	0.0004	-0.0008
	(0.0006)	(0.0024)	(0.0007)
Observations	357	357	357

Source: 2008 through 2013 1-year ACS data. Robust standard errors clustered at the state level in parentheses, *** p<0.01, ** p<0.05, * p<0.1.

Take-Aways

- Analysis suggest marriage stock data and marriage flow data may yield divergent results in sign and significance
- Cohort effects or differential migration patterns by marital status may contribute to these discrepancies
- Important to consider other factors that might account for divergent marriage stock and marriage flow results



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