

The Long Run Effects of Tying Cash Transfers to Marital Status on Family Well-Being

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Transfers, Marital Status & Child Well-Being

- Many transfer programs condition eligibility on marital status (EITC, SS, TANF)
 - Unmarried are on average poorer.
 - But marriage based eligibility dis-incentivizes marriage.
- TANF: “A question of long-standing research and policy interest is whether the U.S. welfare system discourages marriage and encourages single motherhood.” (Moffit et al, 2015)
 - Welfare rules incentivize single status: Transfer is lost upon marriage
 - Mom remaining single cost tax payer money
 - Single motherhood adversely affects child well-being (McLanahan & Sandefur, 1997)
- **THIS PAPER: Are maternal marriage market choices affected by welfare benefit receipt, and do they harm children?**

How do women behave when their outside option improves?

- Use administrative data from Mothers' Pension program to investigate
 - First welfare program in the US started in 1911

- Two questions
 1. How transfers to poor unmarried women affect her lifetime marriage behaviors and outcomes?
 - **Marriage market:** Remarriage, Time to remarriage, characteristics of new spouse
 - Related behaviors: Fertility and work
 - **Outcomes:** Mother's longevity and income.

 2. How does re-marriage affect outcomes of children?
 - Longevity is main outcome

Transfers and marriage: Current evidence

- **Welfare lowers marriage rates? Evidence is ambiguous**
 - Remarriage rate of divorced females was three times greater among non-AFDC than AFDC recipients (Bahr, 1979).
 - More generous states have more single moms. But increases in generosity within states do not increase share single (Moffit 1998)
 - Welfare reduced likelihood of marriage when the mother is on welfare, but not after exiting welfare (Teitler et al., 2009)
 - Moffit (2015) and Low, Meghir, Pistaferri, and Voena (2018): welfare reform (less generous benefits) led to more mothers remaining married
- **Do other programs that tie transfers to marital status lower marriage rates?**
 - EITC: evidence ambiguous (Herbst 2011, Michelmore 2016)
 - Old age insurance delay remarriage (Brien, Dickert-Conlin and Weaver, 2004, Dillinder 2016, Persson 2017)
 - Pension for widows of CW veterans delayed marriage by 3.5 years (Salisbury, 2017)

Our contribution

- **Use a large sample of women (~13,000) who are tracked over their *lifetime***
 - Use family trees from FamilySearch~1.2 individuals (thanks Joe Price!!)
 - High follow-up rates compared to eg PSID. Welfare status known.
- **Identify effects of cash transfers using plausible control group: rejected**
 - Previous work (Aizer et al. 2016) shows rejected moms slightly richer
 - Most papers investigating causality use state-level variation
- **Going beyond marriage:**
 - Examine *quality of partner*: Previous work focuses on marriage alone (Salisbury, 2017; Moffit, 2015)
 - Examine consequences on *children's outcomes*: is marriage always good? Look at effects on children's longevity.
 - *Outcomes for mothers* (and how they relate to marriage)

Search Model based on McCall (1970)

- Every period a single woman decides to marry or stay single
 - If she stays single, she has option to remarry the next period
 - If she remarries, she stays remarried

$$(1) \quad Vm(q) = q + \beta Vm(q), \quad Vm(q) = q/(1 - \beta)$$

$$(2) \quad Vs = b + \beta \left\{ \lambda \int_0^{q^m} \max[Vm(q), Vs] dF(q) + (1 - \lambda)Vs \right\}$$

- **Optimal strategy** is to choose a cutoff quality q^* & marry a prospect if he is “good enough” $q > q^*$
- **Welfare, like UI, increases benefits of remaining single b so women are pickier (higher q^*) and wait longer**
 - Effects are smaller if arrival rate λ falls with age,
 - Effects on duration are ambiguous if welfare increases arrival rate λ
 - What happens if we incorporate work?

Empirical challenge measure match quality

- We can observe remarriage and time to remarriage. But how to measure “quality”?
- Ideal is to observe a single index q
- Right before remarriage
- For all prospects
- **Instead we will observe proxies or determinants of match quality**
 $q=q(X_i, U_{ij})$
 - Traits will be traded off: eg *Age/fitness vs income*
 - Empirical studies with animals show fitness traded against other traits (Rodriguez-Munoz et al. 2010)
 - Individuals also trade-off traits, like BMI and education/wages (Dupuy and Galichon 2014), Chiappori, Oreffice and Quintana-Dominique, 2012).

Effects on children: ambiguous

- **Is waiting worth it for kids?**
 - Cost of waiting: married households have more income, more time for kids, father figure.
 - But not all men will be good parents: no step-dad might be better than a bad step-dad.
- **Are moms maximizing their own welfare (at the expense of their children)?**
 - What are the determinants of q and b ?



BACKGROUND AND DATA COLLECTION

Mother's Pension program: Background

- IL first passed in 1911. By 1930: 47 states had program.
 - Similar to programs in many other developed countries at the time.
Basis of current welfare system (ADC/AFDC/TANF)
 - To reduce placement of poor children in orphanages/training schools
 - County-level program, state rules and some state funding
- Eligibility requirements varied
 - Widows
 - Husbands disabled or committed to asylums or prison
 - Deserted and divorced eligible later and only in some states
- Generosity of benefits also varied: on average ~30% of family income for 3 years.
 - Duration and maximum amounts per kids differ across states by law
 - counties differed in the level of funding

Data and data collection

- **Administrative records of applicants** to the first welfare program in the US – the Mother’s Pension Program (1911-1930).
 - Observe applicants who were rejected (~15%).
- **New data on mothers and their husbands from family trees**
 - **Marriage:** track all marriages and their dates, identity of new husband
 - **Characteristics of post-MP husbands**
 - **Mom 1940 outcomes and her longevity**
 - **Children’s outcomes:** Mortality (SS DMF—machine matched): only for boys (**previously collected**)
 - *Under construction: More extensive longevity data on boys and girls, and 1940 outcomes*
- **Sample:** mothers that were NOT married at time of MP application.
 - On average had 2.6 kids 0-14, was 37.5, applied ~1921.

Our measures of match quality

- **Two characteristics of husbands:**

- **Longevity:** measures health/fitness. But it's observed post-marriage.
- **Education (1940):** predicts marital stability (Lundberg et al. 2016) and lifetime income (also desirable trait). But 14% of post-mp husbands died prior to 1940.

- **Two measures of match:**

- **Age gap:** Empirically small gaps predict greater satisfaction (Choo and Siow, 2006; Lee and McKinnish, forthcoming) and lower divorce rates (Lillard et al, 1995), & are preferred in online dating (eg Hortascu and Ariely, 2010). But theoretical predictions unclear.
- **Education gap (1940):** measure of female bargaining power, and also a measure of homophily (Hitsch, Hortaçsu, and Ariely 2010). But missing if man or woman/man died by 1940 (14/18% did). Optimal gap also unclear.



EMPIRICAL RESULTS

Estimation strategy for marital outcomes

- We estimate

$$P(\text{remarry}=1)_{if} = f(\theta_0 + \theta_1 \text{Accepted}_f + \theta_2 X_{if} + \varepsilon_{if})$$

- θ_1 is the coefficient of interest (sometimes include interactions as well)
- Other Y : duration to remarriage, new husband's characteristics.
- X_{if} includes county and year of application FE as well as observed characteristics at time of application (age, marital status, age and # of kids)
- Standard errors are clustered at the county*year level (Abadie et al. 2017)
- Estimation Issues:
 1. Rejected a good control?
 2. Matching: are missing rates equally good for accepted and rejected mothers

Are rejects a good control? Previous evidence

1. Reasons for rejection

- Most common reasons for rejection include “ineligible” and “other means of support”

2. Characteristics at time of application

- Accepted mothers have more kids and younger kids.
- Income not observed but IOWA 1915 census predicts accepted families have lower incomes based on observables.

3. Match Ohio moms to Ohio 1920 census: Accepted moms less likely to be native born, home owners and have lower income based on occupation

- All differences are stat insignificant.

4. Match Iowa moms to Iowa 1915 census: Accepted less likely to be home owners, lower home value, less likely literate (statistically significant) but *paternal education higher for accepted* (significant)

Are rejects a good control? Newly collected data

	MP data	Newly collected data						
Pre- appl. charc.	# kids on appl. (eligible ages)	# kids died before MP appl.	# living kids 14+ at MP appl.	Mom age at appl.	Mom number of siblings	Mom foreign born	Mom education 1940	Longevity of pre-MP husband
Mean for rejected	2.192	0.167	1.590	38.449	2.658	0.169	7.758	48.575
Accepted	0.419	0.021	-0.194	-0.889	0.059	0.007	-0.031	-0.877
Robust se	[0.042]**	[0.017]	[0.072]**	[0.269]**	[0.102]	[0.010]	[0.113]	[0.301]**
county se	{0.055}**	{0.015}	{0.069}**	{0.270}**	{0.101}	{0.010}	{0.121}	{0.260}**
c*y se	(0.045)**	(0.016)	(0.074)***	(0.275)***	(0.104)	(0.011)	(0.116)	(0.278)**
% effect	19%	13%	-12%	-2%	2%	4%	0%	-2%
N	13263	13265	13265	13265	13265	13265	6848	13265

Controlling for county and year of MP application FE, standard errors clustered at the county*year level

Continue to find that accepted were worse off on average (unmarried moms or full sample)

Are rejected missing data at higher rates? No

Outcome	Remarried missing	Time to remarriage missing	Post MP husband longevity missing	Age gap missing	Mom 1940 education missing	post MP husband 1940 education missing	Education gap missing
Mean Y	0	0.394	0.307	0.196	0.484	0.493	0.568
Accepted	N/A	0.0249 (0.0212)	0.00246 (0.0222)	0.0105 (0.0202)	-0.0343** (0.0133)	-0.0156 (0.0231)	-0.0132 (0.0229)
N	13,247	5,250	5,250	5,250	13,247	5,250	5,250

Controls: County and year of MP application FE, s.e. clustered at the county*year level

Differences are statistically insignificant for all outcomes

1940 outcomes: We find 80+% (60+%) of moms (husbands) who are alive in 1940



**DOES WELFARE AFFECT
REMARRIAGE?**

Remarriage rates not lower with transfers

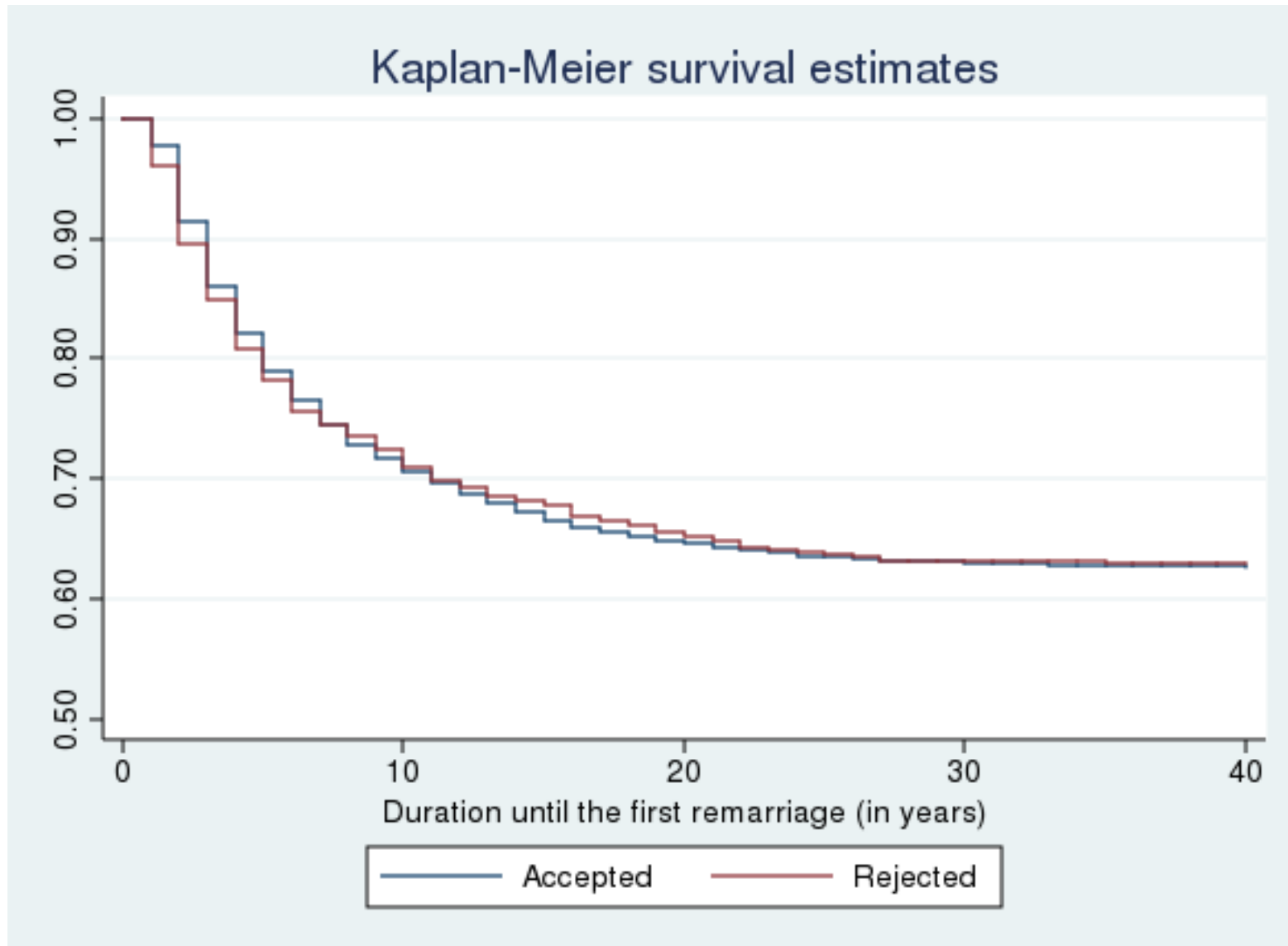
Dependent variable	Remarry = 1 (mean rejected = 0.37)			
Accepted	0.037** (0.014)	0.039*** (0.014)	0.007 (0.013)	-0.002 (0.012)
Observations	13,264	13,264	13,264	13,262
County FE	No	Yes	Yes	No
MP year FE	No	Yes	Yes	Yes
individuals controls	No	No	Yes	Yes
County controls				Yes

Accepted not more likely to remarry (once control for maternal age): coefficients (with controls) tiny and insignificant.

Women with young children, with a few kids, more siblings, and native born, + likely to remarry.

Sex ratio and % urban also predict remarriage.

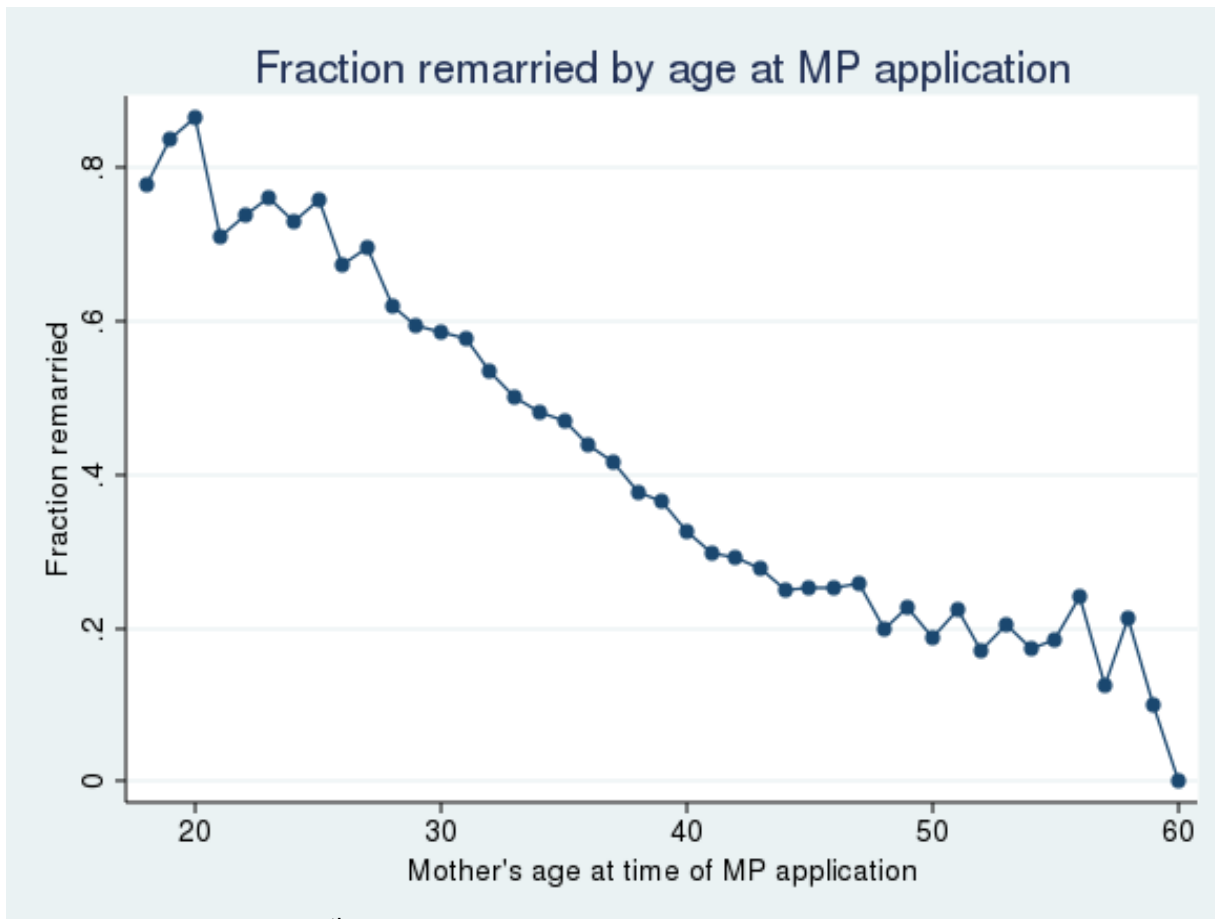
Welfare receipt prevents marriages in the short run



How different? 0.7 years on average. Only diff in first 3 years.

Why are effects small?

- Benefit are modest: ~30%, large by today's standards but not enough to live on
- Accepted women are negatively selected at baseline
- Age effects are large: marriage rates fall rapidly with age.



Median 37, 25th 31, 75: 44

Women who wait have better matches

Data Source	Family Search		1940 census	
	Husband longevity	Age gap husband YOB - wife YOB	1940 education of post MP husband	1940 education gap (husband-wife)
Mean of dep.	72.48	-4.087	7.557	-0.231
Panel A: Time to remarriage and quality				
Duration	0.300*** (0.0367)	0.0915*** (0.0245)	0.0346*** (0.00955)	0.0297** (0.0120)
Panel B: Quality among quick marriages				
Remarried with 3 years	-2.138*** (0.534)	-1.002*** (0.323)	-0.386*** (0.131)	-0.172 (0.157)
Observations	2,791	3,120	1,884	1,583

Controlling for county and year of MP application FE, and all pre-determined characteristics
standard errors clustered at the county*year level

Does welfare improve quality of match? Unclear

Data source	Family Search		1940 Census	
	Husband longevity	Age gap (husband YOB - wife YOB)	Education years	Education gap
Mean of outcome	72.48	-4.087	7.557	-0.231
Accepted	1.387*	-0.678	-0.428**	-0.151
	(0.813)	(0.473)	(0.217)	(0.230)

Controlling for county and year of MP application FE, and all predetermined characteristics
standard errors clustered at the county*year level

Other husband traits: no differences

Outcome:	Husband's children at the time of the marriage	Earliest occupational score (1950 dollars) <i>Any census pre marriage</i>	Husband is a farmer <i>Any census Pre marriage</i>	1940 income
Mean for rejected	0.337	16.56	0.117	733.2
Accepted	0.042 (0.028) 12%	-0.229 (0.872) -1%	-0.005 (0.019) -4%	-68.012 (69.778) -9%
Observations	4,339	3,250	3,869	2,536

Why does model fail? Stigma possibly

Outcome:	Husband longevity	Age gap	1940 education	1940 education gap
Panel E: States that only admit widows (CT, ND, WA)				
Mean of outcome for rejected	71.54	-1.838	8.655	0.0638
Accepted	0.372 (1.070)	-2.689*** (0.860)	-1.267*** (0.405)	-0.696* (0.398)
Observations	1,420	1,224	710	614
Panel F: All other states				
Mean of outcome for rejected	71.90	-4.184	7.586	-0.350
Accepted	1.257** (0.589)	0.113 (0.532)	-0.086 (0.234)	0.063 (0.271)
Observations	3,782	2,990	1,953	1,665

Match improved in more liberal states whose laws made eligible a broader set of women

How do welfare women fare?

Data source	Family search		1940 Census		
	Mom longevity	Number of post MP kids born	Family income	Working	Own Income
Mean for rejected	73.82	0.183	999.8	0.208	100.5
Accepted	0.296 (0.529)	0.016 (0.019)	-86.849* (47.411)	0.008 (0.019)	20.933 (14.096)

Women on welfare did not have more kids.

Welfare did not benefit mom much in long run: effects are small and not statistically significant (though recall negative selection, TBD).

Caution: outcomes in read are **LESS** likely to be missing for accepted moms.

Women who remarried lived longer, had 10% more kids, had lower incomes in 1940, but this is not different for accepted moms (not shown)



RESULTS FOR BOYS

Boys of accepted mothers lived one+ year longer

Aizer et al. 2016.

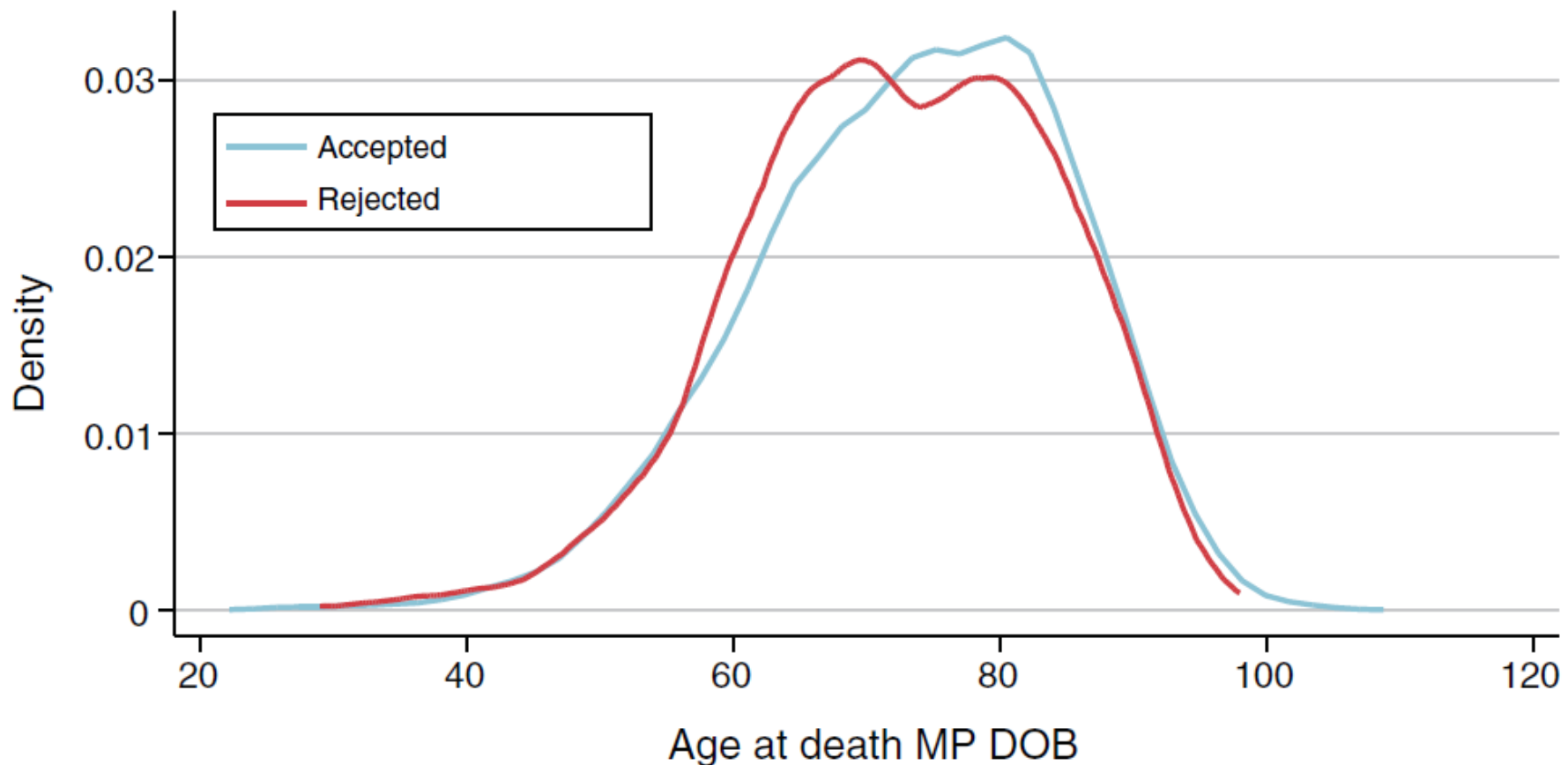


FIGURE 1. DISTRIBUTION OF AGE AT DEATH

Also found boys were + education, had higher incomes and were less likely to be underweight in WWII (among enlisted)

Welfare helped kids, but it does not appear to operate through marriage market.

Sons of:	All moms	All unmarried moms			
Mean longevity of boys	73.44	73.49			
Accepted	1.039** (0.446)	0.865* (0.513)	0.864* (0.514)	0.638 (0.668)	0.883 (0.603)
Remarried			-0.0758 (0.262)	-0.579 (0.918)	
Accepted*remarried				0.546 (0.941)	
Remarried within 3 years					-1.093 (1.439)
Accepted*remarried within 3 years					0.431 (1.494)
Observations	10,896	9,008	9,008	9,008	7,450

Maybe delays matter but coefficients not significant.

Conclusions

- **Welfare delays marriage and might improve quality of matches**
 - New husbands are healthier but less educated.
 - Evidence of heterogeneity by state depending on who was eligible. In more liberal states match improved
- Delays are **modest** in size (~6 months), mostly driven by welfare moms being less likely to remarry within 3 years
- Welfare benefits mostly accrue to children, in LR effects for moms are small and insignificant.
- Marriage effects on kids are not significant
 - Not clear marriage channel matters a lot. If any effect, it is likely due to delays