Online Appendix

Fortunate Families? The Effects of Wealth on Marriage and Fertility

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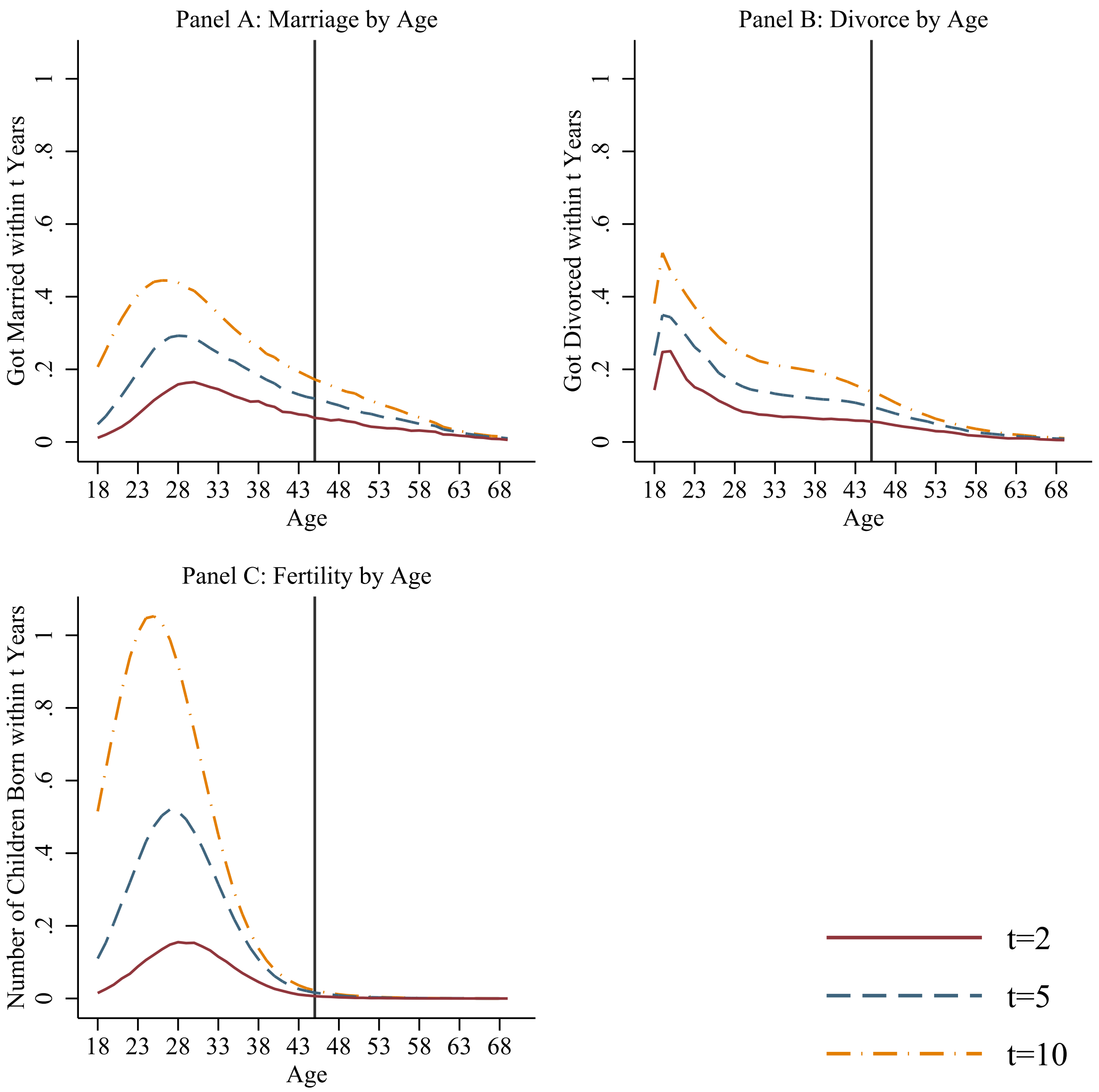
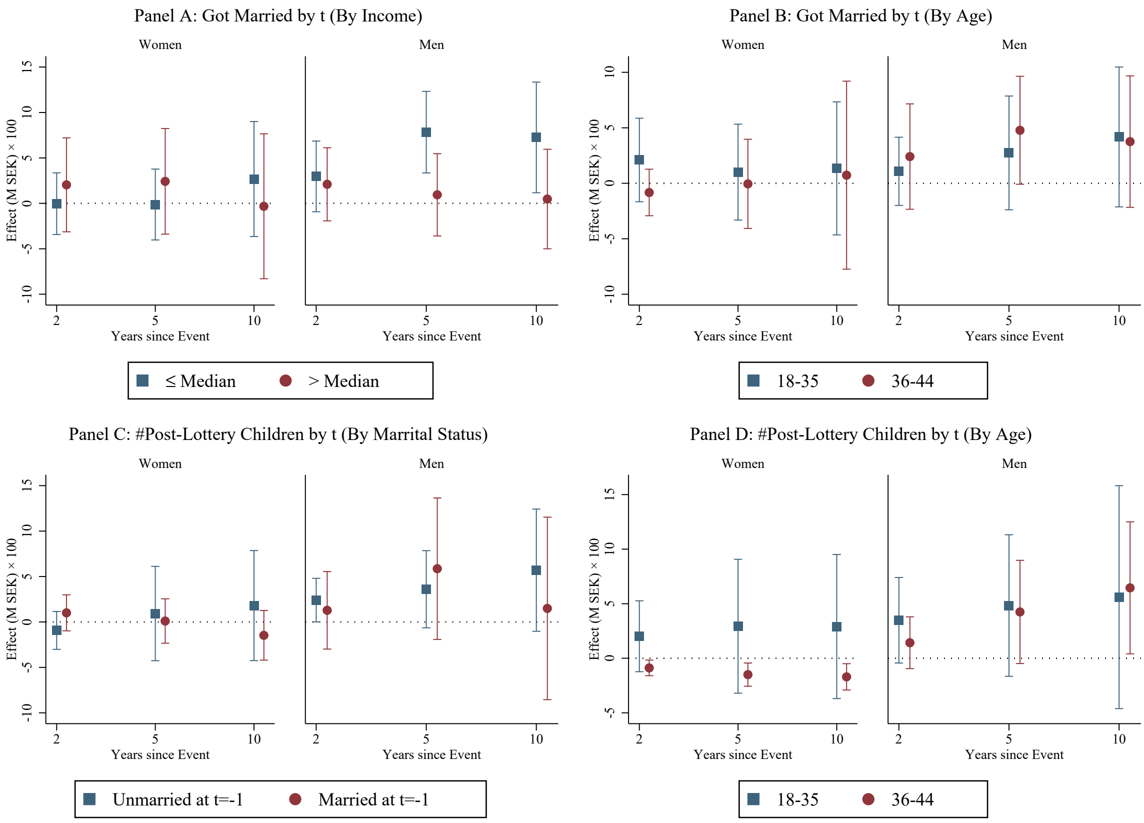
Appendix A Tables and Figures

Figure A.1: Outcome Variables by Age



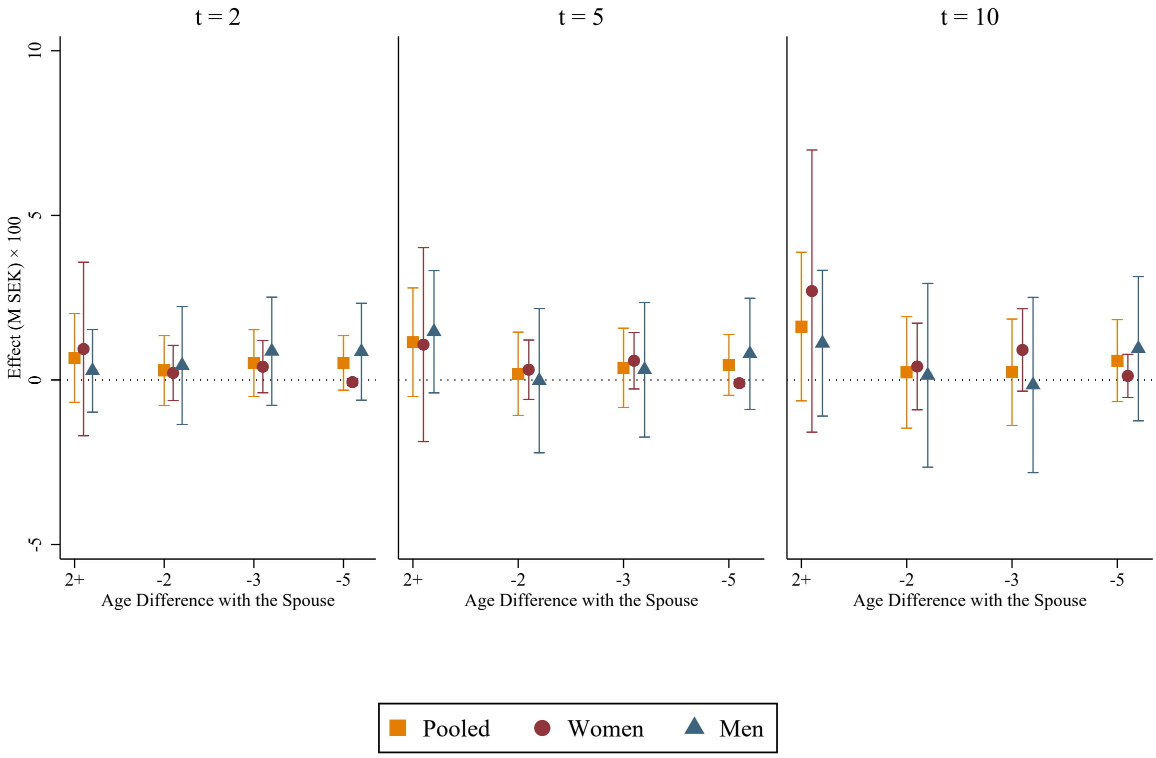
Note. The figure plots the average probability to get married (in unmarried individuals), to get divorced (in married individuals), and the average number of children born within 2, 5, and 10 years by age. The estimates are based on 1990 and 2000 Swedish represenative samples of unmarried individuals.

Figure A.2: Heterogeneous Effect of Wealth



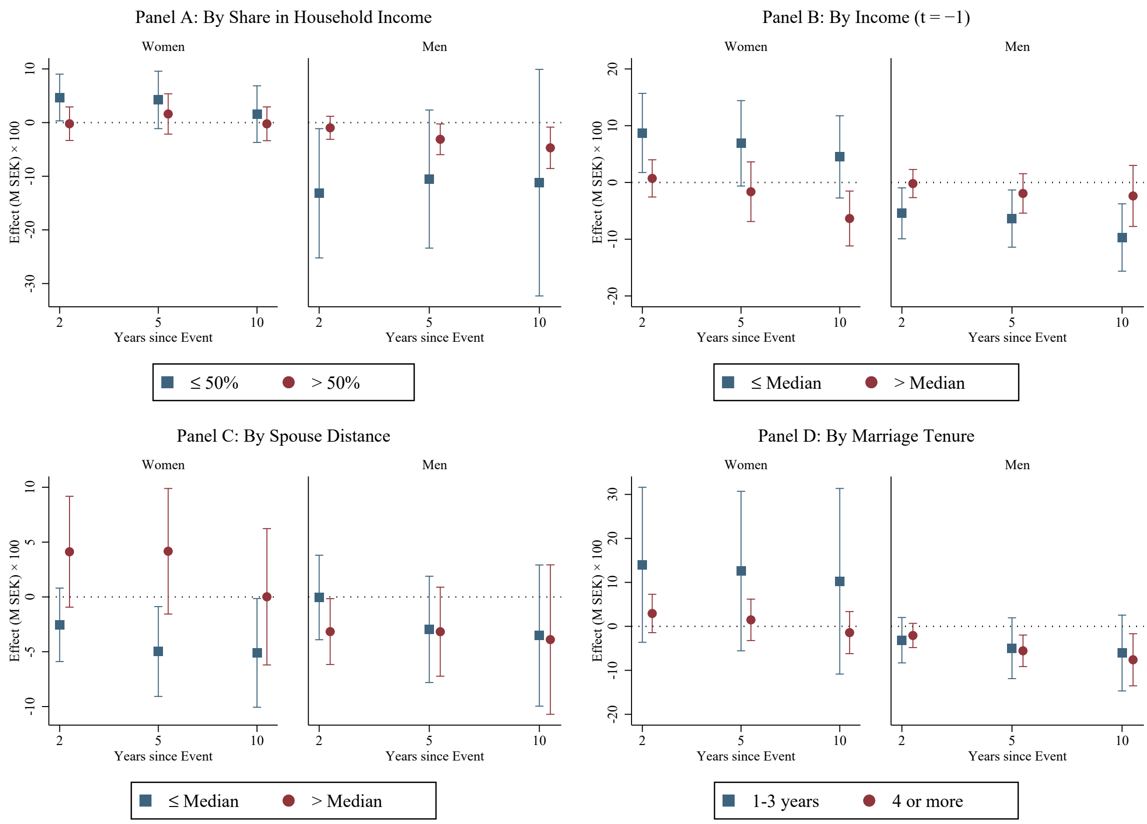
Notes. This figure reports the estimated treatment effect of a million SEK on the probability to get married for unmarried players by winners income at $t = -1$ and age-at-win (Panels A and B), and on the number of post-lottery children by winner's pre-lottery marital status and age-at-win (Panels C and D), all measured at year-end in 2, 5, and 10 years after the lottery. All specifications control for baseline controls measured at $t = -1$ and group-identifier fixed effects. Standard errors are clustered by individual, and the error bar corresponds to 95 percent analytical confidence intervals. Age-at-win: 18-44.

Figure A.3: The Effect of Wealth on Marrying a Younger/Older Spouse



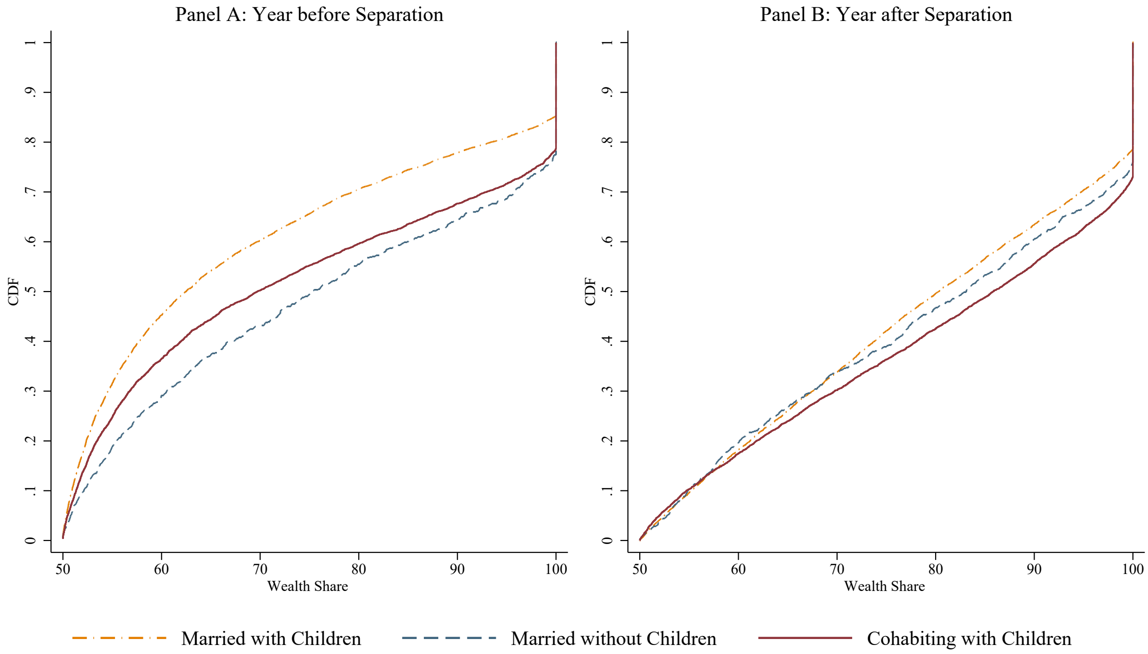
Notes. This figure reports the estimated treatment impact of a million SEK on the probability of getting married to a spouse who is at least 2 years older (+2), 2 years younger (-2), 3 years younger (-3), or 5 years younger (-5) for unmarried individuals at the time of the lottery ($t = -1$), measured at year-end in 2, 5, and 10 years after the lottery. All specifications control for baseline controls measured at $t = -1$ and group-identifier fixed effects. Standard errors are clustered by individual, and the error bar corresponds to 95 percent analytical confidence intervals. Age-at-win: 18-44.

Figure A.4: Heterogeneous Effects of Wealth on Divorce (Married at $t = -1$)



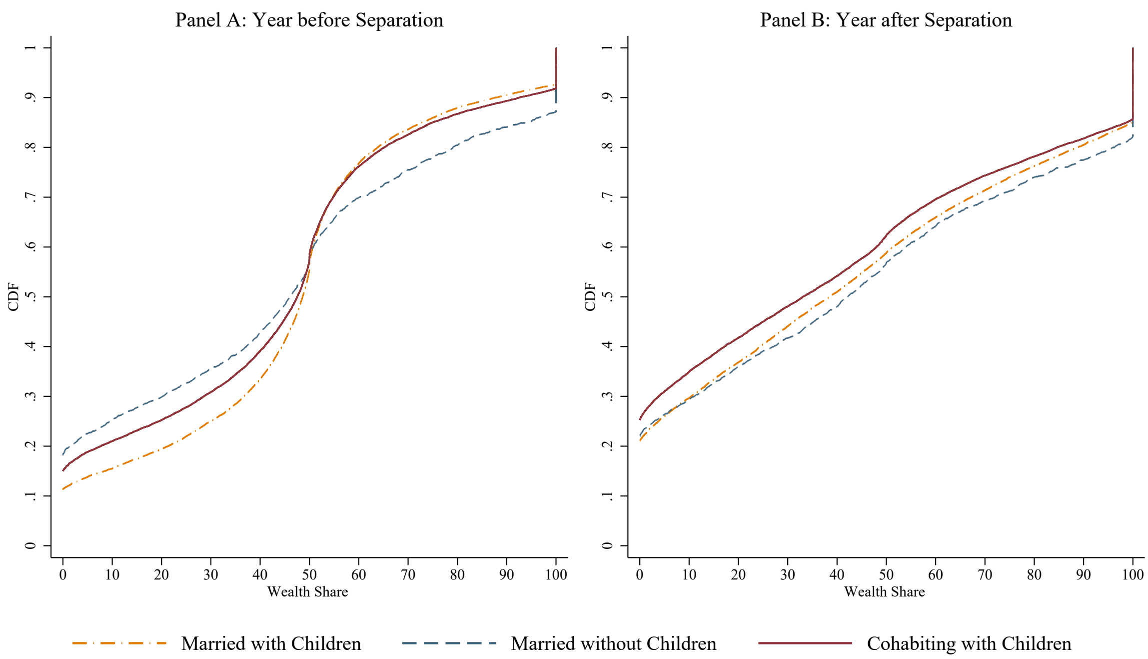
Notes. This figure reeports the estimated treatment effect of lottery wealth on the probability to get divorced by year-end of $t = 2$, $t = 5$ and $t = 10$ on men and women. Share in household income is computed as winner's income at $t = -1$ devided by the sum of own and spouse's income at $t = -1$. Spouse distance is defined as a sum of normalized distances between husband's and wife's age-at-win, and college graduation status at $t = -1$. Marriage tenure is defined as number of years married at $t = -1$. Standard errors are clustered by individual, and the error bar corresponds to 95 percent analytical confidence intervals. Age-at-win: 18-44.

Figure A.5: Cumulative Distribution of Wealth Shares of Wealthiest Partners. Total Net Wealth ≥ 500K SEK.



Notes. This figure shows the estimated cumulative distribution function (CDF) of the wealth share of the wealthiest partners in a couple, for the year before and after separation. The data is for couples where both partners are between the ages of 25 and 44 at the time of separation, and where the total combined wealth of the couple is above 500,000 SEK.

Figure A.6: Cumulative Distribution of Wealth Shares of Women.



Notes. This figure shows the estimated cumulative distribution function (CDF) of the wealth share for woman in a couple, for the year before and after separation. The data is for couples where both partners are between the ages of 25 and 44 at the time of separation, and where the total combined wealth of the couple is above 100,000 SEK.

Table A.1: Summary Statistics for Main Outcome Variables

	(1)	(2)	(3)	(4)	(5)	(6)
			Triss...			
	PLS	Kombi	Lumpsum	Monthly	Pooled Sample	
Marriage	Mean	Mean	Mean	Mean	Mean	N
$t = 2$	0.09	0.09	0.09	0.17	0.09	53,805
$t = 5$	0.17	0.16	0.19	0.23	0.17	53,191
$t = 10$	0.27	0.26	0.30	0.33	0.27	51,867
Divorce						
$t = 2$	0.04	0.07	0.07	0.05	0.04	33,994
$t = 5$	0.08	0.15	0.15	0.13	0.08	33,740
$t = 10$	0.14	0.22	0.24	0.16	0.15	33,094
Fertility	Mean/SD	Mean/SD	Mean/SD	Mean/SD	Mean/SD	N
$t = 2$	0.07/0.26	0.06/0.25	0.08/0.28	0.09/0.29	0.07/0.26	88,113
$t = 5$	0.21/0.50	0.18/0.47	0.26/0.56	0.20/0.50	0.21/0.50	87,635
$t = 10$	0.40/0.74	0.32/0.68	0.47/0.79	0.33/0.70	0.39/0.74	86,109

Notes. Sample averages are reported. The time of the lottery is normalized to $t = 0$. *Marriage* is defined for players unmarried at $t = -1$. For these lottery players, *Marriage* is an indicator variable equal to one if at least one marriage event was recorded for the player between the start of the lottery year and the end of year $t = 2, 5, 10$. *Divorce* is defined for players married at $t = -1$. For these lottery players, *Divorce* is equal to one if the player's $t = -1$ marriage had been dissolved by year-end in $t = 2, 5, 10$. *Fertility* is reported for the pooled lottery sample. *Fertility* is the total number of children born between lottery year and the end of year $t = 2, 5, 10$.

Table A.2: Randomization Tests

	(1)	(2)	(3)	(4)	(5)	(6)
			Triss...			
	PLS	Kombi	Lumpsum	Monthly	Pooled Sample	
Fixed Effects	Group ID	Group ID	Group ID	Group ID	Group ID	None
N	82,870	3,410	1,580	266	88,126	88,126
Baseline Covariates ($t=-1$)						
Age-at-Win	0.432	0.192	0.663	1.705	1.679	1.914
p (analytical)	[0.666]	[0.847]	[0.507]	[0.089]	[0.093]	[0.056]
Age-at-Win^2	0.328	0.381	0.708	1.568	1.598	1.481
p (analytical)	[0.743]	[0.704]	[0.479]	[0.118]	[0.110]	[0.139]
Age-at-Win^3	0.232	0.530	0.731	1.435	1.503	1.118
p (analytical)	[0.817]	[0.596]	[0.465]	[0.152]	[0.133]	[0.263]
1 if Female	1.256	−0.175	0.543	0.487	1.220	−0.376
p (analytical)	[0.209]	[0.861]	[0.587]	[0.627]	[0.222]	[0.707]
1 if Nordic Born	1.185	−0.620	−0.677	0.904	0.020	−3.290
p (analytical)	[0.236]	[0.536]	[0.499]	[0.367]	[0.984]	[0.001]
# Children	0.159	−2.048	0.861	0.364	0.592	1.783
p (analytical)	[0.874]	[0.041]	[0.389]	[0.716]	[0.554]	[0.075]
1 if College	−0.427	0.543	1.277	−0.113	0.670	−1.302
p (analytical)	[0.669]	[0.587]	[0.202]	[0.910]	[0.503]	[0.193]
1 if Married	0.944	−0.433	−0.142	0.207	0.406	−2.197
p (analytical)	[0.345]	[0.665]	[0.887]	[0.836]	[0.685]	[0.028]
Joint Test of Baseline Covariates						
$F-statistic$	0.719	1.242	0.507	0.761	0.444	7.882
p (analytical)	[0.656]	[0.270]	[0.852]	[0.637]	[0.875]	[<0.001]
p (resampling)	[0.746]	[0.752]	[0.696]	[0.851]	[0.926]	[<0.001]

Notes. Each column corresponds to a regression where the dependent variable is the size of the lottery prize won and the controls are the baseline characteristics measured prior to the lottery. Under the null hypothesis of conditional random assignment, variables determined before the lottery should not have any predictive power conditional on the group-identifier fixed effects. The table shows t statistics, i.e. coefficients divided by their standard error. The resampling based p-values are obtained from the resampling distribution of covariate coefficients from 1000 Monte Carlo simulations. In each simulation, we permute the prizes within each group.

Table A.3: Wealth Effects on Marriage, Divorce and Fertility. Age-at-win: 18-64

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	$t = 2$			$t = 5$			$t = 10$		
		By Sex			By Sex			By Sex	
	All	F	M	All	F	M	All	F	M
Panel A: Got Married by t (Unmarried at $t = -1$)									
Effect × 100	1.955	0.446	2.971	2.714	0.749	4.020	2.265	0.834	3.578
SE	(0.710)	(0.847)	(1.001)	(0.826)	(1.066)	(1.217)	(1.057)	(1.488)	(1.563)
p (analytical)	[0.006]	[0.599]	[0.003]	[0.001]	[0.482]	[<0.001]	[0.032]	[0.575]	[0.022]
p (resampling)	[0.003]	[0.615]	[<0.001]	[<0.001]	[0.499]	[0.002]	[0.017]	[0.577]	[0.006]
p (FDR)	[0.017]	[0.749]	[0.001]	[0.001]	[0.749]	[0.014]	[0.042]	[0.749]	[0.027]
Baseline Mean	0.060	0.060	0.060	0.106	0.103	0.109	0.174	0.167	0.179
Relative Risk	0.325	0.075	0.491	0.256	0.073	0.370	0.131	0.050	0.200
N	108,098	48,310	59,788	106,161	47,607	58,554	99,793	45,291	54,502
Heterogeneity p		[0.054]			[0.043]			[0.204]	
Panel B: Got Divorced by t (Married at $t = -1$)									
Effect × 100	0.864	1.594	0.086	0.265	0.787	-0.388	-0.357	-0.026	-0.798
SE	(0.411)	(0.657)	(0.499)	(0.488)	(0.738)	(0.663)	(0.551)	(0.796)	(0.824)
p (analytical)	[0.036]	[0.015]	[0.863]	[0.587]	[0.287]	[0.559]	[0.518]	[0.974]	[0.333]
p (resampling)	[0.012]	[<0.001]	[0.869]	[0.609]	[0.231]	[0.637]	[0.555]	[0.968]	[0.418]
p (FDR)	[0.033]	[0.009]	[0.903]	[0.749]	[0.416]	[0.749]	[0.749]	[0.969]	[0.705]
Baseline Mean	0.022	0.020	0.025	0.042	0.038	0.046	0.067	0.061	0.073
Relative Risk	0.387	0.787	0.035	0.064	0.208	-0.085	-0.053	-0.004	-0.109
N	148,451	78,154	70,297	146,195	77,193	69,002	139,007	74,280	64,727
Heterogeneity p		[0.068]			[0.237]			[0.500]	
Panel C: #Post-Lottery Children by t (Age-at-win: 18-44)									
Effect × 100	1.209	0.214	2.048	2.915	0.865	4.278	3.310	0.777	5.583
SE	(0.650)	(0.767)	(0.993)	(1.252)	(1.645)	(1.847)	(1.660)	(1.886)	(2.659)
p (analytical)	[0.063]	[0.780]	[0.039]	[0.020]	[0.599]	[0.021]	[0.046]	[0.680]	[0.036]
p (resampling)	[0.048]	[0.819]	[0.008]	[0.010]	[0.598]	[0.012]	[0.043]	[0.727]	[0.020]
p (FDR)	[0.118]	[0.851]	[0.051]	[0.051]	[0.736]	[0.051]	[0.116]	[0.819]	[0.068]
Baseline Mean	0.068	0.067	0.070	0.208	0.197	0.218	0.393	0.369	0.415
Relative Risk	0.177	0.032	0.294	0.140	0.044	0.196	0.084	0.021	0.135
N	88,113	41,539	46,574	87,635	41,319	46,316	86,109	40,700	45,409
Heterogeneity p		[0.144]			[0.168]			[0.140]	

Notes. This table reports the estimated treatment effect of lottery wealth on the probability to get married, to get divorced, and on the number of post-lottery children by year-end of t = 2, t = 5 and t = 10 for the pooled lottery sample and by gender. All specification control for baseline controls measured at $t = -1$ and group-identifier fixed effects. Standard errors are clustered at the individual level. Baseline mean is defined as the mean of the dependent variable of small-prize winners ($< 10,000$ SEK). The resampling based p-values are obtained from the resampling distribution of coefficients from 1,000 Monte Carlo simulations. $p(FDR)$ correspond to the false discovery rate adjusted resampling p-values computed using (Benjamini et al., 2006) and (Anderson, 2008) procedure. The heterogeneity p-value is from a two-sided t-test of the null hypothesis that the treatment-effect parameters are identical in the subsamples. Age-at-win: 18-64 (Panels A and B) and 18-44 (Panel C).

Table A.4: Non-Linear Wealth Effects on Marriage, Divorce and Fertility

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	$t=2$			$t=5$			$t=10$		
	All	By Sex		All	By Sex		All	By Sex	
		F	M		F	M		F	M
Panel A: 1 if Got Married by t (Unmarried at $t=-1$)									
Excluding Prizes>4M									
Effect × 100	2.738	0.394	4.877	3.065	0.788	5.438	2.392	-0.875	5.516
SE	(1.486)	(2.198)	(2.042)	(1.721)	(2.687)	(2.361)	(2.026)	(3.217)	(2.767)
p (analytical)	[0.065]	[0.858]	[0.017]	[0.075]	[0.769]	[0.021]	[0.238]	[0.786]	[0.046]
p (resampling)	[0.052]	[0.849]	[0.012]	[0.073]	[0.799]	[0.022]	[0.271]	[0.805]	[0.063]
N	53,756	22,613	31,143	53,143	22,355	30,788	51,823	21,841	29,982
PLS Prizes<10K									
Effect × 100	1.920	0.537	2.015	2.812	-0.098	3.811	2.085	0.144	2.236
SE	(1.172)	(1.540)	(1.395)	(1.293)	(1.759)	(1.823)	(1.670)	(2.637)	(2.329)
p (analytical)	[0.102]	[0.727]	[0.149]	[0.030]	[0.956]	[0.037]	[0.212]	[0.956]	[0.337]
p (resampling)	[0.048]	[0.733]	[0.119]	[0.019]	[0.963]	[0.031]	[0.158]	[0.953]	[0.271]
N	7,515	2,918	4,597	7,442	2,895	4,547	6,898	2,713	4,185
Panel B: 1 if Got Divorced by t (Married at $t=-1$)									
Excluding Prizes>4M									
Effect × 100	3.942	6.103	1.131	2.777	4.295	0.559	0.149	0.613	-1.638
SE	(1.781)	(2.629)	(2.341)	(1.955)	(2.800)	(3.189)	(2.025)	(2.800)	(3.993)
p (analytical)	[0.027]	[0.020]	[0.629]	[0.156]	[0.125]	[0.861]	[0.941]	[0.827]	[0.682]
p (resampling)	[0.006]	[<0.001]	[0.623]	[0.142]	[0.106]	[0.879]	[0.946]	[0.858]	[0.741]
N	33,965	18,736	15,229	33,713	18,604	15,109	33,071	18,308	14,763
PLS Prizes<10K									
Effect × 100	1.239	3.978	-2.161	-0.723	3.230	-5.120	-1.962	0.819	-6.946
SE	(1.288)	(2.046)	(1.087)	(1.650)	(2.681)	(1.567)	(1.805)	(2.750)	(2.159)
p (analytical)	[0.336]	[0.052]	[0.047]	[0.661]	[0.228]	[0.001]	[0.277]	[0.766]	[0.001]
p (resampling)	[0.215]	[<0.001]	[0.290]	[0.667]	[0.085]	[0.056]	[0.358]	[0.738]	[0.039]
N	4,533	2,316	2,217	4,494	2,300	2,194	4,235	2,197	2,038
Panel C: Number of Post-lottery Children at t									
Excluding Prizes>4M									
Effect × 100	1.878	1.597	2.439	1.606	-0.058	3.497	1.499	-2.227	6.042
SE	(1.007)	(1.471)	(1.447)	(1.535)	(2.138)	(2.284)	(2.412)	(2.917)	(3.868)
p (analytical)	[0.062]	[0.278]	[0.092]	[0.296]	[0.978]	[0.126]	[0.534]	[0.445]	[0.118]
p (resampling)	[0.044]	[0.247]	[0.083]	[0.343]	[0.978]	[0.207]	[0.542]	[0.519]	[0.117]
N	88,035	41,502	46,533	87,559	41,283	46,276	86,041	40,666	45,375
PLS Prizes<10K									
Effect × 100	1.003	-0.277	1.710	2.546	-0.438	3.922	2.987	-0.493	5.170
SE	(0.687)	(0.762)	(1.089)	(1.364)	(1.799)	(2.048)	(1.822)	(2.072)	(2.992)
p (analytical)	[0.144]	[0.717]	[0.117]	[0.062]	[0.808]	[0.056]	[0.101]	[0.812]	[0.084]
p (resampling)	[0.114]	[0.771]	[0.058]	[0.028]	[0.802]	[0.020]	[0.085]	[0.830]	[0.050]
N	12,086	5,251	6,835	12,030	5,235	6,795	11,280	4,968	6,312

Notes. This table reports the estimated treatment effect of lottery wealth on the probability to get married, to get divorced, and on the number of post-lottery children at year-end in $t=2$, $t=5$ and $t=10$ in the subsample of lottery players that excludes large prizes (>4M SEK) and small prizes (<10,000 SEK). All specification control for baseline controls measured at $t=-1$ and group-identifier fixed effects. Standard errors are clustered at the level of the individual. The resampling based p-values are obtained from the resampling distribution of coefficients from 1000 Monte Carlo simulations. The heterogeneity p-value is from a two-sided t-test of the null hypothesis that the treatment-effect parameters are identical in the subsamples. Age-at-win 18-44.

Table A.5: Summary Statistics: Pre and Post Entropy-Balancing Reweighting (Married $t = -1$)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Before Reweighting				After Reweighting			
	Husband Wins		Wife Wins		Husband Wins		Wife Wins	
	Mean	Variance	Mean	Variance	Mean	Variance	Mean	Variance
Husband's Age	37.409	20.491	40.085	37.451	38.883	31.623	38.886	31.631
Wife's age	35.569	29.590	36.853	24.241	36.276	27.057	36.277	27.049
1 if Husband College	0.315	0.216	0.318	0.208	0.316	0.216	0.316	0.211
1 if if Wife College	0.353	0.211	0.345	0.226	0.349	0.219	0.341	0.225
Husband's Income	287.028	18373.710	284.914	20989.084	285.857	19816.418	285.861	19817.896
Wife's Income	159.292	8024.935	170.088	8023.435	165.241	8052.897	165.246	8053.111
# of Children	1.995	1.087	2.016	1.038	2.006	1.060	2.007	1.060
PLS	0.936	0.059	0.963	0.035	0.951	0.046	0.951	0.046
Kombi	0.045	0.043	0.020	0.020	0.032	0.031	0.032	0.031
Triss Monthly	0.003	0.003	0.002	0.002	0.002	0.002	0.002	0.002

Notes. This table reports the summary statistics of pre-lottery characteristics (measured at $t = -1$) in the sample of couples where wives won and where husbands won. The estimates in Columns (5-8) correspond to the reweighted samples where weights are constructed using entropy balancing procedure that matches first and second moments of characteristics in each subsample with the corresponding moments in the polled sample of married at $t = -1$ lottery winners. Only pre-lottery married individuals between 18 and 44 years old at the moment of win are included.

Table A.6: Wealth Effects on Marital Dissolution: Reweighted (Married at $t = -1$)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	$t = 2$			$t = 5$			$t = 10$		
	All	By Sex		All	By Sex		All	By Sex	
		F	M		F	M		F	M
Effect × 100	2.158	3.942	-0.385	-0.485	2.025	-6.128	-3.511	-1.301	-11.195
SE	(1.338)	(1.982)	(1.197)	(1.930)	(2.693)	(2.688)	(1.953)	(2.599)	(3.224)
p (analytical)	[0.107]	[0.047]	[0.748]	[0.801]	[0.452]	[0.023]	[0.072]	[0.617]	[<0.001]
p (resampling)	[0.033]	[0.002]	[0.861]	[0.779]	[0.353]	[0.161]	[0.103]	[0.581]	[0.030]
Baseline Mean	0.037	0.035	0.039	0.080	0.076	0.085	0.140	0.135	0.145
Relative Risk	0.590	1.141	-0.100	-0.060	0.267	-0.721	-0.250	-0.096	-0.770
N	33,994	18,750	15,244	33,740	18,617	15,123	33,094	18,320	14,774
Heterogeneity p		[0.062]			[0.032]			[0.017]	

Notes. This table reports the estimated treatment effect of lottery wealth on the probability to get divorced by year-end of $t = 2$, $t = 5$ and $t = 10$ for the pooled lottery sample and by gender. The samples by gender are reweighed in order to match the first and the second moments of pre-lottery characteristics (husband's and wife's age, husband's and wife's college graduation indicator, husband's and wife's income, number of children, the lottery indicators, the year of lottery indicators) in the pooled sample of married lottery players using entropy balancing reweighting method (see Appendix E). All specification control for baseline controls measured at $t = -1$ and group-identifier fixed effects. Standard errors are clustered at the level of the individual. The baseline mean is defined as the mean of the dependent variable for small-prize winners (<10,000 SEK). The resampling based p-values are obtained from the resampling distribution of coefficients from 1000 Monte Carlo simulations. The heterogeneity p-value is from a two-sided t-test of the null hypothesis that the treatment-effect parameters are identical in the subsamples. Only pre-lottery married individuals between 18 and 44 years old at the moment of win are included.

Table A.7: Heterogeneous Effects of Wealth on Marriage (Unmarried at $t = -1$)

	(1)	(2)	(3)	(4)	(5)	(6)
	By Income		Age-at-win		Parent	
	≤Median	>Median	18-35	36-44	No	Yes
Panel A: 1 if Got Married by $t = 2$						
Effect × 100	2.127	1.597	2.302	2.420	0.955	2.592
SE	(1.371)	(1.761)	(1.277)	(1.858)	(1.221)	(1.909)
p (analytical)	[0.121]	[0.364]	[0.072]	[0.193]	[0.434]	[0.175]
p (resampling)	[0.123]	[0.267]	[0.056]	[0.080]	[0.363]	[0.078]
N	26,882	26,923	35,141	18,664	37,459	16,346
Heterogeneity p	[0.812]		[0.958]		[0.468]	
Panel B: 1 if Got Married by $t = 5$						
Effect × 100	4.872	1.323	2.602	4.513	2.297	2.854
SE	(1.720)	(1.691)	(1.678)	(1.658)	(1.551)	(1.804)
p (analytical)	[0.005]	[0.434]	[0.121]	[0.006]	[0.139]	[0.114]
p (resampling)	[0.004]	[0.429]	[0.118]	[<0.001]	[0.131]	[0.082]
N	26,483	26,708	34,694	18,497	36,943	16,248
Heterogeneity p	[0.141]		[0.417]		[0.814]	
Panel C: 1 if Got Married by $t = 10$						
Effect × 100	5.002	0.259	2.203	4.130	2.968	1.245
SE	(2.170)	(2.210)	(2.139)	(2.156)	(1.921)	(2.319)
p (analytical)	[0.021]	[0.907]	[0.303]	[0.055]	[0.122]	[0.591]
p (resampling)	[0.009]	[0.907]	[0.282]	[0.034]	[0.140]	[0.555]
N	25,777	26,090	33,883	17,984	36,008	15,859
Heterogeneity p	[0.126]		[0.526]		[0.566]	

Notes. This table reports the estimated treatment effect of lottery wealth on the probability to get married by year-end of $t = 1$, $t = 2$, $t = 5$ and $t = 10$. Standard errors are clustered at the level of the individual. The resampling based p-values are obtained from the resampling distribution of coefficients from 1000 Monte Carlo simulations. The heterogeneity p-value is from a two-sided t-test of the null hypothesis that the treatment-effect parameters are identical in the subsamples. Only pre-lottery unmarried individuals between 18 and 44 years old at the moment of win are included.

Table A.8: Heterogeneous Effects of Wealth on Divorces (Married $t = -1$)

	(1)	(2)	(3)	(4)	(5)	(6)
	By Income		Age-at-win		Parent	
	≤Median	>Median	18-35	36-44	No	Yes
Panel A: 1 if Got divorced after the lottery by $t = 2$						
Effect × 100	1.576	0.335	2.642	1.570	1.584	1.705
SE	(3.063)	(1.020)	(3.230)	(1.282)	(5.320)	(1.286)
p (analytical)	[0.607]	[0.743]	[0.414]	[0.221]	[0.766]	[0.185]
p (resampling)	[0.495]	[0.795]	[0.426]	[0.066]	[0.787]	[0.071]
N	16,995	16,999	9,494	24,500	3,147	30,847
Heterogeneity p	[0.701]		[0.756]		[0.982]	
Panel B: 1 if Got divorced after the lottery by $t = 5$						
Effect × 100	0.710	-1.805	0.922	-0.926	-1.184	-0.177
SE	(3.053)	(1.521)	(3.345)	(1.786)	(5.810)	(1.473)
p (analytical)	[0.816]	[0.235]	[0.783]	[0.604]	[0.838]	[0.904]
p (resampling)	[0.773]	[0.346]	[0.818]	[0.592]	[0.878]	[0.902]
N	16,871	16,869	9,424	24,316	3,111	30,629
Heterogeneity p	[0.461]		[0.624]		[0.862]	
Panel C: 1 if Got divorced after the lottery by $t = 10$						
Effect × 100	-1.203	-3.959	0.264	-3.010	-2.412	-1.994
SE	(3.105)	(1.588)	(3.745)	(1.913)	(5.718)	(1.606)
p (analytical)	[0.699]	[0.013]	[0.944]	[0.116]	[0.673]	[0.214]
p (resampling)	[0.682]	[0.101]	[0.955]	[0.169]	[0.784]	[0.281]
N	16,621	16,473	9,231	23,863	3,022	30,072
Heterogeneity p	[0.429]		[0.434]		[0.942]	

Notes. This table reports the estimated treatment effect of lottery wealth on the probability to get divorced by year-end of $t = 1$, $t = 2$, $t = 5$ and $t = 10$. Standard errors are clustered at the level of the individual. The resampling based p-values are obtained from the resampling distribution of coefficients from 1000 Monte Carlo simulations. The heterogeneity p-value is from a two-sided t-test of the null hypothesis that the treatment-effect parameters are identical in the subsamples. Only pre-lottery married individuals between 18 and 44 years old at the moment of win are included.

Table A.9: Heterogeneous Effects of Wealth on Fertility

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Married		By Income		Age-at-win		Parent	
	No	Yes	≤Median	>Median	18-35	36-44	No	Yes
Panel A: Number of post-lottery children at $t = 2$								
Effect × 100	1.488	1.090	1.286	0.996	2.721	0.412	1.108	1.109
SE	(0.854)	(1.099)	(1.100)	(0.793)	(1.257)	(0.664)	(1.136)	(0.800)
p (analytical)	[0.081]	[0.321]	[0.242]	[0.209]	[0.030]	[0.535]	[0.329]	[0.166]
p (resampling)	[0.071]	[0.223]	[0.212]	[0.209]	[0.038]	[0.378]	[0.344]	[0.099]
N	54,017	34,096	44,070	44,043	44,859	43,254	40,809	47,304
Heterogeneity p	[0.775]		[0.830]		[0.104]		[1.000]	
Panel B: Number of post-lottery children at $t = 5$								
Effect × 100	3.316	2.406	2.264	4.134	4.898	1.655	4.604	1.711
SE	(1.666)	(2.035)	(1.912)	(1.678)	(2.268)	(1.384)	(2.504)	(1.434)
p (analytical)	[0.047]	[0.237]	[0.236]	[0.014]	[0.031]	[0.232]	[0.066]	[0.233]
p (resampling)	[0.030]	[0.102]	[0.215]	[0.002]	[0.032]	[0.039]	[0.051]	[0.118]
N	53,678	33,957	43,779	43,856	44,606	43,029	40,509	47,126
Heterogeneity p	[0.729]		[0.462]		[0.222]		[0.316]	
Panel C: Number of post-lottery children at $t = 10$								
Effect × 100	5.388	-0.417	4.412	3.531	5.522	2.440	7.886	0.450
SE	(2.320)	(2.419)	(2.611)	(2.172)	(2.910)	(1.762)	(3.207)	(1.808)
p (analytical)	[0.020]	[0.863]	[0.091]	[0.104]	[0.058]	[0.166]	[0.014]	[0.803]
p (resampling)	[0.023]	[0.828]	[0.092]	[0.080]	[0.092]	[0.040]	[0.036]	[0.731]
N	52,672	33,437	43,074	43,035	43,919	42,190	39,787	46,322
Heterogeneity p	[0.084]		[0.795]		[0.366]		[0.043]	

Notes. This table reports the estimated treatment effect of lottery wealth on the number of post-lottery children at year-end in $t = 1$, $t = 2$, $t = 5$ and $t = 10$. All specification control for baseline controls measured at $t = -1$ and group-identifier fixed effects. Standard errors are clustered at the level of the individual. The resampling based p-values are obtained from the resampling distribution of coefficients from 1000 Monte Carlo simulations. The heterogeneity p-value is from a two-sided t-test of the null hypothesis that the treatment-effect parameters are identical in the subsamples. Age-at-win 18-44.

Table A.10: Wealth Effects on Marriage and Cohabitation: Unmarried and not Cohabiting with Children at $t = -1$.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	$t = 2$			$t = 5$			$t = 10$		
		By Sex			By Sex			By Sex	
	All	F	M	All	F	M	All	F	M
Panel A: Got Married by t									
Effect × 100	1.686	0.801	2.149	2.886	0.036	4.926	3.849	2.571	4.691
SE	(1.075)	(1.562)	(1.403)	(1.368)	(1.599)	(1.992)	(1.710)	(2.412)	(2.483)
p (analytical)	[0.117]	[0.608]	[0.126]	[0.035]	[0.982]	[0.013]	[0.024]	[0.286]	[0.059]
p (resampling)	[0.068]	[0.620]	[0.085]	[0.037]	[0.980]	[<0.001]	[0.019]	[0.293]	[0.040]
Baseline Mean	0.073	0.085	0.065	0.146	0.164	0.133	0.257	0.282	0.240
Relative Risk	0.230	0.094	0.330	0.198	0.002	0.370	0.150	0.091	0.196
N	44,557	18,112	26,445	43,984	17,877	26,107	42,854	17,434	25,420
Heterogeneity p		[0.521]			[0.056]			[0.540]	
Panel B: Started Cohabitation with Children by t									
Effect × 100	0.771	0.370	0.022	0.113	0.352	-1.706	1.815	2.022	0.595
SE	(0.913)	(1.321)	(1.384)	(1.099)	(1.686)	(1.374)	(1.482)	(2.225)	(2.004)
p (analytical)	[0.398]	[0.779]	[0.988]	[0.918]	[0.835]	[0.214]	[0.221]	[0.364]	[0.767]
p (resampling)	[0.478]	[0.849]	[0.995]	[0.932]	[0.856]	[0.367]	[0.244]	[0.405]	[0.794]
Baseline Mean	0.081	0.089	0.075	0.153	0.165	0.145	0.244	0.262	0.231
Relative Risk	0.096	0.042	0.003	0.007	0.021	-0.118	0.075	0.077	0.026
N	44,557	18,112	26,445	43,984	17,877	26,107	42,854	17,434	25,420
Heterogeneity p		[0.856]			[0.344]			[0.634]	

Notes. This table reports the estimated treatment effect of lottery wealth on the probability to get married for unmarried and not cohabiting with children at $t = -1$ players (Panel A) and to start cohabitation with children for unmarried and not cohabiting with children at $t = -1$ (Panel B) by year-end of $t = 2$, $t = 5$ and $t = 10$ for the pooled lottery sample and by gender. All specification control for baseline controls measured at $t = -1$ and group-identifier fixed effects. Standard errors are clustered at the individual level. Baseline mean is defined as the mean of the dependent variable of small-prize winners ($< 10,000$ SEK). The resampling based p-values are obtained from the resampling distribution of coefficients from 1,000 Monte Carlo simulations. The heterogeneity p-value is from a two-sided t-test of the null hypothesis that the treatment-effect parameters are identical in the subsamples. Age-at-win: 18-44.

Table A.11: Comparison of Annuity-Rescaled Lottery Estimates to Income Gradients.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	$t = 2$			$t = 5$			$t = 10$		
	All	By Sex		All	By Sex		All	By Sex	
		F	M		F	M		F	M
Panel A: Got Married by t (Unmarried at $t = -1$)									
Effect (10K SEK) × 100	0.381	0.195	0.482	0.542	0.116	0.781	0.420	0.187	0.546
SE	(0.181)	(0.241)	(0.221)	(0.200)	(0.272)	(0.279)	(0.252)	(0.392)	(0.352)
p (analytical)	[0.035]	[0.418]	[0.029]	[0.007]	[0.670]	[0.005]	[0.096]	[0.634]	[0.121]
N	53,805	22,636	31,169	53,191	22,378	30,813	51,867	21,863	30,004
Heterogeneity p		[0.378]			[0.088]			[0.496]	
Gradient (10K SEK) × 100	0.178	-0.125	0.340	0.349	0.021	0.518	0.472	0.053	0.683
SE	(0.023)	(0.040)	(0.029)	(0.035)	(0.059)	(0.044)	(0.048)	(0.078)	(0.061)
p (analytical)	[<0.001]	[0.002]	[<0.001]	[<0.001]	[0.723]	[<0.001]	[<0.001]	[0.496]	[<0.001]
N	546,606	247,605	299,001	540,202	244,882	295,320	477,049	219,019	258,030
	[<0.001]			[<0.001]			[<0.001]		
Panel B: Got Divorced by t (Married at $t = -1$)									
Effect (10K SEK) × 100	0.214	0.617	-0.317	-0.074	0.383	-0.681	-0.344	-0.045	-1.006
SE	(0.191)	(0.302)	(0.177)	(0.241)	(0.384)	(0.250)	(0.261)	(0.397)	(0.347)
p (analytical)	[0.262]	[0.041]	[0.074]	[0.760]	[0.319]	[0.006]	[0.188]	[0.910]	[0.004]
N	33,994	18,750	15,244	33,740	18,617	15,123	33,094	18,320	14,774
Heterogeneity p		[0.008]			[0.020]			[0.068]	
Gradient (10K SEK) × 100	0.066	0.311	-0.078	0.087	0.446	-0.128	0.122	0.543	-0.124
SE	(0.020)	(0.034)	(0.026)	(0.033)	(0.055)	(0.042)	(0.048)	(0.076)	(0.062)
p (analytical)	[0.001]	[<0.001]	[0.003]	[0.009]	[<0.001]	[0.003]	[0.010]	[<0.001]	[0.047]
N	265,895	144,292	121,603	263,842	143,272	120,570	238,976	130,804	108,172
	[<0.001]			[<0.001]			[<0.001]		
Panel C: #Post-Lottery Children by t (All)									
Effect (10K SEK) × 100	0.202	0.036	0.342	0.486	0.144	0.714	0.552	0.130	0.931
SE	(0.108)	(0.128)	(0.166)	(0.209)	(0.274)	(0.308)	(0.277)	(0.315)	(0.443)
p (analytical)	[0.063]	[0.780]	[0.039]	[0.020]	[0.599]	[0.021]	[0.046]	[0.680]	[0.036]
N	88,113	41,539	46,574	87,635	41,319	46,316	86,109	40,700	45,409
Heterogeneity p		[0.144]			[0.168]			[0.140]	
Gradient (10K SEK) × 100	0.207	0.250	0.146	0.553	0.633	0.414	0.638	0.651	0.489
SE	(0.010)	(0.014)	(0.013)	(0.026)	(0.037)	(0.037)	(0.044)	(0.058)	(0.063)
p (analytical)	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[<0.001]
N	816,088	393,553	422,535	810,741	391,186	419,555	725,593	354,050	371,543
	[<0.001]			[<0.001]			[0.058]		

Notes. This table reports annuity-rescaled causal estimates of the lottery wealth and five-year average annual disposable income gradients estimated using representative samples of adults drawn in 1990 and 2000 and reweighted to match the sex and age-at-win distrubution of the lottery sample. The annuity-rescaled lottery wealth is computed assuming that the prizes were annuitized over a 20-year period using a discount rate of 2 percent. Income and annuitized wealth are measured in 10,000 SEK. All specification control for baseline controls measured at $t = -1$. Gradient estimation model controls from year fixed effect, and causal effect estimation model controls for group-identifier fixed effects. Standard errors are clustered at the level of the individual. The heterogeneity p-value is from a two-sided t-test of the null hypothesis that the treatment-effect parameters are identical in men and women subsamples.

Table A.12: Comparison to Other Lottery Studies

Study	Identification Strategy	Sample	Outcome	Rescaled Effects	Rescaled Current Study Effects
Bulman et al. (2022)	A triple-difference design to compare big and small-prize winners and and currect and future winners before and after the lottery.	2000-2019 US lottery winners who filled W-2G Form. Age-at-win: 25-44. $N \approx 888K$. $t = 1-5$.	Being married at $t = 5$ (unmarried at $t = -1$)	1.2. ($SE = 0.5$) for all, 0.66 ($SE = 0.76$) for females, 1.49 ($SE = 0.69$) for males.	2.4. ($SE = 0.85$) for all, 0.27 ($SE = 1.18$) for females, 3.47 ($SE = 1.15$) for males.
			Being married at $t = 5$ (married at $t = -1$)	-0.98 ($SE = 0.48$) for all, -1.57 ($SE = 0.78$) for females, -0.58 ($SE = 0.61$) for males.	0.44 ($SE = 0.98$) for all, -1.87 ($SE = 1.62$) for females, 3.11 ($SE = 0.89$) for males.
			Fertility at $t = 5$	0.07 ($SE = 0.47$) for all, -0.29 ($SE = 0.71$) for females, 0.31 ($SE = 0.63$) for males.	2.10 ($SE = 0.90$) for all, 0.62 ($SE = 1.18$) for females, 3.08 ($SE = 1.33$) for males.
Tsai et al. (2022)	A difference-in-differences design to compare big and small-prize winners before and after the lottery.	2004-2018 lottery winners in Taiwan who won more than 2K NT$. Age-at-win: 20-44. $N = 584,274$. $t = 1-6$.	Fertility at $t = 5$	1.36 ($SE = 0.40$)	2.10 ($SE = 0.90$)
			Being married at $t = 5$ (unmarried at $t = -1$)	1.00 ($SE = 0.38$)	2.4 ($SE = 0.85$)
Golosov et al. (2021)	First-difference and difference-in-difference estimation that exploits variation in the timing of lottery wins.	1999-2016 US lottery winners who filled W-2G Form and won at least $30K. Age-at-win: 21-64. $N = 90,731$. $t = 1-5$.	Got married by $t = 5$ (unmarried at $t = -1$).	0.77 ($SE = 0.08$)	2.34 ($SE = 0.86$)
			Got married by $t = 5$ (married at $t = -1$)	-0.67 ($SE = 0.10$).	-0.32 ($SE = 1.04$).
Bleakley and Ferrie (2016)	Random assignment of land from Georgia's Cherokee Land Lottery of 1832. Comparison of winners to non-winners.	Adult white males in 1850 who had been eligible to participate in the 1832 lottery. $N = 14,306$. $t = 18$.	Fertility at $t = 18$	Winners of land had 0.18 (SE=0.073) more children than non-winners (3.3% increase).	—
Boertien (2012)	Comparison of large and small prize winners of different lotteries/games.	Lottery and other games of chance players from the British Household Panel Survey (BHPS) in 1997-2005. $N = 3,043$. $t = 3$.	Got divorced by $t = 3$	The effect of 1 unit increase in $log(lottery\ prize)$ is -0.76 p.p. for men. The effect for women is non-significant (the value is not reported).	—
Hankins and Hoekstra (2011)	Comparison between large prize winners ($25,000-$50,000) and small prize winners ($600- $1,000) in Florida.	Miami-Dade and Palm Beach counties winners from 1988 through 2004. At least $600 prize. $N = 26,629$ for marriage and $N = 40,198$ for divorce. $t = 3$.	Got married by $t = 3$ (unmarried at t =-1)	-7.30 (SE = 5.62) for all, -19.83 (SE=7.53) for females, -1.39 (SE=8.00) for males	1.65 (SE=0.78) for all, 0.84 (SE=1.04) for females, 2.08 (SE=0.95) for males.
			Got divorced by $t = 3$ (married at t =-1)	-1.92 (SE=2.61)	0.92 (SE=0.82)

Notes. Rescaled estimates are effects of $100K × 100 (year-2010 prices). Estimates of Bleakley and Ferrie (2016) and Boertien (2012) are not rescaled and reported as in the original study. Further information about the studies and calculations underlying the rescaled effects are available in Section C in the Appendix.

Table A.13: Relationship between Spousal Wealth Pre- and Post Separation

	(1)	(2)	(3)
	Baseline	Total Wealth $\geq$ 500K SEK	Wife's Share $\geq$ 50%
Panel A: Married with Children			
Wealth share in $t = -1$	0.617	0.690	0.641
SE	(0.014)	(0.017)	(0.024)
N	13,153	7,471	5,677
Panel B: Married without children			
Wealth share in $t = -1$	0.677	0.733	0.658
SE	(0.039)	(0.046)	(0.066)
N	1,550	838	654
Panel C: Cohabiting with children			
Wealth share in $t = -1$	0.733	0.811	0.723
SE	(0.014)	(0.017)	(0.026)
N	10,326	5,127	4,245

Notes. This table shows the results of a regression analysis that examines the relationship between the net wealth share of the wealthiest spouse in the year prior to separation and the net wealth share of the same spouse in the year following separation. The analysis includes fixed effects for the year of separation, and only includes couples where both partners are between 25 and 44 years old and have a total net wealth of at least 100,000 SEK. Column 2 is a subset of this sample and only includes couples with a total net wealth of at least 500,000 SEK the year prior to separation. Column 3 is a subset of this sample, it only includes couples where the wife's wealth share was at least 50% the year prior to separation. Robust standard errors are in parentheses.

Table A.14: The Effect of Lottery on Own and Spouse's Wealth in the Year of the Lottery

	(1)	(2)	(3)	(4)	(5)	(6)
	All		Women		Men	
	Own	Spouse's	Own	Spouse's	Own	Spouse's
Panel A: Net Wealth						
Effect × 100	48.413	22.098	51.905	19.654	45.019	25.589
SE	(10.123)	(8.483)	(11.907)	(12.205)	(14.774)	(4.383)
p (analytical)	[<0.001]	[0.009]	[<0.001]	[0.108]	[0.002]	[<0.001]
p (resampling)	[<0.001]	[0.059]	[<0.001]	[0.107]	[0.002]	[0.012]
N	2,564	2,521	1,262	1,241	1,302	1,280
Panel B: Real Assets						
Effect × 100	4.474	1.657	4.717	3.004	8.217	-7.224
SE	(7.312)	(6.808)	(7.173)	(9.437)	(18.601)	(5.745)
p (analytical)	[0.541]	[0.808]	[0.511]	[0.750]	[0.659]	[0.209]
p (resampling)	[0.459]	[0.817]	[0.430]	[0.771]	[0.536]	[0.532]
N	2,564	2,521	1,262	1,241	1,302	1,280
Panel C: Financial Assets						
Effect × 100	36.161	16.332	34.809	9.937	41.299	34.724
SE	(8.089)	(6.856)	(10.429)	(3.970)	(4.140)	(7.985)
p (analytical)	[<0.001]	[0.017]	[<0.001]	[0.012]	[<0.001]	[<0.001]
p (resampling)	[<0.001]	[<0.001]	[<0.001]	[<0.001]	[0.009]	[0.003]
N	2,564	2,521	1,262	1,241	1,302	1,280
Panel D: Debt						
Effect × 100	-4.061	-5.575	-7.241	-8.979	4.362	1.180
SE	(2.488)	(2.581)	(2.338)	(2.166)	(2.988)	(4.804)
p (analytical)	[0.103]	[0.031]	[0.002]	[<0.001]	[0.145]	[0.806]
p (resampling)	[0.219]	[0.134]	[0.045]	[0.093]	[0.540]	[0.882]
N	2,564	2,521	1,262	1,241	1,302	1,280

Notes. This table reports the estimated treatment effect of lottery on own and spouse's wealth (in M SEK) at year-end of $t = 0$ for the pooled lottery sample and by gender of the winner. All specification control for baseline controls measured at $t = -1$ and group-identifier fixed effects. Standard errors are clustered at the level of the individual. Triss-monthly winners are excluded. Age-at-win: 18-44.

Appendix B Variable Construction

This section provides additional information about the definition and construction of the variables used in our analyses.

B.1 Outcome Variables

- *Marriage t* – Equals 1 if marriage status changed to "married" or if the spouse's ID changed at least once no later than $t \in \{2, 5, 10\}$ years after the lottery. For the period 1990-2018, the variable is derived using information in Statistics Sweden's (SCB) LISA database (Statistics Sweden, 2009; Ludvigsson et al., 2019). For earlier years, we use information in the *Total Population Register* (Statistics Sweden, 2017; Ludvigsson et al., 2016). Variable is defined only for players not married at year-end in $t = -1$. Variable is set to missing for individuals who do not appear in LISA or the *Total Population Register* at any year between the lottery event and $t \in \{2, 5, 10\}$ (as they are not registered in Sweden).

- *Divorced t* – Equals 1 if marriage status changed from "married" to "divorced" or if the spouse's ID changed at least once no later than $t \in \{2, 5, 10\}$ years after the lottery. The variable is derived using the same databases as the marriage variable described above. It is only defined for players who were married at year-end in $t = -1$. Variable is set to missing for individuals who do not appear in LISA or the *Total Population Register* at any year between the lottery event and $t \in \{2, 5, 10\}$ because they are not registered in Sweden.

- *Fertility t* – Equals the number of biological children whose estimated month of conception not prior to the month of the lottery and who are born no later than at year-end t years after the lottery event. Since our data set only contains information about each child's quarter and year of birth, we set each child's month and year of conception equal to nine months prior to the midpoint of the quarter of birth. For example, a child born in the first quarter of 2006 is assigned a month of conception of May 2005, since that is nine months before the midpoint of the midpoint of the first quarter of 2006. We obtain information about children of lottery players using data in the *Total Population Registry.* Variable is set to missing for individuals who do not appear in LISA or the *Total Population Register* at $t \in \{2, 5, 10\}$ and any posterior year because they are not registered in Sweden. This is because the *Total Population Registry* will collect information about all already born children of Swedish residents even if these children were born abroad.

- *Cohabitation with children t* – Equals 1 if an unmarried individual were living with a partner with whom they have common children within $t \in \{2, 5, 10\}$ years after the lottery. Information regarding children come from the *Total Population Registry.* We use the *Real Estate Registry* (1986 to 2010) or the LISA database (2011 onwards) for information about the couple's shared address. Therefore, a couple is considered to be cohabiting if they share the same address and have children together.

B.2 Income and Wealth Variables

All variables measured in monetary units are converted to units of year-2010 SEK, using Statistics Sweden's annual average Consumer Price Index (CPI) series. Below, we provide additional details on the income and wealth variables used in our analyses. As is conventional, all wealth and income variables used in our analyses are winsorized at the 1st and 99th percentiles.

Income Gradients The income measure we use to estimate the income gradients discussed in the main text is a multi-year average of individual disposable income. The average is taken over all pre-lottery years with non-missing data. Our annual measure of disposable income is measured net of taxes and includes wage earnings, self-employment income, pensions and other social transfers received.

Heterogeneity Analyses In some heterogeneity analysis, we analyze players with below- and above-median incomes separately. We also compare wealth effects among married players with relative incomes above and below 50%. In these analyses, our measures of income is pre-tax labor earnings in the year prior to the lottery event. Information about annual pre-tax labor earnings (original name: `ArbInk`) is obtained from the *Income and Taxation Registry.*

Wealth Variables In our analyses of how lottery prizes differentially impact the wealth of the winning and non-winning spouses, we use *Statistics Sweden's Wealth Registry*, which covers the period 1999-2007. The registry is bases on information provided by financial and governmental institutions on a mandatory basis. The registry provides the year-end value of different types of assets owned, including real assets, financial assets, and debt. Additional details on the *Statistics Sweden's Wealth Registry* are provided in Online Appendix of Cesarini et al. (2016) (p. 85-86) and in Statistics Sweden (2004).

Limitations of Wealth Data Here we discuss some limitations of the variables provided by the registry that are relevant for interpreting the analysis from section G of the Appendix.

The main limitation is that the measure of the value of real assets is less reliable than the value of financial assets, since information about conditions of the real estate is not always accurately provided to SCB. SCB imputed the value of the property using information about the unit, and the house prices in the neighborhood. Hence, some home improvements will not be reflected in the wealth registry unless the home is sold immediately.

Second, the ownership of condominium is difficult to determine so that some people can be mistakenly singled out as owners, and some apartment owners are not assigned any value. This is because there is no registry of persons owning a right of residence, and the ownership of condominium is determined using the data on property value and registered address. For example, persons renting condominium may be mistakenly classified as owners if they are registered in houses of condominium associations that do not provide control information of the wealth value of its members to the Swedish Tax Agency (Statistics Sweden, 2004).

Another limitation is that in most cases, the net and gross wealth variables include only financial and real assets. Other assets (*e.g.*, cars, art, or other similar assets) are included in the statistics only if these assets were included in the tax declaration, which mainly applies to persons who have assets whose value has exceeded the limit of the wealth tax. Therefore, the purchase of a car will be typically reflected in the register as a reduction in financial assets.

These limitations imply that that estimates reported in Section G and in A.14 of the Appendix should be interpreted with caution.

We use the following variables:

- Gross wealth (original name: `FSMMV`) – Equals to the year-end market value of total assets in millions of SEK .
- Real assets (original name: `FREALMV`) – Equals to the year-end market value of real assets in millions of SEK.
- Financial assets (original name: `FFINMV`) – Equals to the year-end market value of financial assets in millions of SEK.
- Debt (original name: `FSKULMV`) – Equals to the year-end total debt in millions of SEK.
- Net wealth (original name: `FNETTMV`) – Equals to the year-end market value of net wealth in millions of SEK, which is equal to the difference between the market value of total assets and debt.

All wealth variables are winsorized at 1st and 99th percentiles.

B.3 Baseline Covariates

Our baseline covariates are measured at year-end in the year prior to the lottery. Each variable is defined and constructed as in Cesarini et al. (2016) but using a longitudinal dataset updated with information for the years 2011-2018.

- Age-at-win– Derived by subtracting the individual's year of birth from the year of the lottery event.
- Female – 1 if the individual is classified as female in the *Total Population Registry* and 0 if classified as male.
- Nordic Born – 1 if individual was born in Nordic country. Constructed using the *Total Population Registry*.

- # of Pre-lottery Children – Derived by subtracting the number post-lottery children from lifetime fertility according to *Statistics Sweden's Child Registry*.

- College-educated – 1 if individual is classified as having completed at least three years of college no later than the year prior to the lottery.

- Married – 1 if the individual was married a year prior to the lottery. The variable is derived using information in LISA for the period 1990-2018. For earlier years, we use information in the *Total Population Register*.

Appendix C Comparison to Previous Lottery Studies

Here, we provide additional information about the section of the main text that discusses how our findings compare to those reported in previous studies using lottery players to estimate wealth effects on fertility and marriage.

C.1 Harmonizing Current Study's Estimates

Since all effect-size estimates in this paper are reported in units of 1M-SEK ($140,000), we obtain harmonized coefficients by simply dividing the original estimate of interest and its standard error by 1.4.

C.2 Harmonizing Tsai *et al.*'s (2022) Estimates

Marriage

Our harmonized estimates of marriage are derived from information in Figure 6A and Table 1 in Tsai et al. (2022). For a sample of players unmarried at the time of the lottery, the figure depicts the difference between the proportion of large-prize winners and small-prize winners married at $t = 1, 2, ..., 6$. The figure also reports 90% confidence intervals for each point estimate. For $t = 2$, the point estimate in the figure is ∼5.8, and the standard error needed to match the observed width of the confidence interval is ∼1.75. For $t = 5$, the original estimate is ∼5.0, with a standard error of 1.9. From Table 1, we have that the average large prize won by players in the large-prize group is

$500,000. We therefore divide the original estimates and their standard errors by 5 to obtain the harmonized coefficients of 1.16 ($SE = 0.34$) and 1.00 ($SE = 0.38$) reported in the main text for $t = 2$ and $t = 5$.

Fertility

Our harmonized estimates of fertility are derived using a procedure similar to the one described in the previous section. We combine information in Tsai *et al.*'s (2022) Figure 3 with descriptive statistics about prizes shown in Table 1. For $t = 2$, the point estimate depicted is ∼3.8, suggesting that large-prize winners have 0.038 more children than subjects in the control group. Setting the standard error to 2.15 yields a 90% confidence interval with a range ($3.8 \pm 1.645 \times 2.15$) that appears to match the figure. For $t = 5$, a similar procedure yields a point estimate of ∼6.8, with an implied standard error of ∼2.0. Since the average prize won by players in the large-prize group is approximately $500,000, the harmonized estimates in the main text are then obtained by dividing these approximate estimates and standard errors by 5. Doing so yields harmonized estimates of 0.76 ($SE = 0.43$) and 1.36 ($SE = 0.40$) for $t = 2$ and $t = 5$, respectively.

C.3 Harmonizing Hankins and Hoekstra (2011) Estimates

Marriage

Hankins and Hoekstra (2011), hereon HH, compared the marriage rates of Floridian lottery players who won prizes in the range $25K-$50K to those in a control group composed of players who won small prizes (below $1,000). In the main analysis, marriages were tracked over a three-year period after the lottery event. HH's estimate of -1.26 ($SE = 0.97$) suggests that large-prize winners were 1.26 percentage points *less* likely to be issued a marriage license than players in the control group. Splitting the sample by gender, they report an estimate of -0.24 ($SE = 1.38$) for men and a statistically significant estimate of -3.42 ($SE = 1.30$) in women.

There are two barriers to comparability that must be addressed to harmonize the originally reported estimates. First, HH do not observe players' marital status at time of win and therefore did not restrict their estimation sample to players who are unmarried at the time of the lottery. Under the plausible assumption that short-run wealth effects are very small among players who are married at the time of the lottery, we can nevertheless use the same procedure as HH to back out an approximate effect on the unmarried from the estimates reported in the paper. To do so, we follow HH in assuming that 46% of players in their sample were unmarried at baseline (see p. 409 in HH 2011). We then inflate the originally reported estimates by a factor of $1/0.46 = 2.17$.

Second, we rescale the effects to make them roughly interpretable as estimates of the effect of a $100K windfall. Under the simplifying assumption that the value of each large prize won is equal to the midpoint of the prize interval ($25K-$50K), the appropriate adjustment factor is $100/37.5 = 2\frac{2}{3}$. Applying both adjustments to the original coefficient estimates for marriage reported in column (4) of Table 2 yields harmonized coefficients of -7.30 (SE = 5.62), -1.39 (SE = 8.00) and -19.83 (SE = 7.53) for the main sample, and the male and female subsamples, respectively. While the exact values of the rescaled estimates are sensitive to the assumptions made, the conclusion that HH's (2011) standard errors are much larger than those in the other three quasi-experimental lottery studies of marriage is very robust

Divorce

HH estimated that winners of $25K-$50K were 0.39 (SE = 0.53) percentage points less likely to be divorced at $t = 3$ than winners of less than $1,000. We follow HH and assume that 54% of players in their sample were married at baseline (see p. 412 in HH 2011). Therefore, we inflated the originally reported estimates by a factor of $1/0.54{=}1.85$. Next, we applied the adjustment factor of $2\frac{2}{3}$ in order to make the estimates approximately interpretable as estimates of the effect of a $100K windfall. Applying both adjustment factors implied the effect of $100K of -1.92 ($SE$ = 2.61) percentage points.

C.4 Design Calculations Based on HH

Here, we evaluate the statistical power of HH's study to detect effect sizes of a magnitude we consider plausible. We then proceed to discuss the implications of our findings about the informativeness and credibility of HH's findings.

We begin by discussing what effect sizes should be considered plausible. The parameter of interest is the effect of a cash windfall, measured in units of $100K, on the three-year marriage rate among umarried lottery players. A useful starting point for selecting a plausible value is to look for external information in the form of previously published estimates of the parameter of interest, when available, or similar parameters. We proceed by summarizing the information from the three other lottery studies that examined the effect of wealth on marriage. Bulman et al. (2022, See Table 4) report a harmonized effects of 2.05 percentage points (SE = 0.46) at $t = 3$, in their sample of players married at win. Applying the procedure described in Section C.2 to the $t = 3$ depicted in Figure 6A yields a harmonized coefficient of 1.20 (SE = 0.37). Finally, the present study does not report estimates of wealth effects on marriage at $t = 3$, but the harmonized estimate for the closest available horizon ($t = 2$) is 2.32 (SE = 0.86).

Next, we conducted an inverse-variance weighted meta-analysis of the three harmonized estimates. The meta-analysis yielded a combined estimate of 1.61 (SE = 0.27). If we stipulate this to be a plausible, if only ballpark, value of the parameter estimated by HH, the study's power (at α =0.05) to detect an effect of 1.61 was 5.9% in the full sample. Moreover, design calculations following (Gelman and Carlin, 2014) suggest that given this power, conditional on finding a statistically significant the sign of the significant coefficient will be wrong 20% and the magnitude of the point estimate will overestimate the true parameter value in absolute value by a factor of 8, on average. Even under assumptions that we consider optimistic, the conclusion does not change. Suppose, for example, that in HH's sample of women who were single at win, the value of the harmonized parameter value is equal to the upper bound of the 95% confidence interval of the coefficient from our meta-analysis ($1.61 + 1.96 \times 0.27$)= 2.14. Then HH's power to detect the effect in their subsample of women (at α =0.05) given their standard error of 7.53 was 5.9%. Conditional on reporting a significant effect, the probability of a sign error is now 21% and the estimated coefficient will, on average, overestimate the true parameter in absolute value by a factor of over 8. Another way to assess how informative the HH estimates are is to examine what happens if its added to the meta-analysis. We find that adding including the harmonized estimate of -7.30 (SE = 5.62) changes the value of the inverse-variance weighted combined coefficient from 1.61 to 1.59 and reduces the standard error from 0.273 to 0.270. Overall, we conclude that the estimates provide little information about the sign and magnitude of wealth effects on marital outcomes. Of course, readers with very different priors about the sort of effect sizes that should be considered plausible in the Floridian sample studied by HH can easily apply the above framework using their preferred assumptions in lieu of those we have made.

Appendix D Inference

D.1 Permutation-Based Inference

Throughout, we supplement conventional p-values based on analytical standard errors with resampling-based p-values. The latter are obtained using a commonly used algorithm. Below, we describe the steps involved in applying it in our specific setting. For each outcome, run the regression described by equation (**??**) and save the estimated lottery effects β. Then start the permutation algorithm:

1. Within each group k, randomly permute the original prize column.

2. Estimate equation (**??**) using the permuted prize variable to obtain β_1^0.

3. Repeat the procedure N times to obtain an approximate final sample distribution of $\beta^0 = \beta_1^0, \beta_2^0, ..., \beta_N^0$ under the null that the wealth effect is zero.

4. Using the vector of β^0, obtain the vector of test statistics under the null as $T = T_1, T_{2,}..., T_N$, where $T_j = \beta_j^{0^2} \times Var(\beta^0)^{-1}$. Similarly, compute the observed value of the test statistic as $t_{obs} = \beta^2 \times Var(\beta^0)^{-1}$.

5. Compute the resampling-based p-value given by $P(T > t_{obs}) = \frac{1}{N} \sum_{j=1}^{N} I(T_j > t_{obs})$.

D.2 Multiple-Hypothesis Testing

In our main analyses, we tested 27 null hypotheses. To address concerns about multiple-hypothesis testing, we adopt a decision rule that ensures the (expected) proportion of true null hypotheses that are (incorrectly) declared to be significant does not exceed a desired threshold, q. This threshold, q, is known as the false discovery rate (FDR). In order to compute the FDR adjusted p-values reported in Table **??**, we apply the two-step procedure proposed by Benjamini et al. (2006). In a preliminary step, sort the resampling-based p-values in ascending order so that $p_1 < p_2 < ... < p_M$ (where $M = 27$ in our setting). The algorithm is then applied

1. Compute adjusted $q' = \frac{q}{1-q}$. Find the largest r for which $p_r < q'r/M$, where r is the rank of the p-value and M is the total number of hypotheses. Reject all hypotheses with p-values smaller or equal than p_r at the level q. If no hypothesis is rejected ($r = 0$), stop. Otherwise, continue to the next step.

2. Let $M_0 = M - r$, where that r is the number of hypotheses rejected in the previous step. Repeat (1) for $q^* = q'M/M_0$.

The algorithm, which we implement using `Stata` code provided by Anderson (2008), generates p-values needed to identify all hypotheses rejected at some level q. For example, we can list all hypotheses rejected at level 0.05 or 0.1. In order to obtain the FDR adjusted p-values, we need to find the smallest q for which the hypothesis is rejected. Anderson (2008) suggests proceeding by first assuming all FDR adjusted p-values are equal to 1. Then apply the algorithm at $q = 0.999$, replacing the FDR adjusted p-values by 0.999 for all the hypotheses rejected at this level. Then reduce the value of q by 0.001, repeat the procedure, and replace the FDR adjusted p-value by 0.998 for all rejected hypotheses. Continue until $q = 0.001$.

Appendix E Entropy Balancing Reweighting

In order to produce the estimates reported in Table A.6, we first reweigh observations from the samples of couples where husband wins and couples where wife wins in order to match the moments of pre-lottery characteristics in the pooled sample of pre-lottery married winners. This procedure reassures that the first and seconds moments of the pre-lottery characteristics used for the weights construction in the reweighted samples of couples where husband wins and couples where wife wins are similar, so that the detected heterogeneity cannot be attributed to the differences in these characteristics between the subsamples. For the weighs construction we apply entropy balancing procedure proposed by Hainmueller (2012).

In the entropy balancing every observation in the sample of couples where wife wins $(i|W)$ and where husband wins $(i|H)$ gets a weight that satisfies a set of balance constraints and minimizes the loss function:

$$\min_{\omega_i} H(\omega) = \sum_{i|S} h(\omega_i) = \sum_{i|S} \omega_i log(\omega_i) \forall S \in W, H \tag{E.1}$$

subject to balance and normalizing constraints

$$\sum_{i|S} \omega_i c_{ri}(X_i) = m_r \text{ with } r \in 1, ..., R \;\; \forall S \in W, H \tag{E.2}$$

$$\sum_{i|S} \omega_i = 1 \;\; \forall S \in W, H \tag{E.3}$$

$$\omega_i \geq 0 \;\; \forall i, \tag{E.4}$$

where $c_{ri}(X_i) = m_r$ describes a set of R balance constraints imposed on the covariate moments of the reweighted group. For this analysis, a balance constraint is formulated with m_{rj} containing the rth order moment of a given variable x_j in the pooled sample, whereas the moment functions $c_{ri}(X_i)$ are specified for the reweighted group (couples where husband wins or couples were wives wins). Therefore, weights (ω_i) are chosen in a way that the weighted $1_{st}, .., R_{th}$ moments of the pre-lottery characteristic in the reweighed group are equal to the corresponding moments in the pooled sample. The loss function $H(\omega)$ is non-negative and it decreases the closer ω is to the vector of ones.[1] These properties of the loss function imply that while weights are adjusted as far as needed to fulfill the balance constraints (E.2), they are maintained as close as possible to the base weights to sustain information about the reweighted group.

We impose the constraints on the first (for all variables) and second (for continuous variables) moments of the husband's and wife's age, the husband's and wife's income, the husband's and wife's college graduation indicators, the number of children, the year of win indicators, the lottery type indicators. The weights for the sample of couples

[1] Since the baseline weight of each observation is one.

where wife wins vary from 0.01 to 9.91 with the average weight of 1.29 and the median weight of 1. 90 percent of the weights lie in the interval between 1 and 2.28. The weights for the sample of couples where husbands win vary from approximately 0 to 133.9 with the average weight of 1.38 and the median weight of 1.90 percent of the weights lie in the interval between 0.78 and 3.81. Table A.5 reports the summary statistics of the variables used for the reweighting in both samples before and after the reweighting. The summary statistics suggest that the moments of the controls are similar in the reweighted subsamples.

Appendix F Models of Marital Dissolutions

F.1 General Framework

Here we provide a simple dynamic divorce decision model and show how it rationalizes our results.

Denote the value functions of the husband and wife in a married state by $V_h^M(z_t)$ and $V_w^M(z_t)$ respectively and the value functions of the husband and wife in a single state by $V_h^S(z_t)$ and $V_w^S(z_t)$ respectively, where z_t is a vector of state variables at t. State variables include the characteristics of the partners (e.g., earnings, wealth) denoted by x_{ht} and x_{wt} for the husband and wife respectively, the quality of their match denoted by θ_t, and the lottery wealth of the husband and wife denoted by L_{wt} and L_{ht} respectively, so that $z_t = \{x_{wt}, x_{ht}, \theta_t, L_{ht}, L_{wt}\}$.

In the initial period individuals are married and the optimal value function of $i \in \{h, w\}$ in a married state in t is specified as follows

$$V_i^M(z_t) = u_i^M(z_t) + \beta \mathbb{E}_t \text{Max}\left(V_i^M(z_{t+1}), V_i^S(z_{t+1})\right) \quad \forall i \in \{h, w\}, \tag{F.5}$$

where $u_i^M(z_t)$ is a current value in a married state of $i = \{h, w\}$ and $\mathbb{E}_t\text{Max}\left(V_i^M(z_{t+1}), V_i^S(z_{t+1})\right)$ is the expected future value of remaining married, which includes the future divorce prospects.

This value functions are written in terms of the state variables, since it is considered after all control variables (*e.g.*, allocation of time and goods) are set at their optimal values. Decisions about the allocation of time and goods are the result of household members' utility maximization and bargaining. The value of being single is defined similarly and it includes the future remarriage prospects. For simplicity, we assume that marriage dissolution is not costly.

The couple will remain married if and only if both spouses are better off when married than when single, i.e. if and only if

$$V_i^M(z_t) \geq V_i^S(z_t) \;\; \forall i \in \{h, w\}, \tag{F.6}$$

and they divorce if at least one spouse is better off when married than when single.[2]

Let us define the gains from marriage of spouse i as $\Delta V_i(z_t) = V_i^M(z_t) - V_i^S(z_t) \;\; \forall i \in \{h, w\}$.

Divorce happens if the gains from marriage are negative for at least one of the two spouses. If the gains from marriage of both spouses are high, it is less likely that a shock to the state variables leads to divorce. Notice that if one of the two spouses has sufficiently high gains from marriage, they can compensate the partner through transfers: this would reduce the gains from marriage of the spouse who makes the transfer and increase those of the other, hence potentially preserving a marriage that would have otherwise come undone.

Given that in $t = 0$ all couples have no lottery wealth and all are married, in the initial period the following holds:

$$\Delta V_i(z_0 | L_{w0} = 0, L_{h0} = 0) \geq 0 \;\; \forall i \in \{h, w\}. \tag{F.7}$$

We observe couples divorcing after the wife wins, which, in this model, means that

$$\exists i \in \{h, w\} : \Delta V_i(z_t | L_{wt} = L, L_{ht} = 0) < 0. \tag{F.8}$$

Conversely, we observe couples remaining married when the husband wins the lottery, which is consistent with

[2]Since 1973, the marriage law in Sweden does not require mutual agreement of the spouses for divorce. See Section G.1 of the Appendix for additional details of Swedish Marriage Code.

$$\Delta V_i(z_t|L_{wt} = 0, L_{ht} = L) \geq 0 \quad \forall i \in \{h, w\}. \tag{F.9}$$

It is straightforward that our empirical results are consistent with this model if, for at least one spouse, the gains from marriage are lower when the wife wins the lottery than when nobody wins or when the husband wins.

To understand whether this gendered effect is driven by the asymmetric effect of the lottery on the single- or married-state utility, let us consider two different sharing rules of the lottery wealth after divorce: (i) the lottery prize is kept by the winner, (ii) the lottery prize is split equally between the spouses.

Scenario 1. Lottery prize is kept by the winner after divorce If the person who wins the lottery gets to keep the entire prize in case of divorce, the single-state utility of one spouse is not affected by the other spouse's lottery win. In the language of the model, this means that $V_i^S(z_t|L_i = 0, L_{-i} = L) = V_i^S(z_t|L_i = 0, L_{-i} = 0) \;\; \forall i \in \{h, w\}$.

If that is the case, couples get a divorce when the wife wins if and only if

$$\exists i \in \{h, w\} : \Delta V_i(z_t|L_{wt} = L, L_{ht} = 0) < 0 < \Delta V_i(z_t|L_{wt} = 0, L_{ht} = 0), \tag{F.10}$$

i.e. for at least one of the spouses the gains from marriage go from positive to negative upon the wife's lottery win.

If $i = w$, then this scenario implies that wife's gains from marriage are lower when she wins than in the initial state (without the lottery win). This means that upon winning the lottery her single-state utility increases more than her married-state utility.

If, instead, $i = h$ this scenario implies that $V_h^M(z_t|L_{wt} = L, L_{ht} = 0) < V_h^M(z_t|L_{wt} = 0, L_{ht} = 0)$, so that husband's married-state utility decreases when the wife wins. That's because his single-state utility is unaffected by her lottery win.

Remaining married when the husband wins is consistent with positive gains from marriage for both spouses, i.e.

$$\Delta V_i(z_t|L_{wt} = 0, L_{ht} = L) > 0 \quad \forall i \in \{h, w\}. \tag{F.11}$$

This also implies that at least one of the spouses has greater gains from marriage when the husband wins than when the wife does, i.e.

$$\exists i \in \{h, w\} : \Delta V_i(z_t|L_{wt} = L, L_{ht} = 0) < \Delta V_i(z_t|L_{wt} = 0, L_{ht} = L).$$

If $i = w$, then the gains from marriage of the wife when she wins are lower than her gains from marriage when the husband wins. If $i = h$, then his married-state utility is lower when the wife wins than when he wins.

Scenario 2. Lottery prize is split equally between spouses after divorce If, upon divorce, each spouse's wealth, including the lottery win, is split equally, then the single-state utility of an individual is the same if he/she wins or if the spouse wins, so that $V_i^S(z_t|L_i = L, L_{-i} = 0) = V_i^S(z_t|L_i = 0, L_{-i} = L) \;\; \forall i \in \{h, w\}$.

Hence, the conditions that imply that the couple divorces if the wife wins, but stays together if the husband does ((F.8) and (F.9) in the previous scenario) can be written as

$$\exists i \in \{h, w\} : V_i^M(z_t|L_{wt} = L, L_{ht} = 0) < V_i^M(z_t|L_{wt} = 0, L_{ht} = L). \tag{F.12}$$

This means that there is at least one spouse for whom the married-state utility is lower when the wife wins than when the husband wins. This is inconsistent with the assumption of income pooling in the married state, since the source of income matters when the couple is together. In this scenario the effect of the lottery is gendered not because of the asymmetric effect of the lottery on the single-state utility but because of the asymmetric effect of the lottery on the married-state utility.

F.2 Symmetric Cooperative Bargaining Framework

Under both scenarios we have derived the corresponding conditions that make the general model consistent with our empirical findings. Are these conditions consistent with a model of bargaining among spouses? In this Section we develop one such model that, under appropriate assumptions about the parameters, delivers exactly the predictions described in the general framework, consistent with the data.

Consider a cooperative bargaining framework with singlehood as threat point, as in

Manser and Brown (1980) and McElroy and Horney (1981). For simplicity, let's assume that the husband's and wife's individual utilities depend only on private consumption. We denote the composite good consumed by the wife by Q_w and the composite good consumed by the husband by Q_h. The wealth of spouse $i = h, w$ is denoted by I_i. The pairs of these variable are $\mathbf{Q} = \{Q_h, Q_w\}$, and $\mathbf{I} = \{I_h, I_w\}$, respectively. In the notation of the general model in the previous section, $\mathbf{I}$ represents the state variable.

Let $V_i^S(\mathbf{I})$ be the single-state indirect utility obtained after maximization of the single-state utility function $U_i^S(Q_i)$, subject to the single-state budget constraint. Similarly, let the married-state utility function be denoted by $U_i^M(Q_i)$.

Each spouse solves the following optimization problem:

$$\max_Q U_i^M(Q_i) \text{ subject to} \tag{F.13}$$

$$U_{-i}^M(Q_{-i}) - V_{-i}^S(\mathbf{I}) \geq 0, \tag{F.14}$$

$$Q_w + Q_h \leq I_w + I_h \tag{F.15}$$

$$\mathbf{Q} \geq 0 \tag{F.16}$$

This amounts to suggesting a consumption allocation that satisfies the married-state budget constraint (F.15), in which no spouse consumes a negative amount (F.16), and in which the utility of spouse $-i$ in the married state (under the proposed allocation) is at least as high as the maximum single-state utility $V_i^S(\mathbf{I})$ (F.14). If that didn't hold, the couple would divorce, in contrast with the fact that spouse i is maximizing the married state utility.

To define the indirect utility in the single-state, assume that after divorce the wealth is split, so that each spouse keeps a share a of their own wealth and a share $1 - a$ of the spouse's wealth (if $a = 0.5$, then the wealth is split equally; if $a = 1$, then each spouse keeps their own wealth).

Hence, the single-state indirect utility is defined as follows[3]:

[3]For simplicity the prices of goods are normalized to one.

$$V_i^S(\mathbf{I}) = \max_{Q_i} U_i^S(Q_i) \text{ subject to}$$

$$Q_i \leq aI_i + (1-a)I_{-i}$$

If the utility function is increasing, each spouse consumes the entire single-state budget, so that the single-state utility maximization problem yields that the indirect single-state utility is $V_i^S(\mathbf{I}) = U_i^S(aI_i + (1-a)I_{-i})$.

Applying the Nash bargaining rule, which treats each individual equally (symmetric bargaining), the solution to the bargaining problem of the household is obtained by solving

$$\max_{Q} \left(U_h^M(Q_h) - V_h^S(\mathbf{I})\right)\left(U_w^M(Q_w) - V_w^S(\mathbf{I})\right) \text{ subject to} \tag{F.17}$$

$$Q_w + Q_h \leq I_w + I_h$$

$$\mathbf{Q} \geq 0$$

For simplicity let us assume that the utility functions are linear in consumption.

Furthermore, we allow husbands and/or wives to receive additional utility from the husband being a breadwinner—"male breadwinner norm".[4] Specifically, let us assume that the married-state utility of the husband/wife can be directly affected by the difference in income between the husband and the wife.

$$U_i^M = \alpha_i Q_i + g_i(\Delta I) \ \ \forall i \in \{h, w\}$$

where $\Delta I = I_h - I_w$ and $g_i(\Delta I)$ is increasing in ΔI. For simplicity, we assume that $g_i(\Delta I) = \gamma_i \Delta I$, where $\gamma_i \geq 0$.

Let us specify the utility functions of single individuals as:

$$U_i^S = \beta_i Q_i \ \ \forall i \in \{h, w\}$$

[4]Bertrand et al. (2015) demonstrates that there is an aversion to a situation where the husband earns more than the wife, driven by gender identity norms.

Notice that this implies that $V_i^S = \beta_i(aI_i + (1-a)I_{-i}) \quad \forall i \in \{h, w\}$, since U_i^S is increasing.

F.2.1 Gains from Marriage

Let us define the gains from marriage of spouse i as the difference between the indirect utility when married and when single denoted by $\Delta V_i = V_i^M(I_w, I_h) - V_i^S(I_w, I_h)$.

The solution to the optimization problem yields the following expressions for the gains from marriage

$$\Delta V_w = \frac{-\alpha_w\beta_h\left((1-a)I_w + aI_h\right) - \alpha_h\beta_w\left((1-a)I_h + aI_w\right) + \alpha_w\alpha_h(I_h + I_w) + (\gamma_h\alpha_w + \gamma_w\alpha_h)(I_h - I_w)}{2\alpha_h}$$

$$\Delta V_h = \frac{-\alpha_w\beta_h\left((1-a)I_w + aI_h\right) - \alpha_h\beta_w\left((1-a)I_h + aI_w\right) + \alpha_w\alpha_h(I_h + I_w) + (\gamma_h\alpha_w + \gamma_w\alpha_h)(I_h - I_w)}{2\alpha_w}$$

Case 1. No breadwinner norm ($\gamma_h = \gamma_w = 0$). In this case, the effect of husband's income on the gains from marriage of husband and wife is, respectively,

$$\frac{\partial \Delta V_h}{\partial I_h} = \frac{\alpha_w\alpha_h\Big(1 - (a\beta_h/\alpha_h + (1-a)\beta_w/\alpha_w)\Big)}{2\alpha_w}$$

$$\frac{\partial \Delta V_w}{\partial I_h} = \frac{\alpha_w\alpha_h\Big(1 - (a\beta_h/\alpha_h + (1-a)\beta_w/\alpha_w)\Big)}{2\alpha_h},$$

In this case, the effect of husband's income on gains from marriage of both spouses can be positive only if $a\beta_h/\alpha_h + (1-a)\beta_w/\alpha_w < 1$.

The effect of wife's income on the gains from marriage of husband and wife is, respectively,

$$\frac{\partial \Delta V_h}{\partial I_w} = \frac{\alpha_w\alpha_h\Big(1 - (a\beta_w/\alpha_w + (1-a)\beta_h/\alpha_h)\Big)}{2\alpha_w}$$

$$\frac{\partial \Delta V_w}{\partial I_w} = \frac{\alpha_w\alpha_h\Big(1 - (a\beta_w/\alpha_w + (1-a)\beta_h/\alpha_h)\Big)}{2\alpha_h},$$

These effect are negative only if $a\beta_w/\alpha_w + (1-a)\beta_h/\alpha_h > 1$.

Proposition 1. If there is no breadwinner norm, the impact of a wife's income on the benefits derived from marriage is negative, while the impact of a husband's income is positive, only if $a > 1/2$, $\beta_w/\alpha_w > 1$, and $\beta_h/\alpha_h < 1$.

Proof of Proposition 1. As demonstrated above, the impact of a husband's income is positive, and the impact of a wife's income is negative, only if both of the following inequalities are satisfied

1. $a\beta_h/\alpha_h + (1-a)\beta_w/\alpha_w < 1$
2. $a\beta_w/\alpha_w + (1-a)\beta_h/\alpha_h > 1$

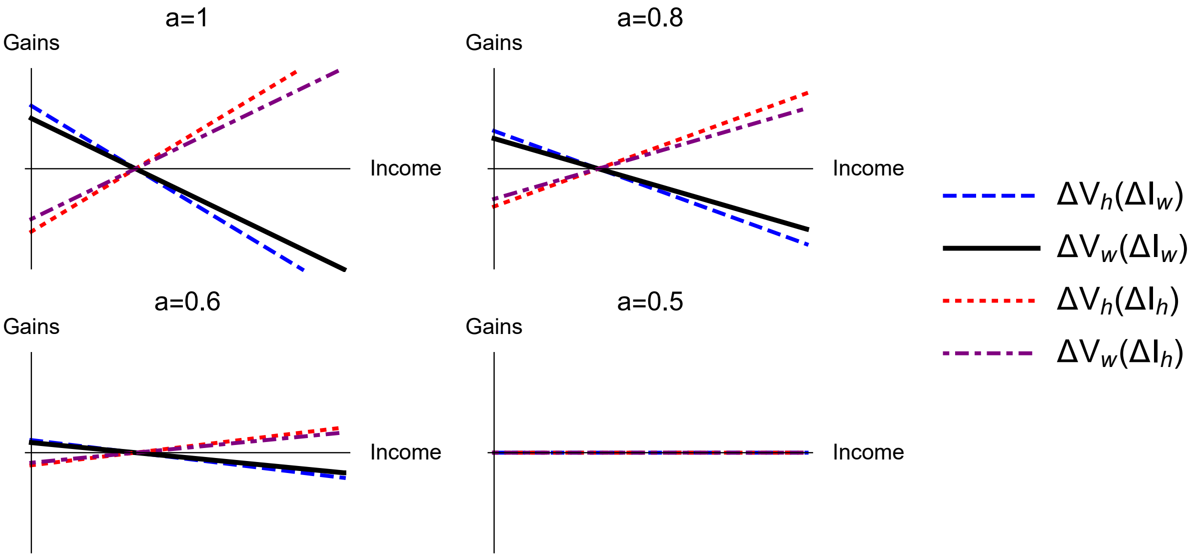
First, note that $a\beta_w/\alpha_w + (1-a)\beta_h/\alpha_h = a\beta_h/\alpha_h + (1-a)\beta_w/\alpha_w$ if $a = 1/2$, which implies that (1) and (2) cannot hold. Second, it is straightforward that both inequalities cannot hold if $\beta_i/\alpha_i \leq 1 \; \forall i = \{w, h\}$ or $\beta_i/\alpha_i \geq 1 \; \forall i = \{w, h\}$. Therefore, it must be that $\beta_i/\alpha_i > 1$ and $\beta_{-i}/\alpha_{-i} < 1$. Third, (1) and (2) imply that $a\beta_w/\alpha_w + (1-a)\beta_h/\alpha_h > a\beta_h/\alpha_h + (1-a)\beta_w/\alpha_w$, which implies that $(2a-1)\beta_w/\alpha_w > (2a-1)\beta_h/\alpha_h$. Given that $2a - 1 > 0$ for $a > 1/2$, $\beta_w/\alpha_w > \beta_h/\alpha_h$. Hence, it must be that $\beta_w/\alpha_w > 1$ and $\beta_h/\alpha_h < 1$. QED

Proposition 1 suggests that for the impact of a husband's income to be positive and the impact of a wife's income to be negative, it is crucial that $a > 1/2$, and that wives have a higher marginal utility in the single state as compared to the married state, while husbands experience the opposite. Figure F.7 depicts how the wife's and husband's gains from marriage change when either of the two sources of income (the wife's income or husband's income) increases, while keeping the other source of income constant, for different values of a between 0.5 and 1 and assuming that $\beta_w > \alpha_w$ and $\alpha_h > \beta_h$.

Case 2. With a breadwinner norm. We start by studying the case where $a = 1$, i.e. each spouse keeps their wealth upon divorce.

In this case, the effect of husband's income on the gains from marriage of husband and wife is, respectively,

Figure F.7: Changes in Gains from Marriage: Different Sharing Rules and no "Male Breadwinner Norm"



Notes. $x-axis$ denotes income of husband or wife. $y-axis$ denotes gains from marriage of husband and wife. $\beta_w = 1.2$, $\alpha_h = 1.25$, $\beta_h = \alpha_w = 1$, $\gamma_h = \gamma_w = 0$.

$$\frac{\partial \Delta V_h}{\partial I_h} = \frac{\alpha_w(\alpha_h - \beta_h + \gamma_h) + \alpha_h \gamma_w}{2\alpha_w}$$

$$\frac{\partial \Delta V_w}{\partial I_h} = \frac{\alpha_w(\alpha_h - \beta_h + \gamma_h) + \alpha_h \gamma_w}{2\alpha_h},$$

which is positive when $\alpha_h + \gamma_h + \frac{\gamma_w \alpha_h}{\alpha_w} > \beta_h$. Note that this inequality may hold even if $\beta_h > \alpha_h$ if γ_h and/or γ_w is big enough.

The effect of wife's income on husband's and wife's gains from marriage is, respectively,

$$\frac{\partial \Delta V_h}{\partial I_w} = \frac{\alpha_h(\alpha_w - \beta_w - \gamma_w) - \alpha_w \gamma_h}{2\alpha_w}$$

$$\frac{\partial \Delta V_w}{\partial I_w} = \frac{\alpha_h(\alpha_w - \beta_w - \gamma_w) - \alpha_w \gamma_h}{2\alpha_h},$$

which is negative when $\alpha_w < \beta_w + \gamma_w + \frac{\gamma_h \alpha_w}{\alpha_h}$. Again, this inequality may hold even if $\beta_w < \alpha_w$.

We next move to the case in which the wealth is split equally after the divorce ($a = \frac{1}{2}$). The effect of the husband's and wife's wealth on the husband's and wife's gains from marriage are respectively

$$\frac{\partial \Delta V_h}{\partial I_h} = \frac{\kappa}{\alpha_w} + 0.5\gamma_h + \frac{0.5\alpha_h \gamma_w}{\alpha_w}$$

$$\frac{\partial \Delta V_h}{\partial I_w} = \frac{\kappa}{\alpha_w} - 0.5\gamma_h - \frac{0.5\alpha_h \gamma_w}{\alpha_w}$$

$$\frac{\partial \Delta V_w}{\partial I_h} = \frac{\kappa}{\alpha_h} + 0.5\gamma_w + \frac{0.5\alpha_w \gamma_h}{\alpha_h}$$

$$\frac{\partial \Delta V_w}{\partial I_w} = \frac{\kappa}{\alpha_h} - 0.5\gamma_w - \frac{0.5\alpha_w \gamma_h}{\alpha_h}$$

where $\kappa = -\frac{1}{4}\beta_w \alpha_h + \alpha_w(\frac{1}{2}\alpha_h - \frac{1}{4}\beta_h)$.

Clearly, the two sources of income (I_h and I_w) can have different effects on the gains from marriage of the two spouses only if there is a breadwinner norm ($\gamma_h > 0$ and/or $\gamma_w > 0$). But when the breadwinner norm is introduced, our results can be fully accounted for by it.

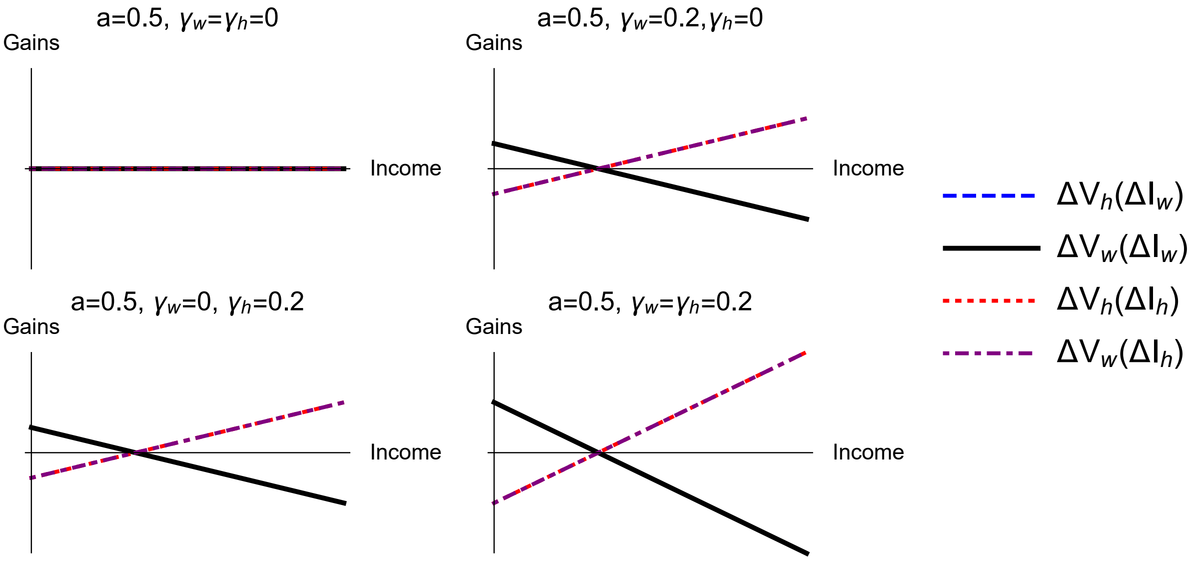
To see this, assume that the marginal utility of consumption is the same for both spouses and in both states, i.e. $\alpha_h = \alpha_w = \beta_w = \beta_h$. Figure F.8 shows the effect of the husband's and wife's income on the gains from marriage for different values of γ_w, and γ_h assuming that $\alpha_h = \alpha_w = \beta_w = \beta_h$ and $a = 1/2$. In all cases except when $\gamma_w = \gamma_h = 0$, the effect of wife's income on the gains from marriage of both spouses is negative, while the effect of husband's income on both gains from marriage is positive, which is consistent with the empirical results of the paper. In contrast, when $\gamma_w = \gamma_h = 0$, the source of income does not matter for the gains from marriage.

F.2.2 The Allocation of Consumption Within Marriage

We now analyze how consumption is allocated within the marriage under different assumptions about preferences and sharing of wealth in case of divorce.

First, assume that there is no "male breadwinner norm" ($\gamma_w = \gamma_h = 0$). It can be shown that

Figure F.8: Changes in Gains from Marriage: Male Breadwinner Norm under Different Sharing Rules.



Notes. $x-axis$ denotes income of husband or wife. $y-axis$ denotes gains from marriage of husband and wife. $\beta_w = \alpha_h = \beta_h = \alpha_w = 1$, $a = 1/2$.

$$\frac{\partial Q_w}{\partial I_w} - \frac{\partial Q_h}{\partial I_w} = (a-1)\beta_h/\alpha_h + a\beta_w/\alpha_w$$

$$\frac{\partial Q_h}{\partial I_h} - \frac{\partial Q_w}{\partial I_h} = a\beta_h/\alpha_h + (a-1)\beta_w/\alpha_w$$

These equations implies that the effect of one's own income on consumption will always be greater than the effect of the spouse's income on consumption when $min\{(a-1)\beta_h/\alpha_h + a\beta_w/\alpha_w, a\beta_h/\alpha_h + (a-1)\beta_w/\alpha_w\} > 0$. It can be shown that this condition is equivalent to $\frac{1-a}{a} < min\{\frac{\alpha_w\beta_h}{\alpha_h\beta_w}, \frac{\alpha_h\beta_w}{\alpha_w\beta_h}\}$. Hence, unless the marginal utility of consumption in the single and married state differ significantly between spouses, divorce splits which are not close to equal will imply the winning spouse increases consumption more also within the marriage. For instance, suppose one spouse has twice as much marginal utility in the single state than in the married state, whereas the other spouse has twice as much marginal utility in the married state than in the single state. Then, for one's own income to be more important than their spouse's income for individual consumption, the ratio of $1-a$ to a must be lower than $1/4$, implying a must be greater than $4/5$. In general, this condition implies that one's own income will be more important for an individual's consumption than their spouse's income when the individual retains most of their wealth in case of divorce.

Next, let us assume that there is a "male breadwinner norm" and equal divorce-splits ($a = 0.5$). Additionally, let us assume that husbands and wives have similar preferences ($\alpha_w = \alpha_h = \alpha$ and $\beta_w = \beta_h = \beta$). Then it can be shown that

$$\frac{\partial Q_w}{\partial I_w} - \frac{\partial Q_h}{\partial I_w} = \frac{\partial Q_h}{\partial I_h} - \frac{\partial Q_w}{\partial I_h} = \frac{\gamma_w - \gamma_h}{\alpha}$$

This equation implies that own income is more important for individual's consumption than spouse's income only if the wife espouse the breadwinner norm more strongly than the husband ($\gamma_w > \gamma_h$).

F.2.3 Summary

To sum up, we have developed a model of symmetric bargaining between two spouses. We show this model could rationalize our empirical results (e.g., divorce risk increasing in wives' lottery wealth but decreasing in husbands' lottery wealth) if the winner retains most of the lottery wealth in case of divorce and the husband has greater marginal utility of consumption when married, while the wife has greater marginal utility of consumption when single. If lottery wealth is instead split equally in case of divorce, a male breadwinner norm can generate similarly differential effects depending on which spouse won the lottery. We also show non-equal splits in case of divorce generates larger consumption increases for the winning spouse as long as the marginal utility of consumption in the married and single states are fairly similar for both spouses.

Appendix G Wealth Division after Separation

G.1 Swedish Divorce Law

Divorces in Sweden are governed by the Swedish Marriage Code of 1987, ("*Äktenskaps-balken*").[5] Below, we summarize some points relevant for the interpretation of our results (see also Boele-Woelki et al. (2004) and the Online Appendix in Cesarini et al. (2017)).

[5] `https://lagen.nu/1987:230#K5`

1. Divorce proceedings begin with a request that a court issue a divorce decree. No special grounds are needed to request divorce and the couple need not be in agreement.

2. The divorce decree will typically be approved only after a six-month "reconsideration period" has passed if any of the following conditions holds.

   (a) Only one of the spouses wishes for the marriage to be dissolved.

   (b) The couple have children under the age of 16.

   (c) Both spouses wished for the marriage to be dissolved, but requested a reconsideration period.

   If none of the above conditions hold, a divorce typically becomes effective within three weeks of the filing of the request for the divorce decree.

3. Property specified in a prenuptial agreement or acquired through gifts, inheritances or insurance payments is *not* considered marital property. Remaining property is generally considered marital property.

4. While a marriage is ongoing, each spouse has legal control over his/her property and is responsible for his/her debt. Hence, a lottery prize awarded to one of the spouses need to be shared equally.[6]

5. The law stipulates that in the event of divorce, all marital property be distributed between spouses. The default rule is that the marital property be divided equally between the spouses.

Figure A20 from Online Appendix to Cesarini et al. (2017) shows that most Swedish married couples do not have prenuptial agreement and therefore should divide their marital property if their marriage is dissolved. According to a survey of divorced couples conducted in Brattström (2011), in two of three cases couples reported that marital property was split equally between them. Couples who reported that their marital property was not split equally explained it by (i) agreement before the division, (2) existence of prenuptial agreement, (3) some property was a gift or inheritance.

[6]Indeed, the results in Appendix Table A.14 show that the prizes are not shared equally: lottery wealth has significantly larger effect on the wealth of the non-winning spouse.

G.2 Analysis of Nuptial Agreements

In Sweden, nuptial agreements have to be registered with the Swedish Tax Authority. Though the Tax Authority does not have individual-level data on nuptial agreements, the individual nuptial agreements are public information. To get a sense of what typical nuptial agreements look like, we requested the Swedish Tax Authority to send us 20 randomly selected nuptial agreements for each week in 2013. In the end, the Tax Authority sent us 997 nuptial agreements. This sample included both original nuptial agreements and changes and amendments to existing agreements.

The most common form of nuptial agreement (542, or 54.4%), listed specific property that should be exempted from marital property. Out of these, 160 listed property of both spouses (including three same-sex marriages), while 164 contracts listed only property of the husband while 218 only listed property of the wife. Typical property to denote private are real estate or stocks. Some contracts declare all property pertaining to the husband or wife is to be viewed as private. The second most common broad category (323, or 32.4%) states there should be no marital property, thus both including property the spouses have already acquired or may acquire in the future. Other, less common, types of contract stipulate property acquired before the signing of the contract or the marriage date should be private property (implying property acquired thereafter would be marital property). There are also nuptial agreements stating all property should be viewed as marital property, thus confirming the default rule (a fraction of such contracts could imply changing a previous nuptial agreement which indicated a non-equal split of assets).

G.3 Empirical Analysis of Wealth Splits

In this Section, we describe our analysis of wealth dynamics before and after separation in married and cohabiting couples. Specifically, we analyze how the spousal wealth gap changes around the time of separation. The goal of the descriptive analysis below is to gauge whether it is common to have unequal wealth levels within a marriage and after separation. It should be noted that the theoretical derivation in Section F.2 suggests that when wealth is not split equally between spouses after separation, our empirical results for marriage dissolution are consistent with different preferences of men and women in married and single states, as well as with social norms that suggest that the husband should be the primary breadwinner. However, if wealth is split equally, our results cannot be explained by different preferences of men and women, but rather by social norms. Therefore, understanding the dynamics of wealth before and after separation can provide insight into the potential mechanisms behind our results.

We use the entire population of couples (married or cohabiting with children) for which we have *Wealth Registry* data available for 1999-2007 before and after separation. Therefore, then limit the sample to individuals who experienced a *separation even*t between 2000 and 2006, who had been cohabiting with children or married for at least three years prior to the separation, and for whom we have at least one annual observation both before and after the separation event.[7] We then exclude individuals outside the age range 25-44.

For each couple, we calculate the share of net wealth held by the richer partner in the years before and after the separation. The division of wealth is set to 0:100 if one partner has negative wealth and the other spouse has positive wealth. We exclude couples with small values of net wealth (below 100,000 SEK).

Figure **??** shows the estimated cumulative distributions of the wealth share of the wealthiest partner (at each point of time) the year before (Panel A) and the year after the separation (Panel B). Figure A.5 replicates Figure **??** for couples with total net wealth in the year prior to separation of more than 500,000 SEK, displaying a similar pattern of within-couple wealth inequality. Figure A.6 shows the wealth share of the wife the year prior to separation and the year after separation. The results suggest that the median wife's wealth share is 47.8% the year prior to separation and it is 36.2% the year after separation, which again suggests that wealth inequality is higher after separation.

The results in Figure **??** are subject to two caveats. First, because as certain types of assets are excluded from the *Wealth Registry* (e.g., cash, cars and art) or lack exact market values (notably, real estate), wealth might be measured with error. As long as such measurement errors are perfectly correlated across partners, the impact on measured

[7] By separation, we mean either that a married individual's marital status changes from married to divorced, or that a cohabiting individual with children moved out from their partners during the analyzed period.

within-couple wealth inequality will be limited. However, if separations increase each partner's idiosyncratic measurement error – for instance because separating partners buy real estate on their own – post-separation wealth inequality will be overestimated. A second caveat is that, because which partner is wealthiest may change, higher inequality post-separation does not rule out redistribution of wealth from the wealthier partner at the time of separation.

To investigate the importance of these two caveats, we regress each partner's post-separation share of assets on the pre-separation share. A coefficient of one implies the richer partner keeps his or her full share of assets post-divorce. A coefficient of 0 implies the post-separation wealth share is independent of the pre-separation wealth level. An equal split of assets is a sufficient, but not necessary, condition for the coefficient to be 0. Idiosyncratic measurement error in post-separation wealth levels biases the coefficient toward 0. Table A.13 shows the coefficients from this regression are 0.62 for married couples with children, 0.68 for married couples without children and 0.73 for cohabiting couples. For each type of couple, we reject both equal splits (a coefficient of 0) and complete lack of redistribution from the richer to the poorer partner (a coefficient of 1). Although redistribution is higher for married couples, the small difference compared to cohabiting couples indicate marriage has a small impact on the division of assets.

Columns (2) and (3) of Table A.13 show the same analysis for wealthier couples (with total net wealth of 500,000 SEK of above) and for couples where wife had more than 50 percent of wealth prior to separation respectively. The results are similar to the baseline specification from column 1, confirming the robustness of the conclusion that couples do not split their wealth equally after separation.

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