EVROPSKÁ UNIE
Evropské strukturální a investiční fondy
Operační program Výzkum, vývoj a vzdělávání

MINISTERSTVO ŠKOLSTVÍ, MLÁDEŽE A TĚLOVÝCHOVY

Economics and Gender
Lecture 9

Unintended consequences of gender equalization

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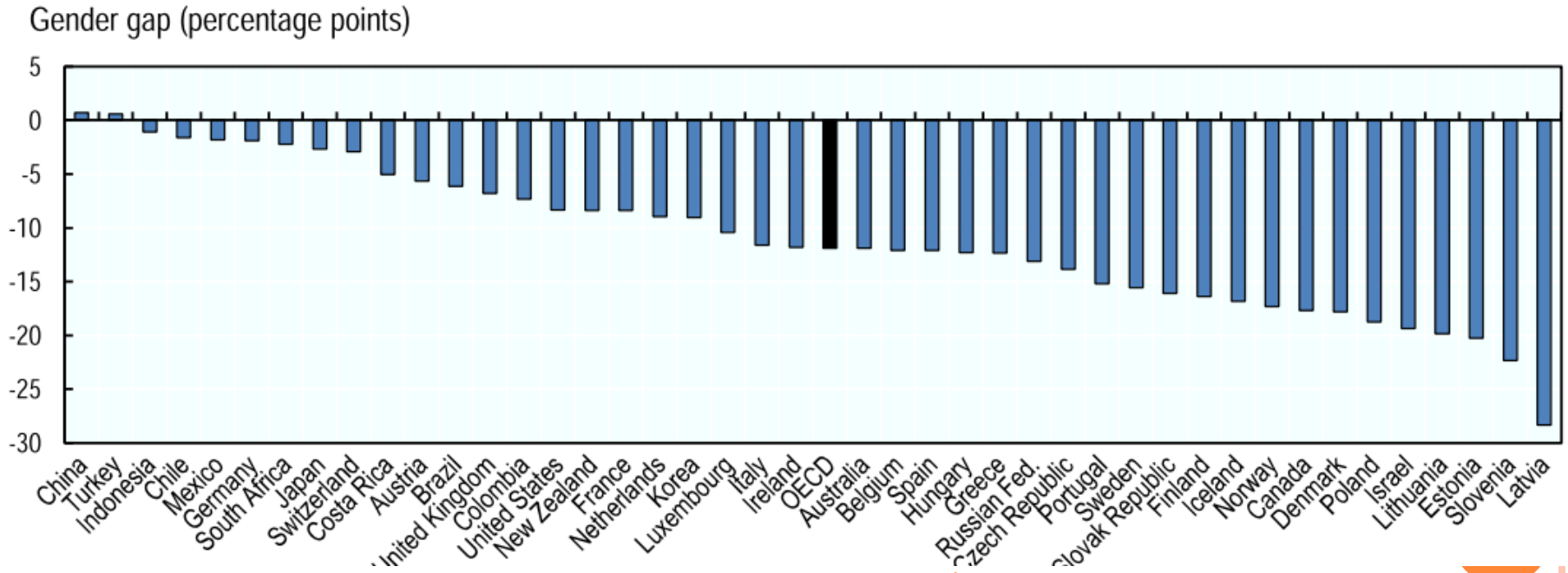
WOMEN ARE BETTER EDUCATED THAN MEN

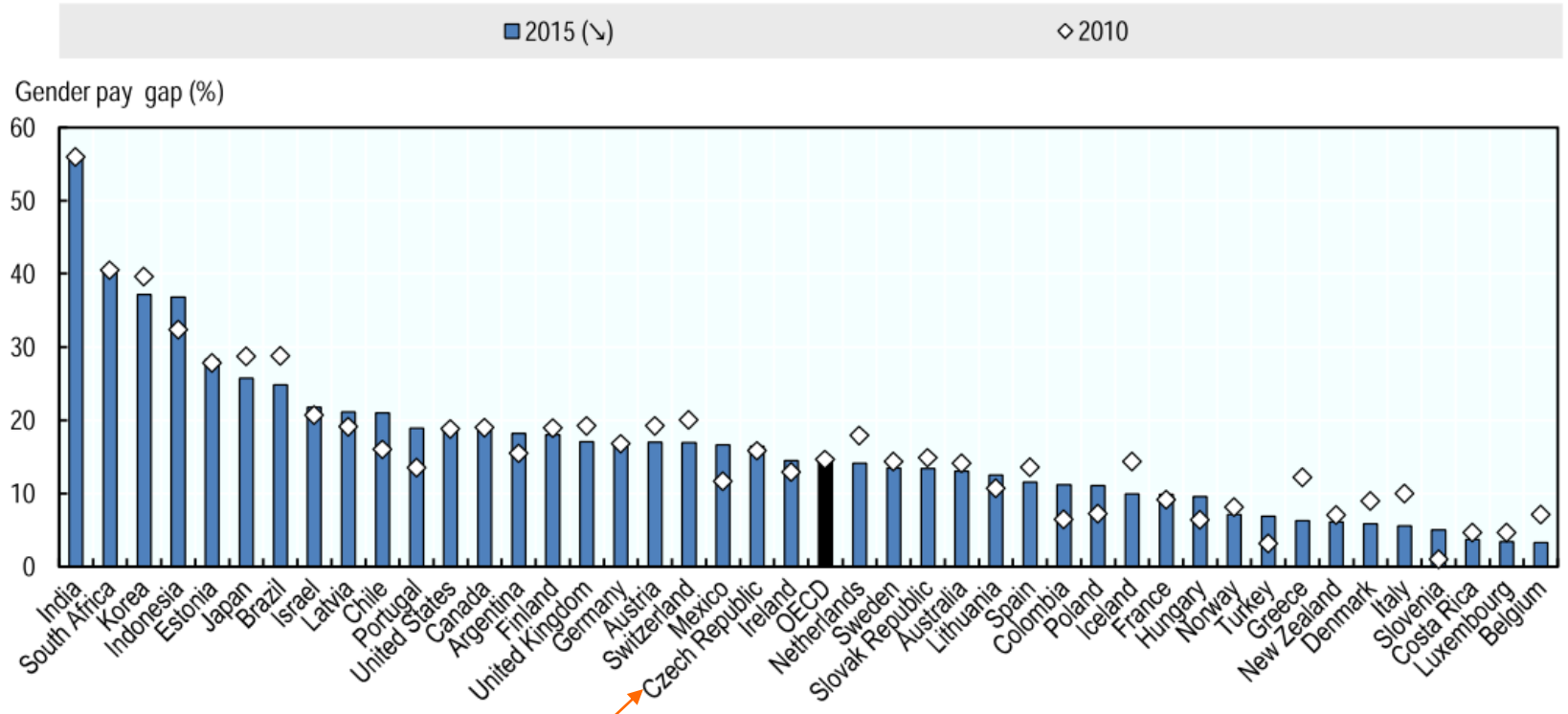
Panel A. Gender gap (male minus female) in the share of the population that has attained tertiary education, 25-34 year-olds, 2015 or latest available year[a]



WOMEN EARN LESS

Figure 1.3. Gender pay gaps have changed little across OECD and G20 countries and they remain substantial

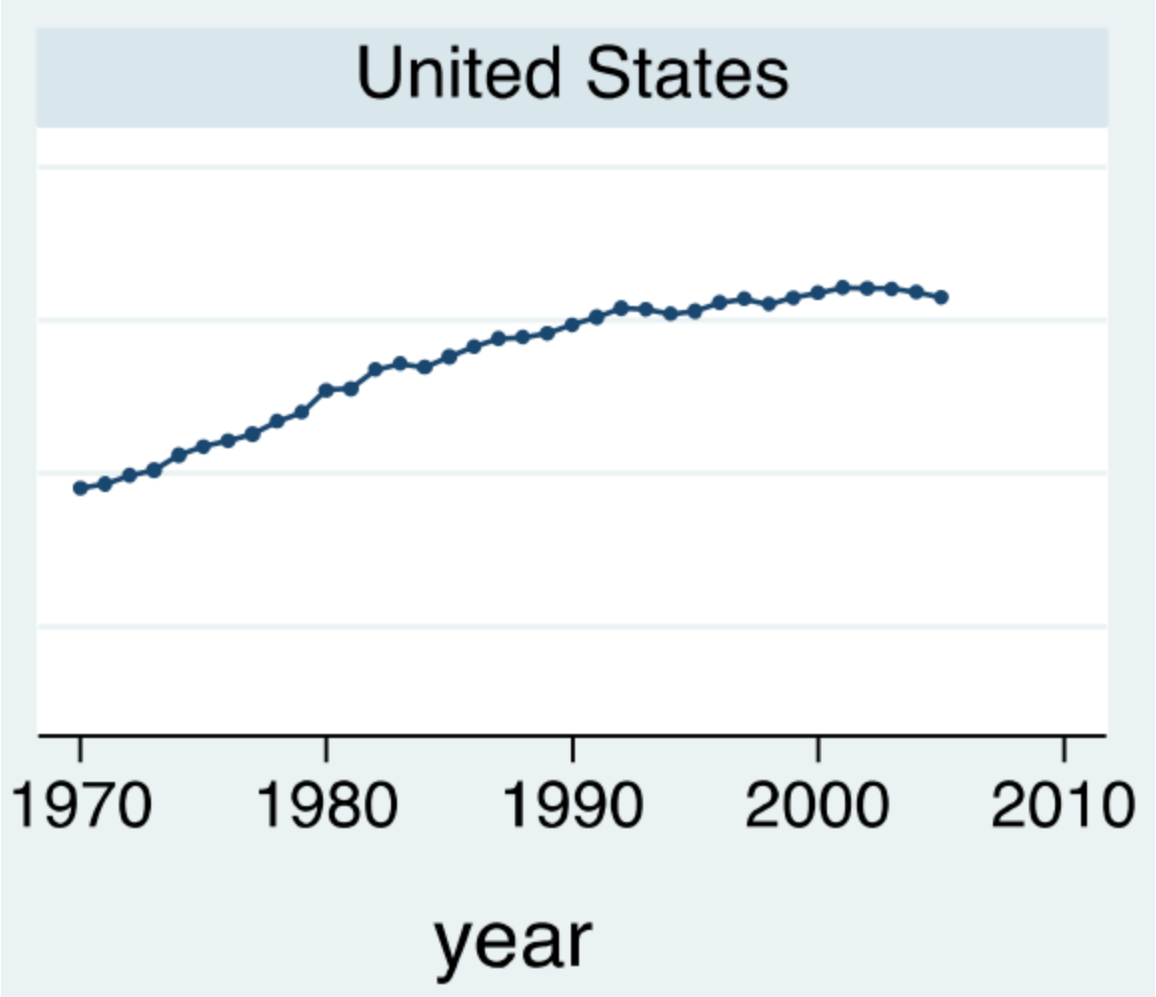
Gender gap in median monthly earnings,[a] full-time employees, 2010 and 2015 or latest available year[b]



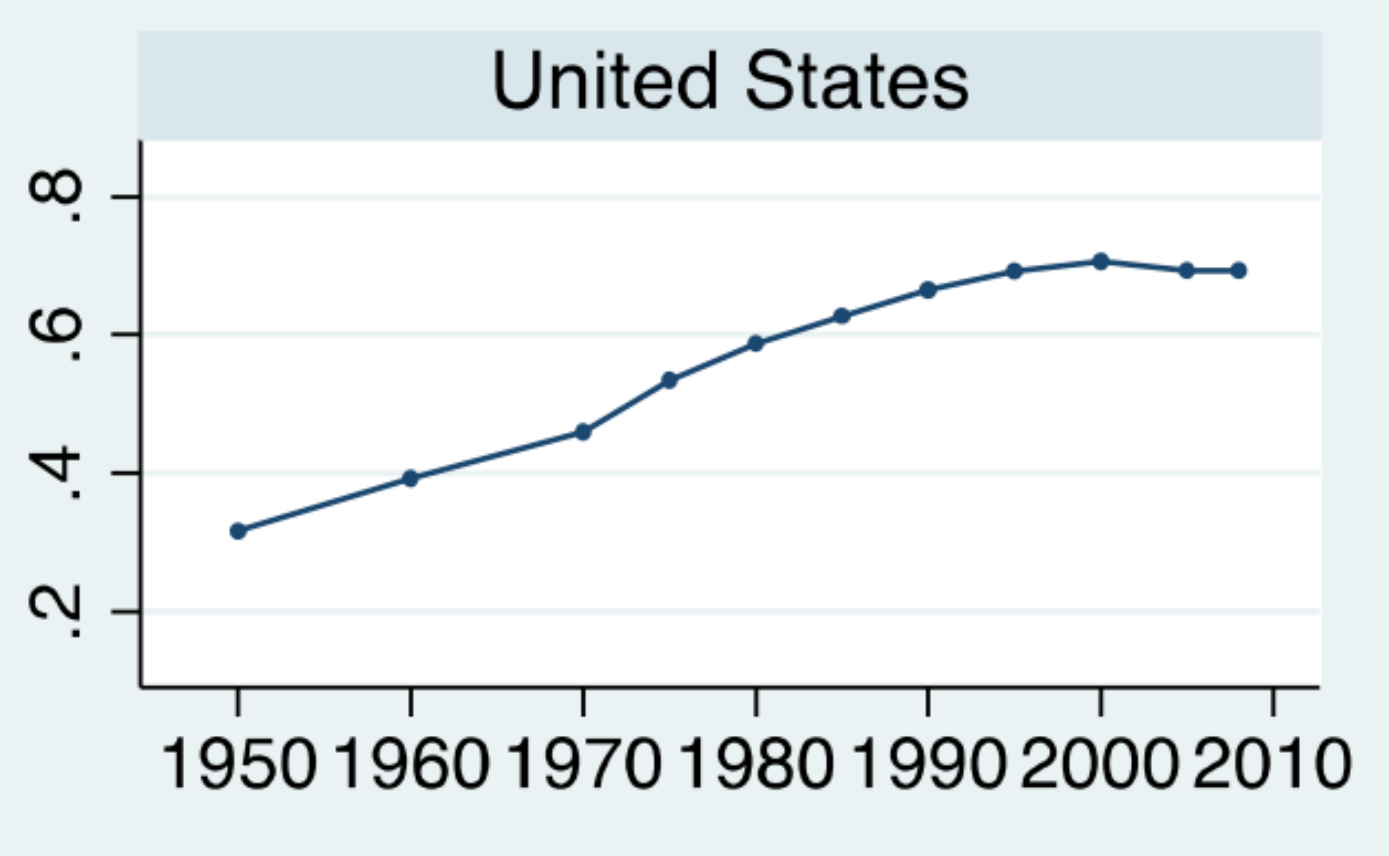
Note: The gender gap in median monthly earnings is defined as the difference between male and female median monthly earnings divided by male median monthly earnings, for full-time employees. Full-time employees are defined as those individuals with usual weekly working hours equal to or greater than 30 hours per week.

But we have come a long way.

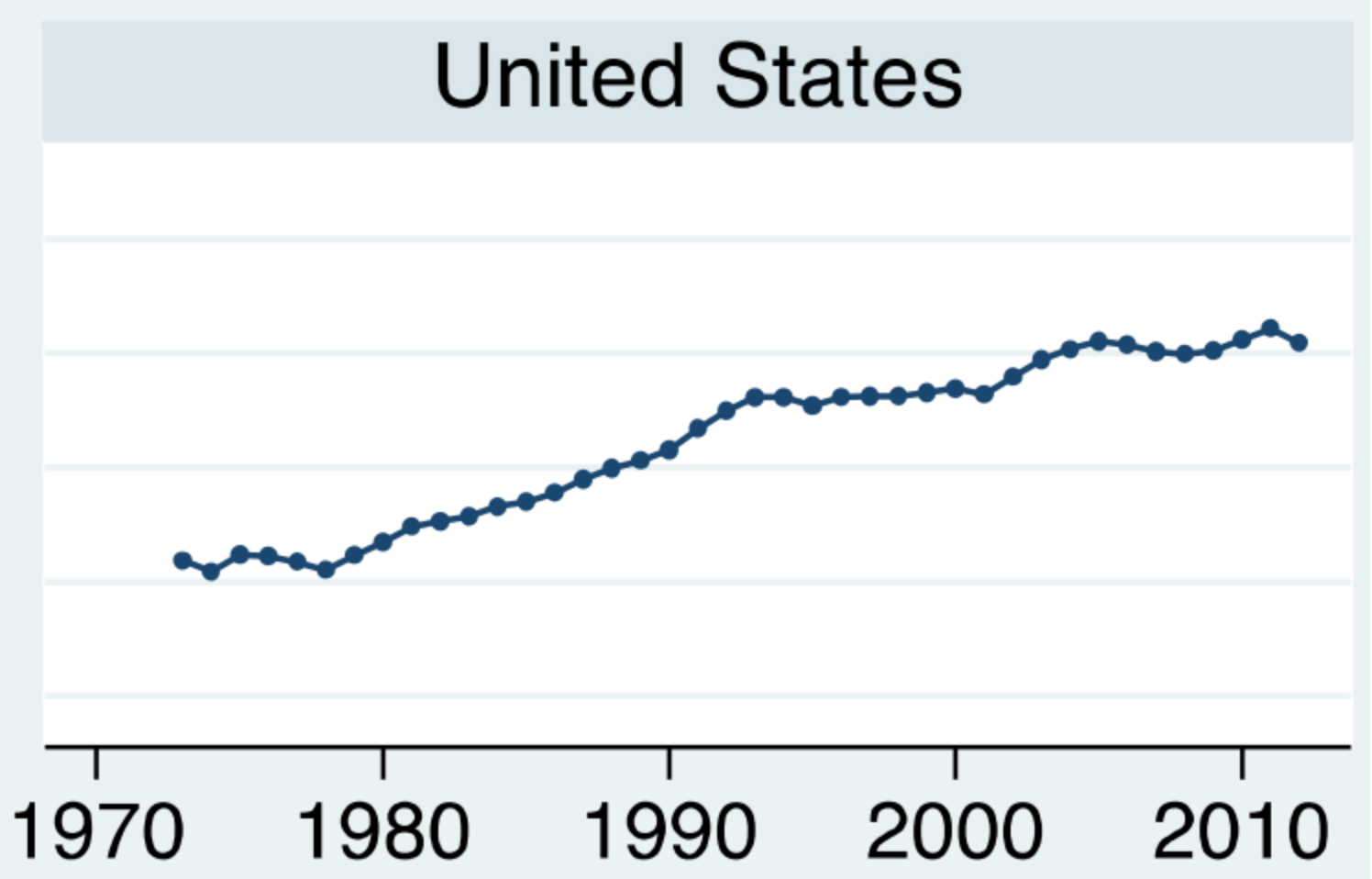
Female Hours Share (Olivetti and Petrognolo 2016)



Employment rate development (Olivetti and Petrognolo 2016)



Female/Male Median Earnings Ratio, 1970-2010 (Olivetti & Petrognolo 2016)



Divorces rocketed and decreased… (Greenwood et al 2017)

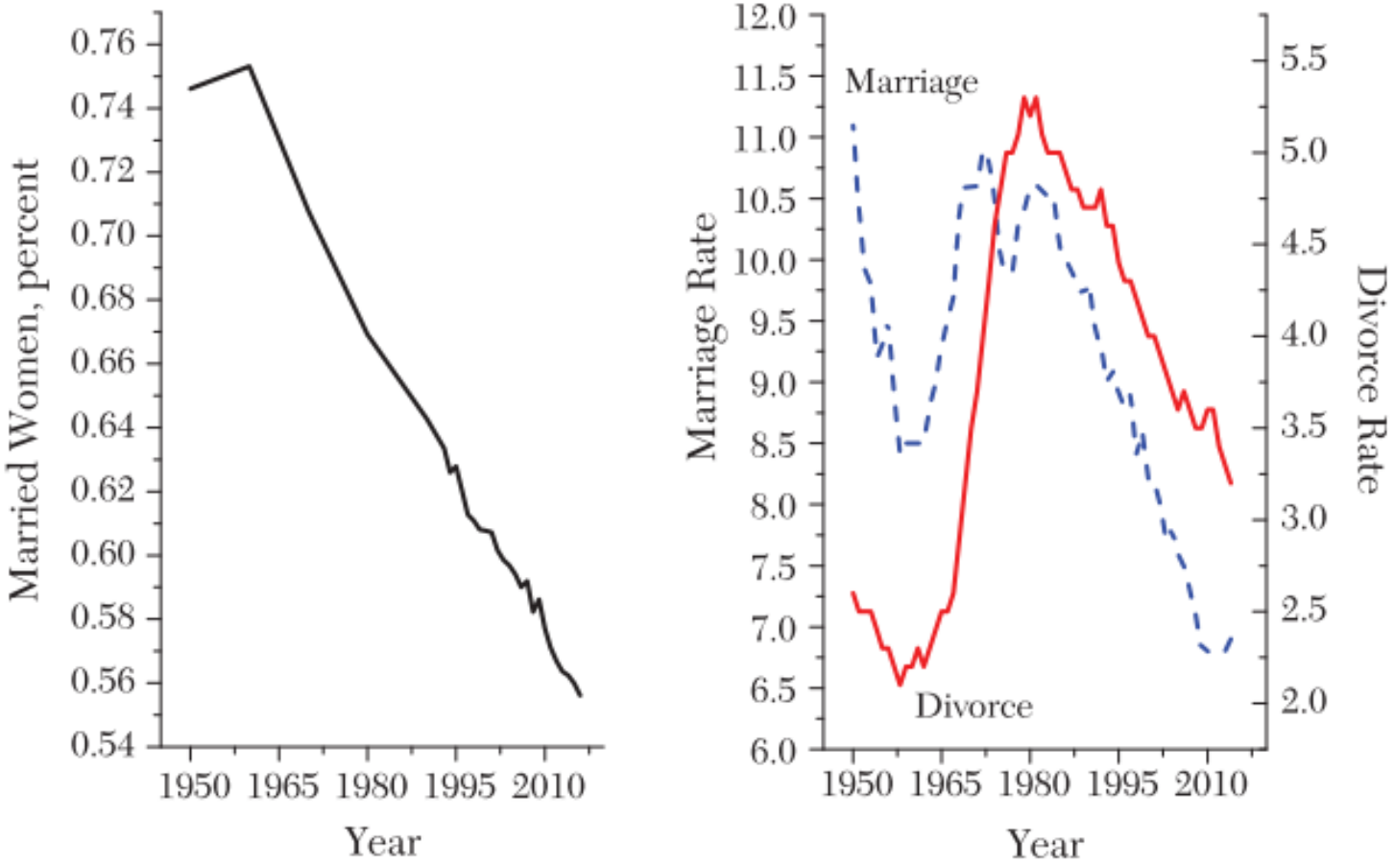
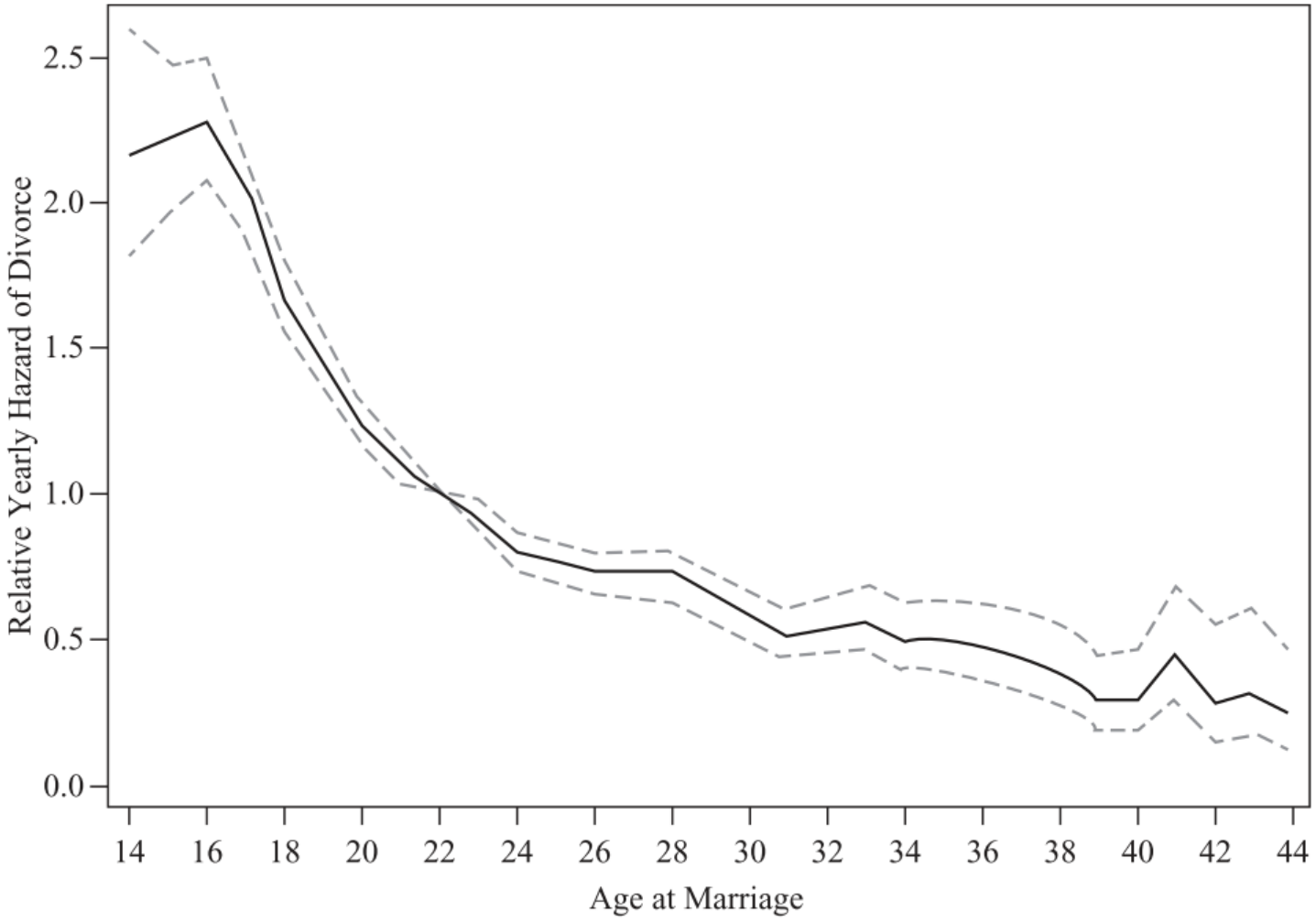


Figure 10. US Trends in Marriage and Divorce, 1950–2016

Mainly due to older women marrying (Rotz 2015)



Motivation

- Gender gap decreased over last century
- Female share on total hours rose
- More women employed
- Women more likely to be successful at business and earn a lot

- *Can success make them worse off in life?*

What about unitended side effects of emancipation?

Brainstorming

- What makes a man/woman (not) attractive?
- Write down three main attributes per gender
- Time: 5 mins

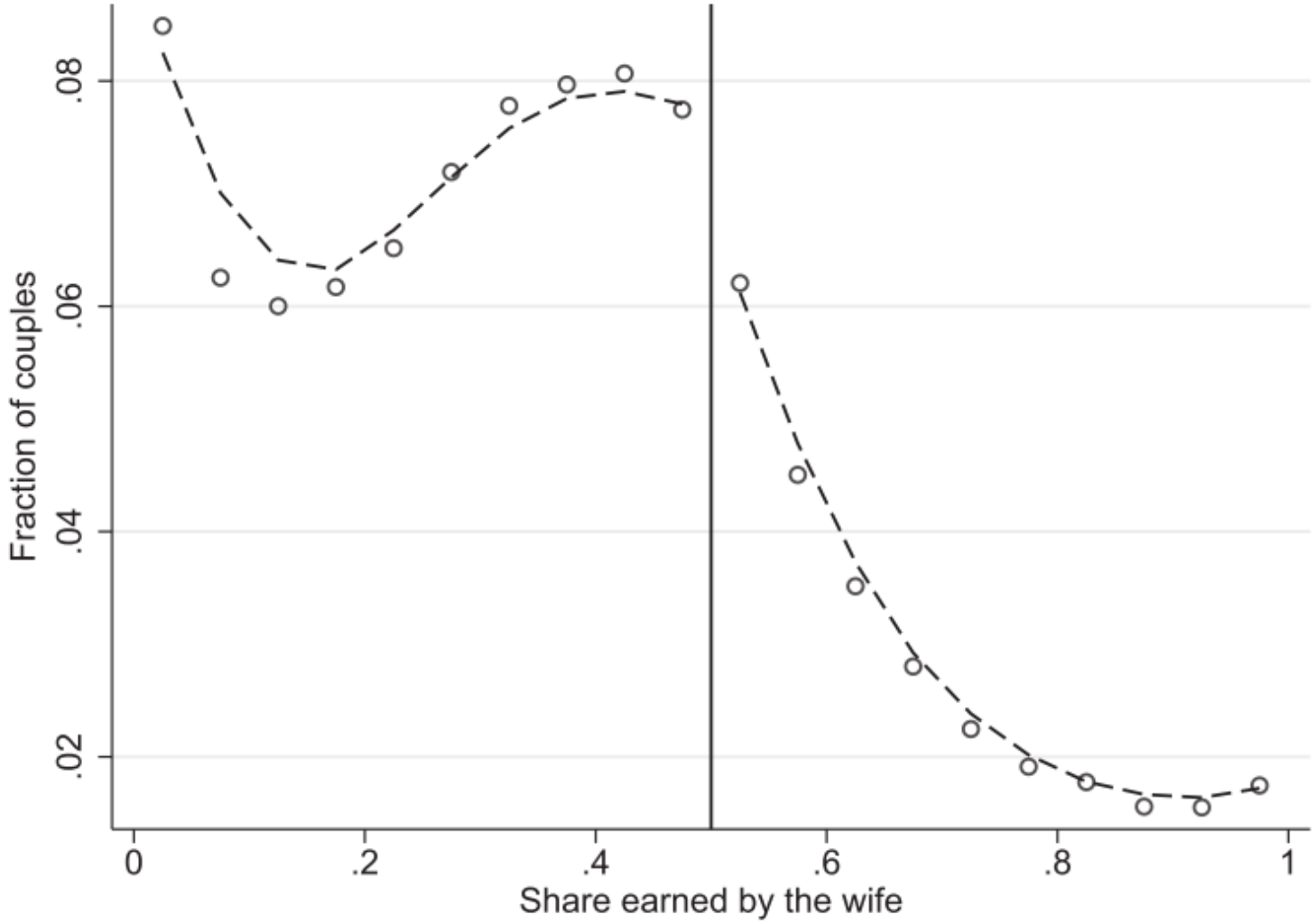
Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

Attractiveness:

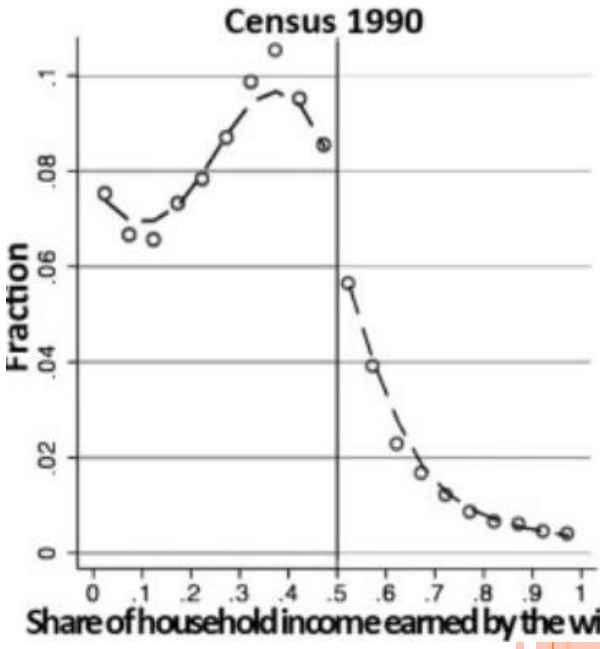
- „A man should be taller than a woman“.
- „A man should be stronger than a woman.“
- „A man should earn more than a woman.“

- Why?
  - Social norms –> gender identity
- With more women earning a money, problems arise
- Census Bureau Data 1990-2011

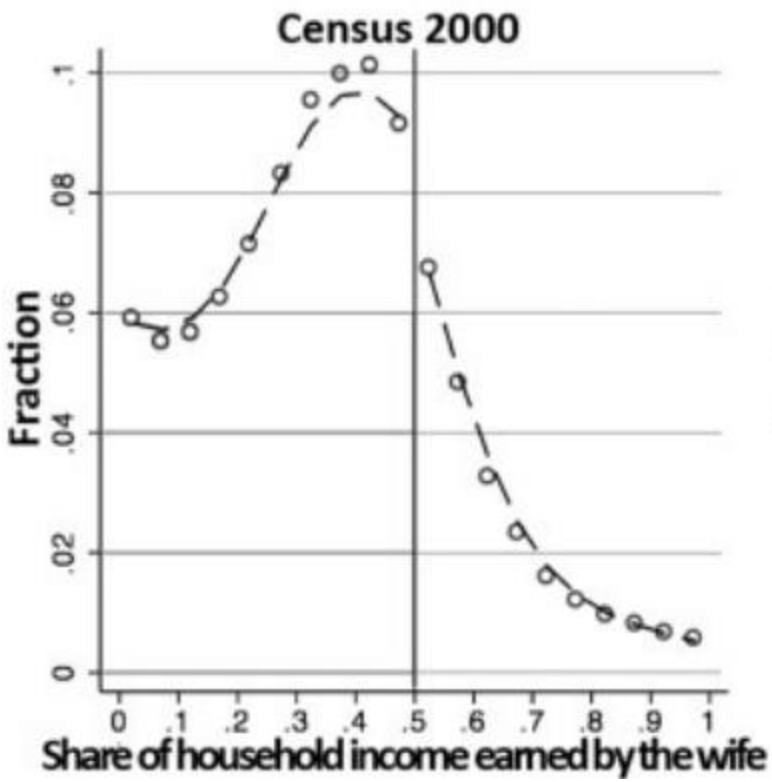
Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

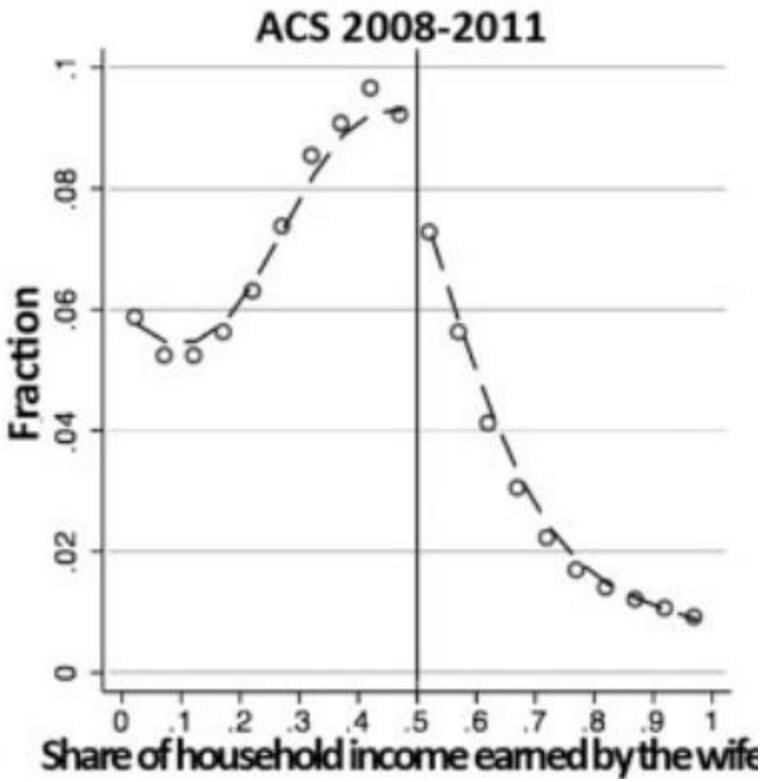


Development over time



Development over time





Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

- Share of couples where woman earns more much smaller
- Sharp discontinuity at 50%
  - With and without children
- Gradually decreasing in size
  - 1980: 26.2%
  - 2008-11: 10%
- Why?
  - couples avoid getting married if she earns more than him, or due to the impact of relative income on divorce
  - = Gender identity norms

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

Who marries whom?

- Standard models – marriage = partnership for joint production and consumption
- Single-dimensional attribute positively affecting family output
- If non-transferable utility, equilibrium induces positive assortative matching
  - Relates ranks of a man and a woman in their own distributions
  - E.g. Man Perecentile 30 + woman percentile 30
- No explanation for discontinuity

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

Who marries whom?

- Second class of models – marriage allows division of labor & exploit comparative advantage
- Increasing returns – only one works
- Here, women tend to do more chores, men work
- Again, No explanation for discontinuity

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

- **Education**
- ‚If a woman earns more money than her husband, it's almost certain to cause problems.'
  - 28% of the couples where both the husband and the wife have at least some college education agree
  - 45% of the couples where neither spouse went beyond high school
- if gender role attitudes are indeed the source of the cliff in the distribution of relative income, we should expect the discontinuity to be greater among less-educated couples.
- Among less-educated couples, distribution drops by 20.1% compared to 5.5% among more educated

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

- Who marries to whom?
- homophily:
  - most marriages occur between men and women who are of the same race and are of similar age and education.
  - who live close to each other
- What about the relative income?
  - how likely it is, when a woman encounters a man, that her income exceeds his?
  - Random draws of 50k women from sample data
  - Result: 0.25 (from 17% in 1980 to 33% in 2010)

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

TABLE I

Potential Relative Income and Marriage Rates

	(1)	(2)	(3)	(4)	(5)	(6)
	Actual			Predicted		
Income measure:				Dependent variable: *shareMarried*		
PrWomanEarnsMore	–0.080	–0.046	–0.209***	–0.266***	–0.252***	–0.236***
	[0.075]	[0.080]	[0.074]	[0.068]	[0.066]	[0.062]
ln Average Women's Income	0.055*	0.171**	0.088	0.066*	0.266**	0.151
	[0.030]	[0.071]	[0.074]	[0.036]	[0.108]	[0.108]
ln Average Men's Income	0.023	–0.092	0.005	–0.001	–0.201**	–0.063
	[0.032]	[0.070]	[0.073]	[0.053]	[0.084]	[0.093]
Sex Ratio			–0.030***			–0.027***
			[0.007]			[0.007]
Female Incarceration Rate			–0.369			–0.292
			[0.241]			[0.232]
Male Incarceration Rate			0.433***			0.210***
			[0.089]			[0.071]
Female Average Years of Education			0.009			0.005
			[0.008]			[0.007]
Male Average Years of Education			–0.031***			–0.023**
			[0.010]			[0.008]
Number of Females (per million)			0.001			0.003
			[0.005]			[0.006]
Number of Males (per million)			0.004			0.002
			[0.005]			[0.006]

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

- impact of $PrWomanEarnsMore_{mt}$ on $shareMarried_{mt}$ is –0.080, but not statistically significant
- Column (2) adds a control for average relative income
  - Coefficient remains small, insignificant
- columns (4)–(6) variable $PrWomanEarnsMore_{mt}$ cosntructed with using predicted income
- Estimated impact here is negative, stable and significant
- Overall, female income increase explains about 29% of overal decline in marriage rate 1980-2010

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

- What about labor supply?
  - What happens when „successful woman“ gets married?
  - May stay home or work less to make her advantage smaller
- 1. does wife stay at home?
  - LFP = labor force participation

$$wifeLFP_i = \beta_0 + \beta_1 \times PrWifeEarnsMore_i + w_i^p + \beta_2 \times lnHusbIncome_i + \beta_3 \times X_i + \varepsilon_i,$$

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: *Wife in the labor force*					
PrWifeEarnsMore	–0.178***	–0.142***	–0.139***	–0.143***	–0.148***	–0.152***
	[0.004]	[0.004]	[0.004]	[0.004]	[0.005]	[0.005]
Observations	7,384,176				1,375,121	1,375,121
R-squared	0.097	0.103	0.104	0.145	0.087	0.090
Additional controls:						
Cubic in *lnHusbIncome*	no	yes	yes	yes	yes	yes
lnMedianWifePotential × *lnHusbIncome*	no	no	yes	yes	no	no
anyChildren	no	no	no	yes	no	no
Wife's demographic group × Husband's demographic group	no	no	no	yes	no	no
PrWifeEarnsMore AtMarriage	no	no	no	no	no	yes
Vigintiles of the wife's and the husband's potential income at marriage	no	no	no	no	no	yes
Marriage duration fixed effects	no	no	no	no	no	yes
Sample restriction	none	none	none	none	2010sub	2010sub

- Consistently significant negative effect

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

- Consistently significant negative effect
- 10 pp increase in the probability that a wife would earn more than her husband reduces the likelihood that she participates in the labor force by around 1.4 pp
- 1 SD increase (across all years) in the probability that a wife would earn more than her husband reduces the likelihood that she participates in the labor force by about 3.5 pp

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

- Wife not working at all is costly to society
- less costly way for the wife to simply reduce her earnings to a level that does not threaten the husband's status as the primary breadwinner
- How large is the income gap (potential-real income)/potential?
  - = mean of the distribution of potential earnings for the wife

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

	(1)	(2)	(3)	(4)	(5)	(6)
	Dependent variable: *incomeGap*					
PrWifeEarnsMore	–0.031***	–0.095***	–0.095***	–0.109***	–0.168***	–0.176***
	[0.007]	[0.006]	[0.006]	[0.007]	[0.009]	[0.009]
Observations	5,306,682	5,306,682	5,306,664	5,306,664	1,049,793	1,049,793
R-squared	0.004	0.006	0.006	0.050	0.007	0.013
Additional controls:						
Cubic in *lnHusbIncome*	no	yes	yes	yes	yes	yes
lnMedianWifePotential × *lnHusbIncome*	no	no	yes	yes	no	no
anyChildren	no	no	no	yes	no	no
Wife's demographic group × Husband's demographic group	no	no	no	yes	no	no
PrWifeEarnsMoreAtMarriage	no	no	no	no	no	yes
Vigintiles of the wife's and husband's potential income at marriage	no	no	no	no	no	yes
Marriage duration fixed effects	no	no	no	no	no	yes
Sample restriction	none	none	none	none	2010sub	2010sub

- Consistently significant negative effect
- 10 pp increase in the probability that a wife would earn more than her husband increases the gap by 1 pp

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

- How stable is a marriage where woman earns more?
- Data: National Survey of Families and Households (NSFH)
  - three waves from 1988 to 2002, 4000 married couples
- Questions
  - Taking things all together, how would you de- scribe your marriage? (1-7)
    - $happyMarriage_i$
  - During the past year, have you ever thought that your marriage might be in trouble?
    - $marriageTrouble_i$
  - During the past year, have you and your husband/wife discussed the idea of separating?
    - $discussSeparation_i$

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

Relative Income and Marital Satisfaction

	(1)	(2)	(3)	(4)
Panel A: dependent variable: *happyMarriage*				
wifeEarnsMore	–0.068**	–0.060*	–0.070*	–0.065*
	[0.031]	[0.032]	[0.036]	[0.037]
Observations	7,659	7,659	7,659	7,659
R-squared	0.025	0.026	0.025	0.025
Panel B: dependent variable: *marriageTrouble*				
wifeEarnsMore	0.082***	0.078***	0.079**	0.086**
	[0.027]	[0.029]	[0.033]	[0.034]
Observations	7,520	7,520	7,520	7,520
R-squared	0.047	0.048	0.047	0.048
Panel C: dependent variable: *discussSeparation*				
wifeEarnsMore	0.068***	0.064***	0.060**	0.065**
	[0.024]	[0.024]	[0.028]	[0.028]
Observations	7,507	7,507	7,507	7,507
R-squared	0.034	0.034	0.034	0.034
Additional controls:				
Cubic in *lnWifeIncome* and *lnHusbIncome*	no	yes	no	no
relativeIncome	no	no	yes	yes
|Wife-Husb Income Rank|	no	no	no	yes

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

Relative Income and Divorce

	(1)	(2)	(3)	(4)
	Dependent variable: *divorced*			
wifeEarnsMore	0.062**	0.060**	0.048	0.051*
	[0.025]	[0.026]	[0.030]	[0.030]
Observations	3,439	3,439	3,439	3,439
R-squared	0.080	0.086	0.080	0.080
Additional controls:				
Cubic in *lnWifeIncome* and *lnHusbIncome*	no	yes	no	no
relativeIncome	no	no	yes	yes
|Wife-Husb Income Rank|	no	no	no	yes

- More likely to get divorced

Gender & Relative income
Bertrand, Kamenica, Pan (QJE 2015)

Relative Income and the Gender Gap in Nonmarket Work

	(1)	(2)	(3)	(4)	(5)
	Dependent variable: *Total nonmarket work (hours per week)*				
female × *wifeEarnsMore*	1.087	1.263*	2.183***	2.297***	2.961***
	[0.740]	[0.762]	[0.782]	[0.756]	[0.844]
wifeEarnsMore	0.460	0.132	–0.031	–0.147	–0.546
	[0.523]	[0.544]	[0.557]	[0.538]	[0.600]
Observations	37,665	37,665	37,665	37,665	22,390
R-squared	0.233	0.233	0.234	0.285	0.224
Additional controls:					
Cubic in *lnWifeIncome* and *lnHusbIncome*	no	yes	yes	yes	yes
relativeIncome	no	no	yes	yes	yes
Children controls	no	no	no	yes	yes
Sample restriction	none	none	none	none	both spouses have positive income

- Doing more housework
- Working a double-shift

Summary
Bertrand, Kamenica, Pan (QJE 2015)

- Success of women over last 30 years explains 29% of decline in marriage rate
- Successful wife:
  - less likely to marry
  - Less happy in marriage
  - Less likely to work
  - Works less hours & earns less than potential
  - More likely to get divorced
  - Spends more time doing housework!
- How to change social norms about what is attractive about the other gender?

Conclusion:

- Women earn more and are more successful than ever before in Western society
- Social identity norms change slower than society
  - Women may feel penalized for success in career by being less attractive/having troubles finding husband
  - Anticipating that, career decisions may be affected as well

Reading List

- Obligatory:
  - Bertrand, M., Kamenica, E., & Pan, J. (2015). Gender Identity and Relative Income within Households. Quarterly Journal of Economics, 130(2), 571–614. http://doi.org/10.1093/qje/qjv001.Advance
- Optional:
  - Rotz, D. (2016). Why have divorce rates fallen?: the role of women's age at marriage. Journal of Human Resources, 51(4), 961-1002.
  - Bertrand, M., & Hallock, K. F. (2001). The gender gap in top corporate jobs. Industrial and Labor Relations Review, 55(1), 3–21. http://doi.org/10.2307/2696183
  - Bertrand, M., & Duflo, E. (2016). Field Experiments on Discrimination. NBER Working Paper, 22014.
  - Blau, F. D., & Kahn, L. N. (2017). The gender wage gap. Journal of Economic Literature, 55(3), 789–865. Retrieved from http://www.pnas.org/cgi/doi/10.1073/pnas.1008636108

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