

# Gender inequality in the value of higher education, 1980-2017: new conclusions from new measurement

**ECSR Conference**  
**Paris, October 29-31, 2018**

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**European Research Council**  
Established by the European Commission



Horizon 2020  
European Union funding  
for Research & Innovation

## Background

- Much of the rise of income inequality in past decades is due to in the growth of wage gaps between workers with higher and lower levels of education
- The economic value of higher education (“education premium“) has attracted extensive scholarly attention, especially among labor economists.
- However, **gender inequality** in the economic value of higher education **has not been examined.**

## Goals

- To examine **gender differences in the economic value of higher education**
- To track the trends of these differences over time
- To **examine the glass ceiling effect**: whether and how gender differences in education premium vary across the wage distribution

## What accounts for women's lower education premiums?

- Gender beliefs, stereotypes and norms shape men's and women's positions in the labor market  
(Ridgeway & Correll, 2004)
- Specifically, two factors lead us to hypothesize that women receive lower returns to their education:
  - 1) Devaluation of women's work and skills – Skills associated with women/femininity are valued less than skills associated with men/masculinity  
(England, 1992)
  - 2) Glass ceiling effect – Men dominate the best paying job; inequality is greater at the top of the hierarchy  
(Cotter et al. 2001)

## Previous studies

- Previous studies that estimated education wage premium for men and women have found that **women have higher education premium than men**  
(Brand & Xie 2010; Card & DiNardo 2002; Charles & Luoh 2003; Diprete & Buchmann 2006; Dougherty 2005; Hubbard 2011; Long 2010; Reisel 2013)
- But, these findings are based on log-wage differences that express the **relative differences (in percentages)** between workers with higher and lower education, among men and among women
- For example, in 2017 in the US:
  - **70% premium among men = 800\$**
  - **70% premium among women = 530\$**

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- But, **Relative premiums are useful for within-gender analysis, but not for between-gender analysis**
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## Relative vs. absolute education premium

- **Relative premiums** based on log-wage differences are useful for examining the linkage between investment in education, productivity, and earnings within each gender group, but not for comparing the gap in the economic value of education between men and women.
- **Absolute premiums** express the real economic value of higher education (in US\$) and should be used when the focus is on gender (in)equality.

## Gender gaps in education premium across the wage distribution

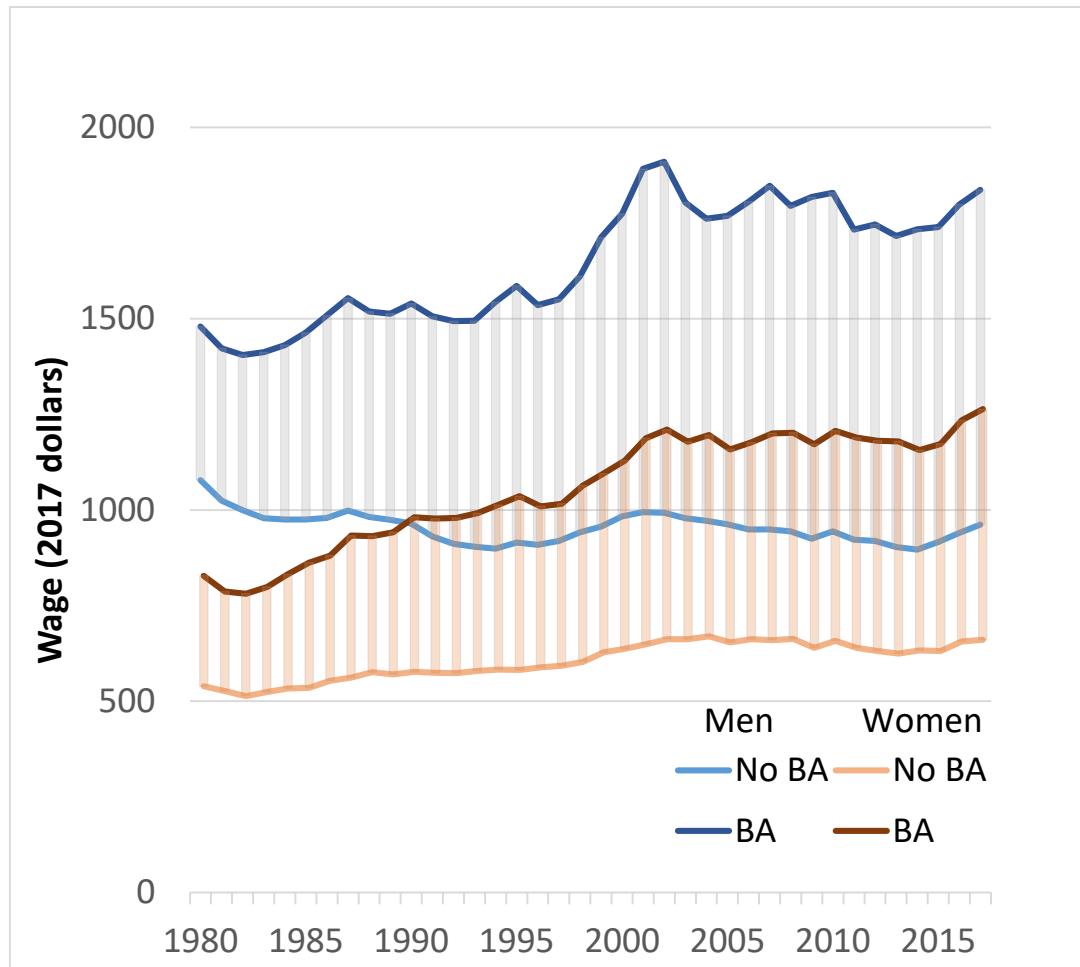
- Following the glass ceiling reasoning, gaps are expected to be larger at the top  
(Albrecht, Bjorklund & Vroman 2003)
- The commonly used log-transformation compresses the wages of the top earners, most of them are men.
- Men's estimated education premium is affected more than women's
- The result: gender differences are underestimated.



## Data & Method

- **Data:** US-CPS (IPUMS) 1980-2017
- **Sample:** working-age (25-64) employees with positive earnings.
- **Annual samples size:** ranges between 48,333 and 82,950 (63,851 on average)
- **Method:** multivariate regression for each year
  - Dependent variable: wage (inflation adjusted)
  - Main covariates: education (BA=1); gender; genderXeducation
  - Controls: race, age, working hours
- Three sets of regression models were used:
  - OLS of logged-wages as the dependent variable
  - OLS of wages (in \$US) as the dependent variable
  - Quantile regressions of wages (in \$US) at the 10th, 25th, 50th, 75th and 90th percentiles

## Average weekly wages by year, gender and education

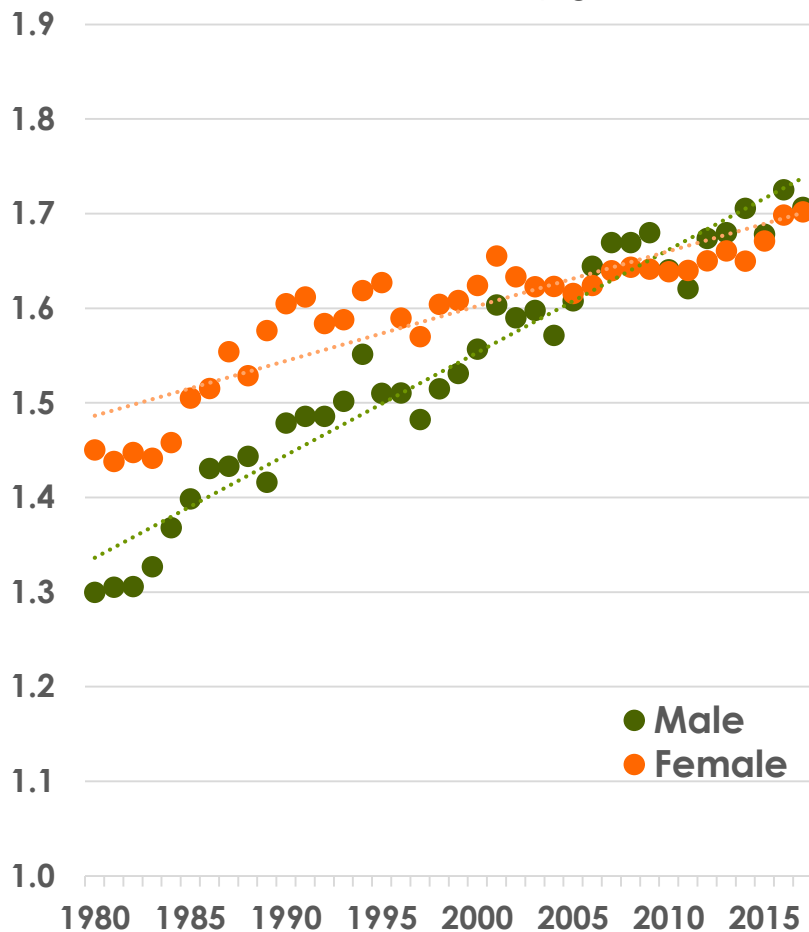


## Education premium\*, by gender (1980-2017)

\* weekly wage gaps between workers with and workers without college education

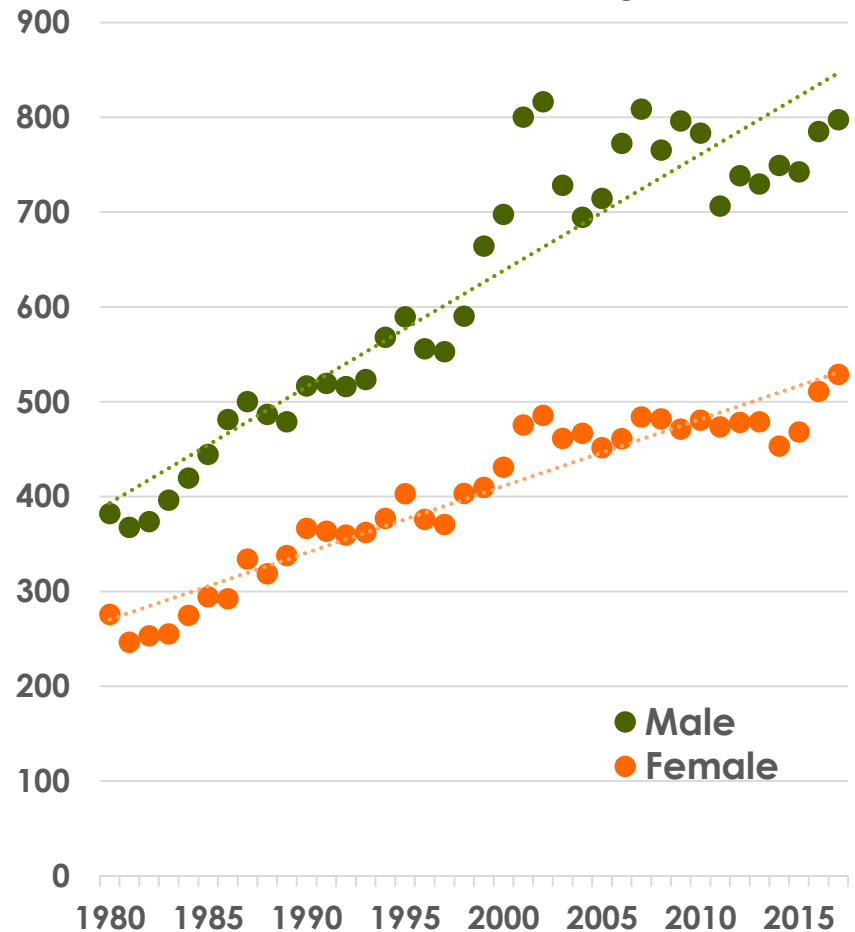
### Relative premium

Wage ratios between more and less educated workers, by gender

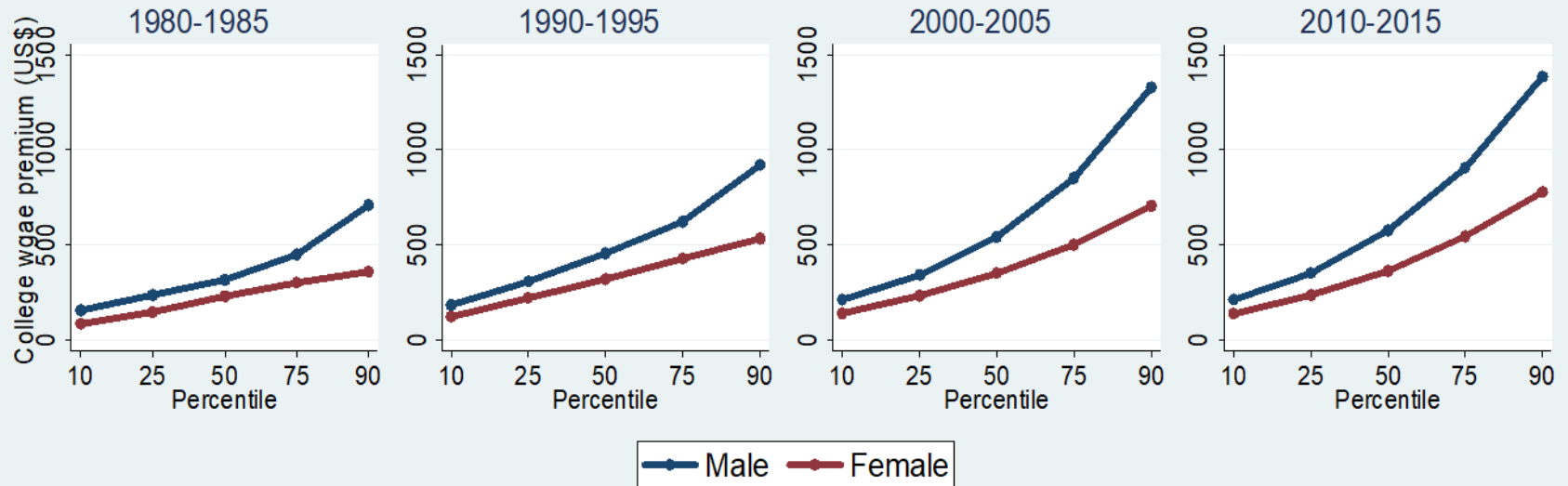


### Absolute premium

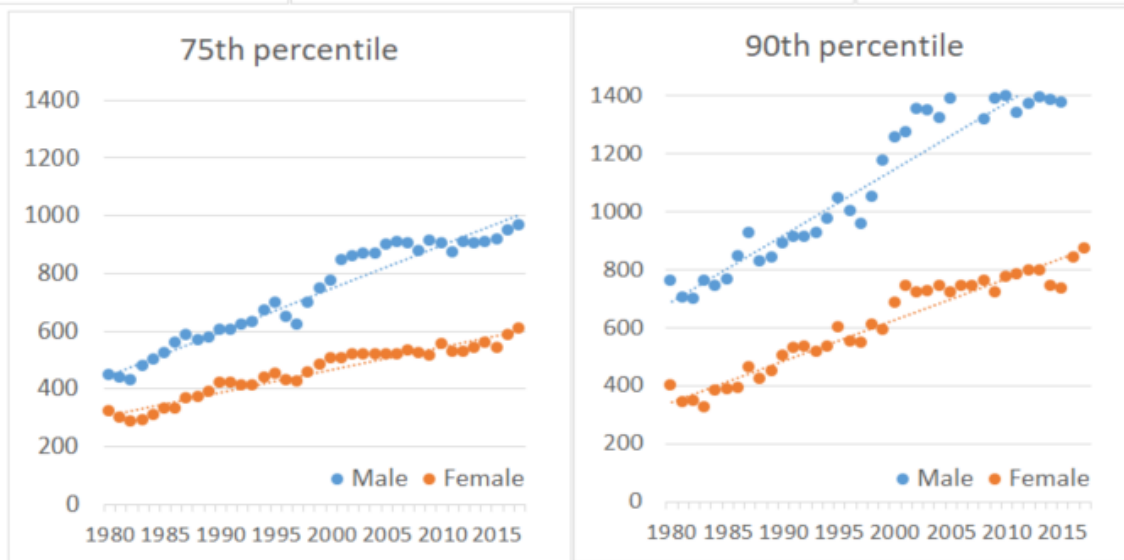
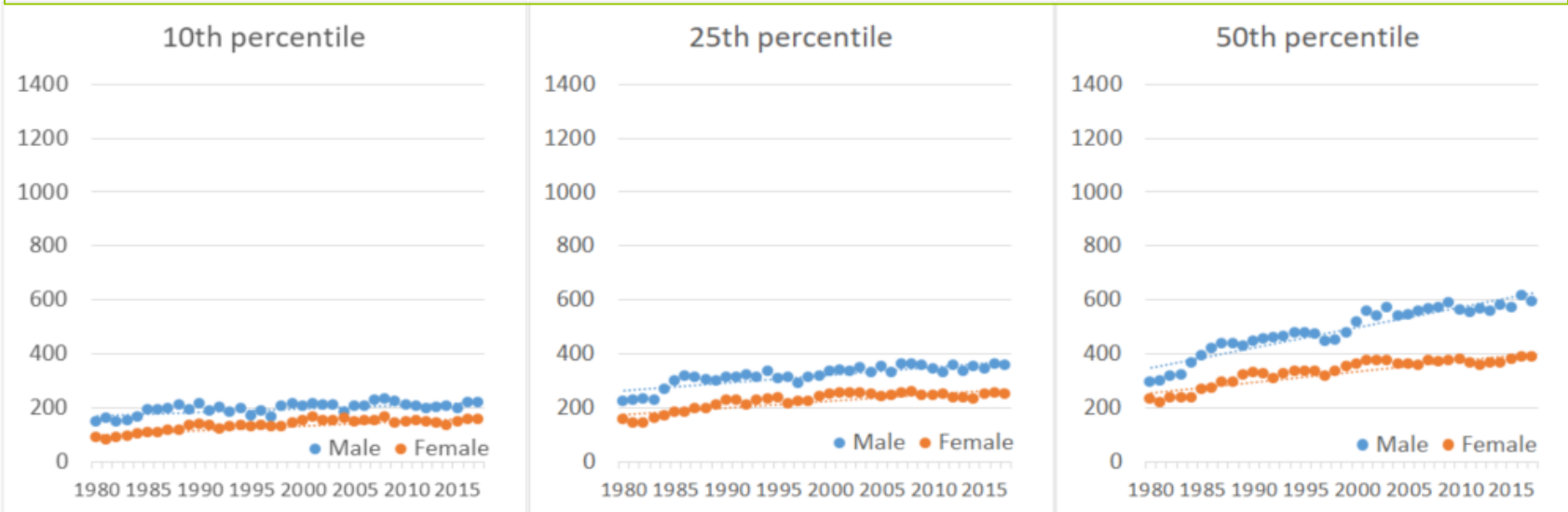
Wage differences between more and less educated workers, by gender



## Absolute education premium, by gender, percentiles, and period

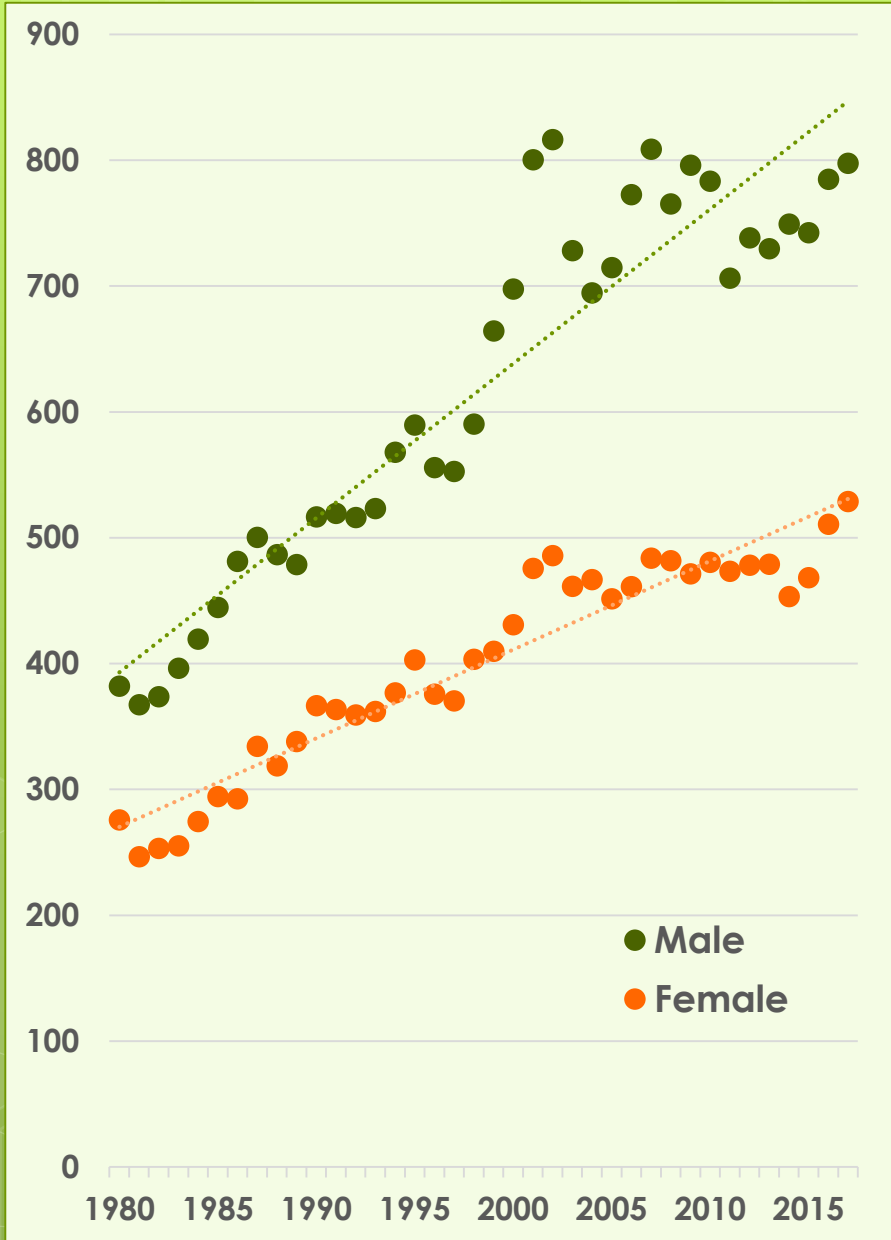


# Absolute education premium by gender, year, and percentile



## Conclusions

- Despite the rise of women's education and the decline of sex segregation in fields of study and occupations, women's education has lower economic value compared to men.
- The gender gap in returns to education is increasing over time, and is larger at the top of the wage distribution.
- The findings support the devaluation theory and the glass ceiling effect
- Apparently, the entry of women to rewarding fields of study and occupations in itself is insufficient to overcome the gendered practices and beliefs that perpetuate women's disadvantages in the labor market



# Thank You

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