

# ECONOMICS AND GENDER

## LECTURE 7

### WILLINGNESS TO COMPETE

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

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MLÁDEŽE A TĚLOVÝCHOVY

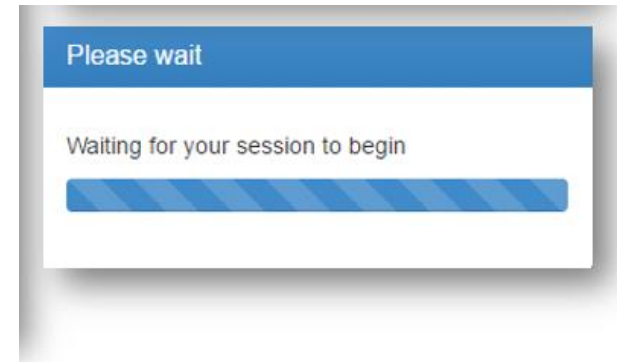
# GAME

## ○ Set-up

- Take your smartphone/computer (No Android 4.2 and older)
- Open your browser, enter this address:
  - [goo.gl/ZZHYv5](https://goo.gl/ZZHYv5)
- Enter your surname & name (*only for payoffs*), wait for start (e.g. Rizolli Matteo)

## ○ Rules:

- **Task: Adding-up sets of three two-digit numbers in 3 mins**
  - E.g.  $25 + 44 + 32 = ?$ ;
- **Three rounds, different in reward regime**
  - one round randomly selected for payment
- 1. **R1: Piece-rate: 1 point** per answer
- 2. **R2: Tournament:**
  - Random person from session a counterpart
  - Who has more points wins & **2p** per correct answer
  - Who has fewer points, gets **0**
  - When tie, **1** point per answer (like piece-rate)
- 3. **Before R3: Choice which regime preferred**
  - **A) piece- rate (1p per answer)**
  - **B) tournament – against result of a randomly chosen person from Round 2**
- 4. **R3: calculating - chosen scheme**

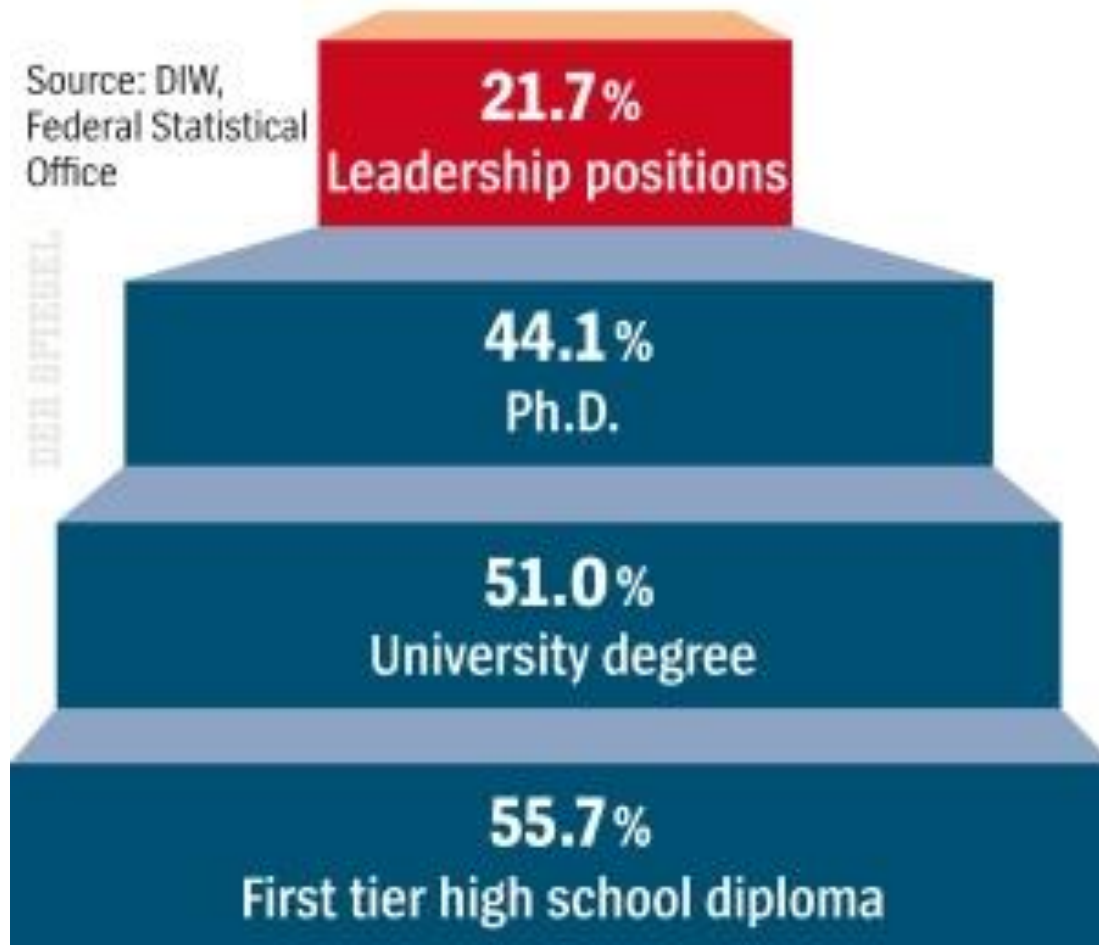




# Thin Air

Women's share of different career levels in Germany

Source: DIW,  
Federal Statistical  
Office



## MOTIVATION – LABOR MARKET

- **gender gap** in labor market
- Substantial **job-market segregation** (Niederle and Vesterlund, 2011)
  - Vertical – glass ceiling
  - Horizontal – certain professions only male/female
- Hourly **wage** of women **87% of men** in Canada 2011 (Vincent, 2013)
- 4.2% of CEOs of Fortune 500 companies women (as of 2013)

# MOTIVATION - STEM

- Fact: discrepancy between numbers of graduates & academic performance of women and their career achievements & underrepresentation
- Less than 25% of women in STEM (Science, Technology, Engineering, Mathematics) fields
- Women with a STEM degree less likely to work in a STEM occupation; rather in education or healthcare (ESA 2011)
- 9% of US physicists are women (0.2% in 1966)
- Careers: 62% PhD psychology (1994), only 19% tenure

# WHY?

- **Discrimination**
  - Consistent mistreatment, harassment
  - Implicit discrimination – career prospects
- **Biological explanations**
  - Not talking about manual jobs!
  - Can be learnt (spatial sense)
- **Uncertainty of employers** about their prospects
- **Stereotypes**
  - Conceptualization of a scientist/CEO – male
  - Stereotype threat
- **Differences in abilities, preferences** about jobs/work-home
  - Endogenous relationship – preferences formed on the basis of beliefs
- **choices of women**

# MOTIVATION – LABOR MARKET

- Gender-wage gap decomposition on microdata in Canada
  - Less than 1/3 explained by diff in productivity
  - „*The **educational and professional choices** that women make, in particular the **fact** that they are **less present in certain trades and professions**, is one of the most **important explanatory variables** of the wage gap*“ –  
(Vincent, CRDCN, 2013)
- Gender differences in **preferences to compete**
  - **Women shy away from competition**



# ORIGINAL EXPERIMENT

(NIEDERLE AND VESTERLUND, QJE 2007)

- **Adding-up sets of five two-digit numbers in 5 mins**
  - E.g.  $25 + 44 + 32 + 91 + 36 = ?$ ; Differ in reward regime
- 1. **R1: Non-competitive piece-rate (50c per answer)**
- 2. **R2: Tournament**
  - Groups of four, \$2 per answer for winner, rest zero
- 3. **Before R3: Choice which regime preferred**
  - **Measure of competitiveness (binary)**
  - Compete against performance in R2
    - **Other also competed**
    - **No self-selection of the best**
    - **By winning no externality on others**
- 4. **R3: chosen scheme**
- 5. **After R3: Choice of regime in R1**
  - No performance involved

# ORIGINAL EXPERIMENT

(NIEDERLE AND VESTERLUND, QJE 2007)

## ○ Results:

same performance

**73%** of men choose competition

only **35%** of women

## ○ Explanations

- NOT performance, risk-aversion
- Men are **more overconfident**
  - 73% men think best in group, 43% women
- Men are less **averse to feedback**
- Men **like to compete** more
- „**Women shy away from competition**“

# CULTURE?

- literature and popular press full with potential explanations for these behavioral differences
  - difference in competitiveness solely due to “sex” differences?
  - What role does “gender” play?
- Sex vs. gender
  - Sex – anatomy of reproductive system, secondary sex characteristics
  - Gender – social roles based on sex of person; personal identification of own gender based on internal awareness
  - Sometimes, sex and gender do not align – transgender
- *Straw-Man Hypothesis*: on average (in every society), men are more competitively inclined than women.
- *First step* to think about this straw-man:
  - visit two distinct societies: matrilineal and patriarchal
  - (Gneezy et.al., 2009)

# CULTURE?

## **Matrilienal vs. patriarchal society** (Gneezy et.al., 2009)

- “Men treat us like donkeys”  
--A Maasai woman (Hodgson, 2001)
- “We are sick of playing the roles of breeding bulls and baby-sitters.”  
--A Khasi man (Ahmed, 1994)

# CULTURE?

## PATRIARCHAL SOCIETY: THE MAASAI





# CULTURE?

## PATRIARCHAL SOCIETY: THE MAASAI



# CULTURE?

## MATRILINEAL SOCIETY: THE KHASI





# CULTURE?

## MATRILINEAL SOCIETY: THE KHASI





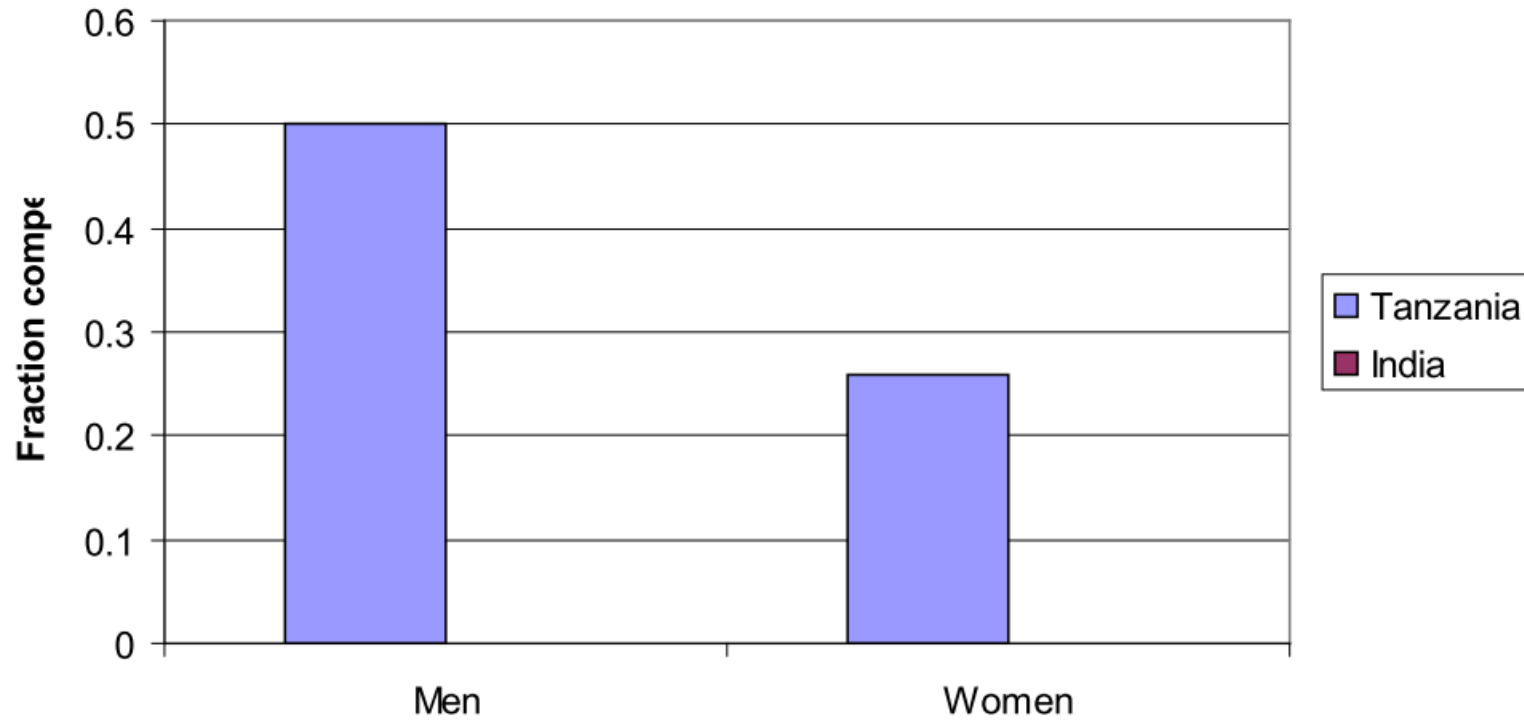
# CULTURE?

## TASK: THROW A BALL INTO BUCKET

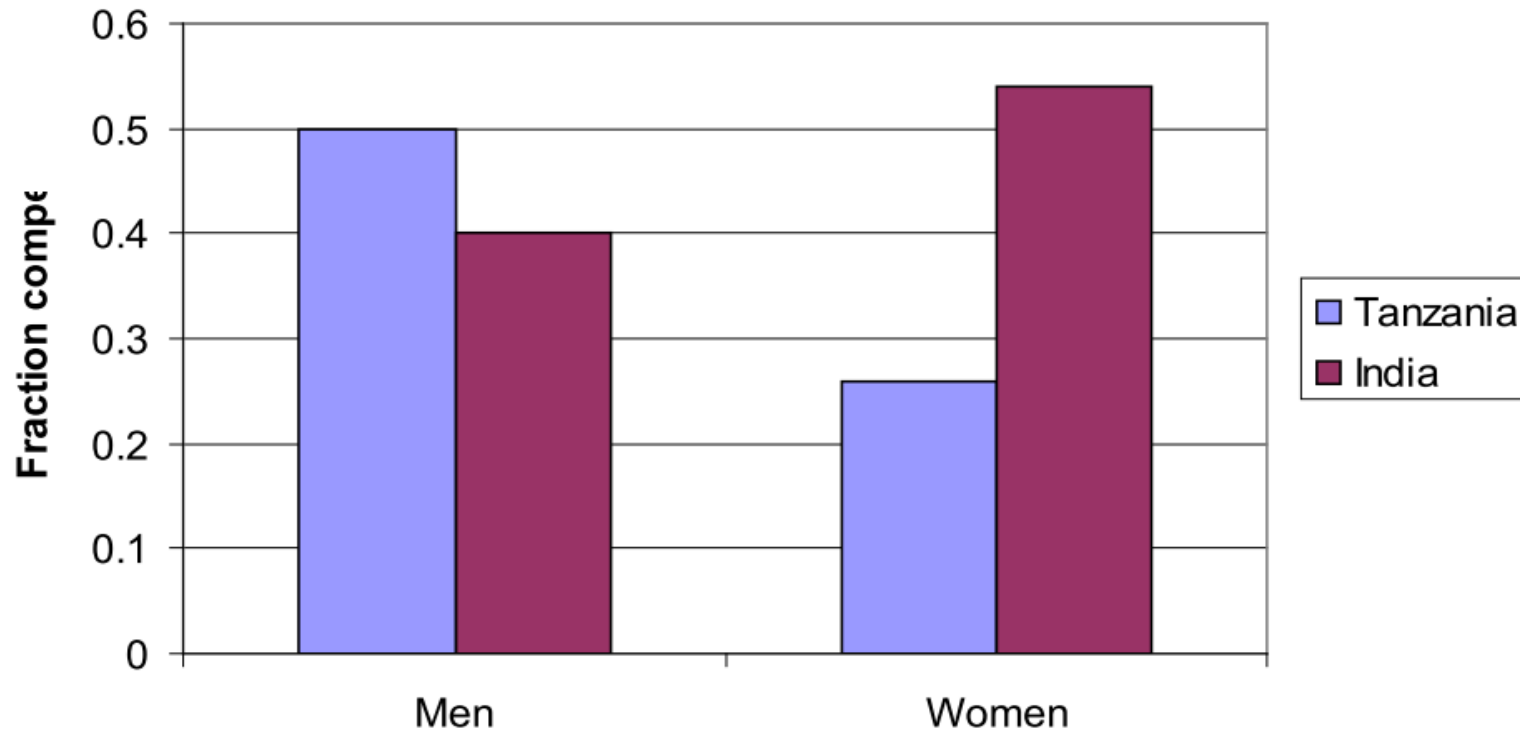


- 10 trials
- 1. Piece-rate
- 2. Tournament
- 3. Choice

# CULTURE? RESULTS



# CULTURE? RESULTS



# CULTURE?

## RESULTS

- Results
  - Patriarchal society: **gender gap as in the West**
  - Matrilineal society: **gap reversed**
- Speculative interpretation (of many):
  - Khasi society may remove social barriers that prevent naturally competitive women from expressing their true personalities.
  - Khasi society may allow competitive women to earn greater rewards for their effort and to pass on wealth to their daughters, both of which increase the fecundity of their competitive genes.
  - We can all agree that these results need to be replicated and that further treatments need to be carried out to detail the underlying structure at work.

# NURTURE?

## **Individualistic vs. Collectivistic societies** (Leibbrandt et al., 2013)

- Fishermen in **individualistic** societies **more competitive**
- comes with work experience

## **Clash of social identity in women** (Cadsby et al., 2012)

- Priming: caring parent vs. successful professional
- **Professional priming increased competitiveness in women**, not men

## **Gender of opponent** (Datta Gupta et al., 2013)

- Women want to **compete against women** (men, too)
- **Girls** from **single-sex** schools **more competitive** (Booth&Nolen, 2012)

# MOTIVATION

## **Menstrual Cycle** (Buser, 2012)

- **Negative impact of progesterone on competitiveness**
- Prob. of entering tournament 50% lower in 20th day of cycle than in menstrual phase

## **Puberty, Age**

### **Adolescent boys more competitive in Norway** (Almås et al., 2012)

- Sons of well-educated parents more competitive

### **Adolescent girls less competitive in India** (Andersen et al., 2013)

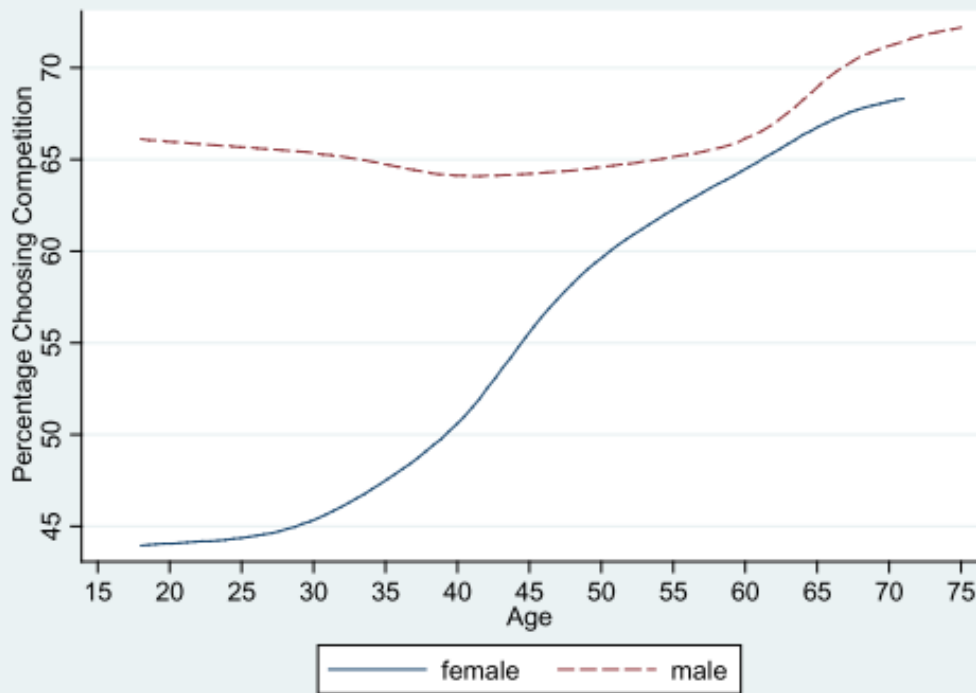
- No change in matrilineal, decrease in patriarchal

### **Women more competitive** with increasing age ([Flory et al., 2012](#))

- no age effect on men

# AGE EFFECT (FLORY ET AL. 2012)

- With age, women start being more competitive
- No effect for men
- Also in Malawi



Urban US

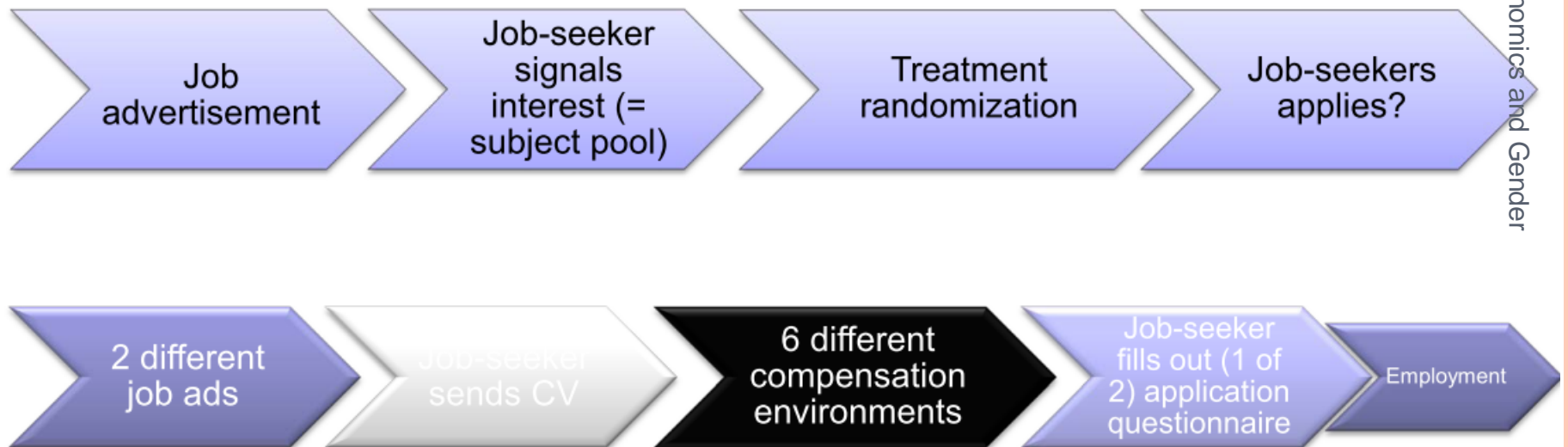
## EXTERNAL VALIDITY (FLORY ET AL., 2010)

- Do gender-differences in competitiveness affect job-applications patterns?
  - **Wage structure**
  - **Nature of the job**
  - **Abilities**
  - **Opportunity costs**
- **Large-scale natural field experiment**
  - 6779 job applicants in 16 cities
  - administrative job (most common occupation in US)
  - two different tasks (male-sports vs female-secretary)
  - randomized into 6 different compensation schemes
    - Individual vs. Team work
    - flat-rate vs. competitive salary (mild vs high competition)



# EXTERNAL VALIDITY (FLORY ET AL., 2010)

2 x 6 x 2 design



Economics and Gender

## EXTERNAL VALIDITY (FLORY ET AL., 2010)

- gender gap in application probabilities increases by approximately 70% when moving from fixed to highly competitive
- Increases by approximately 30% from fixed to light competition, though not significant
- primarily driven by gender differences in the 'male' job
- Team-based competition in the work place attenuates the gender gap in application probabilities created by individual-based competition

# EXTERNAL VALIDITY (FLORY ET AL., 2010)

- Competitive workplaces significantly increase the gender gap in application probabilities, as women's propensity to apply substantially drops relative to that of men
- This gap is not driven by men opting to compete and women opting not to compete, but rather by a significantly stronger aversion to competitive workplaces among women than among men.
- Market wages are critically linked to the gender gap: as wages rise towards our offered wage, women are disproportionately deterred from applying to the competitive job.
- Competitiveness depends on the job-task and possibly the gender norms surrounding the task.

## EXTERNAL VALIDITY (FLORY ET AL., 2010)

- Compensation regimes have the ability to influence probability of application
- In the spirit of the literature, women relative to men, shy away from jobs with relative payoffs determined by competition
- At odds with the literature, men do not seek out such jobs, but are less deterred from them compared to women
- Extrapolations to other jobs unclear

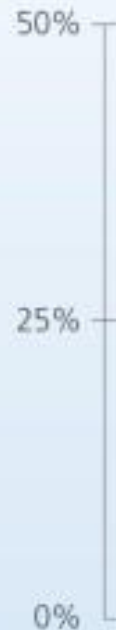
## A quota for women? No thanks!

Two-thirds of European

# Norway's Quota System

Percentage of women in leadership positions in publicly listed companies in Norway

Source: NHO



Should companies have

- Yes, they should, and more
- Yes, they should, but more
- No, but at my employer
- No, and where I work t

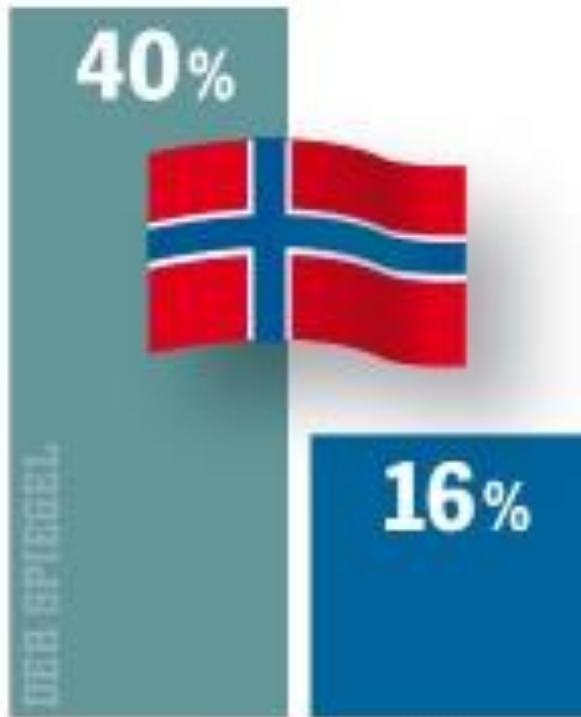
**BEFORE**  
the quota was introduced

**19%**  
Board members

**16%**  
Chief executives

2006

**AFTER**  
the quota was introduced



2008

Source: StepStone GmbH

# AFFIRMATIVE ACTION

(BALAFOUTAS & SUTTER, 2012)

- What is the effect of policies reducing competition for women?
  - Efficiency loss – lower output due to discouragement of men?
- **Design:**
  - Lab experiment: adding sets of two-digit numbers
  - Groups of 6, 3M/3F
  - R1: Piece rate: 0,50€ / correct answer
  - R2: Tournament: 2 winners (1,50€/a), 4 losers (0€)
  - R3: Choice:
- Policies – treatments in R3 and R4:
  - CTR: control - tournament
  - QUO: quotas – one of two winners is female, no matter perf.
  - PT1, PT2 – preferential treatment (+1 /+2 points, mean 6-8)
  - REP: repetition of competition if no women won
- Coordination game after task (->efficiency)

# AFFIRMATIVE ACTION

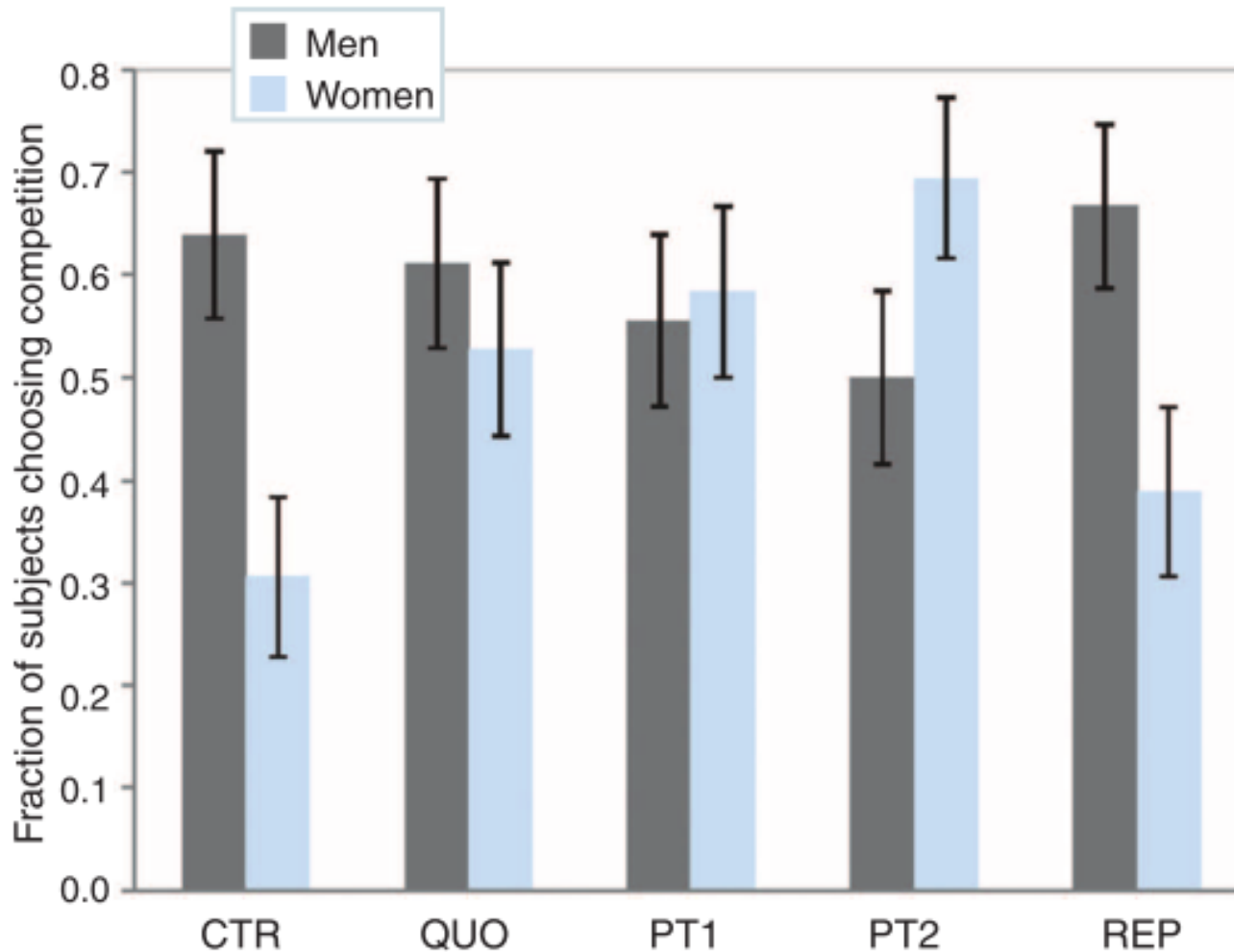
(BALAFOUTAS & SUTTER, 2012)

		Other person's number						
		7	6	5	4	3	2	1
Your number	7	€6.50	€5.50	€4.50	€3.50	€2.50	€1.50	€0.50
	6	€6.00	€6.00	€5.00	€4.00	€3.00	€2.00	€1.00
	5	€5.50	€5.50	€5.50	€4.50	€3.50	€2.50	€1.50
	4	€5.00	€5.00	€5.00	€5.00	€4.00	€3.00	€2.00
	3	€4.50	€4.50	€4.50	€4.50	€4.50	€3.50	€2.50
	2	€4.00	€4.00	€4.00	€4.00	€4.00	€4.00	€3.00
	1	€3.50	€3.50	€3.50	€3.50	€3.50	€3.50	€3.50

Measures cooperativeness & expectations on other players

# AFFIRMATIVE ACTION

(BALAFOUTAS & SUTTER, 2012)





# AFFIRMATIVE ACTION

(BALAFOUTAS & SUTTER, 2012)

## Results:

- Performance not worse
- All interventions improved competitiveness of women
  - Esp. Encouraged strong women
- Men: no effect on intermediate performers, little negative on low,
- Strong (also female) performers not discouraged
- Coordination task: no diff = no efficiency losses



## OTHER EFFECTS...

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*Can a better position of women cause any problems to them?*

## CONCLUSION:

- Stereotype threat
  - unnecessary cost
- Women shy away from competition
  - Various reasons
  - Quotas may help while not hurt
- Social identity norms change slower than society
  - Women may feel that

# READING LIST

## ○ Obligatory:

- Niederle, M., & Vesterlund, L. (2007). Do women shy away from competition? Do men compete too much? *Quarterly Journal of Economics*, 122(August), 1067–1101. doi:10.1162/qjec.122.3.1067
- Balafoutas, L., & Sutter, M. (2012). Affirmative action policies promote women and do not harm efficiency in the laboratory. *Science (New York, N. Y.)*, 335(6068), 579–82. doi:10.1126/science.1211180
- Niederle, M., & Vesterlund, L. (2011). Gender and competition. *Annual Review of Economics*, 3(1), 601–630

## ○ Optional:

- Cadsby, C. B., Servátka, M., & Song, F. (2013). How competitive are female professionals? A tale of identity conflict. *Journal of Economic Behavior & Organization*, 92, 284–303. doi:10.1016/j.jebo.2013.05.009



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