



INTERNATIONAL MONETARY FUND

# UNLOCKING FEMALE EMPLOYMENT POTENTIAL IN EUROPE: DRIVERS AND BENEFITS

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**Joana Pereira\***  
European Department  
International Monetary Fund

\* This study is co-authored by Lone Christiansen, Huidan Lin, Joana Pereira, Petia Topalova, and Rima Turk, under the guidance of Petya Koeva Brooks. The views expressed in this presentation are those of the authors and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.



Motivation

Stylized Facts

Results

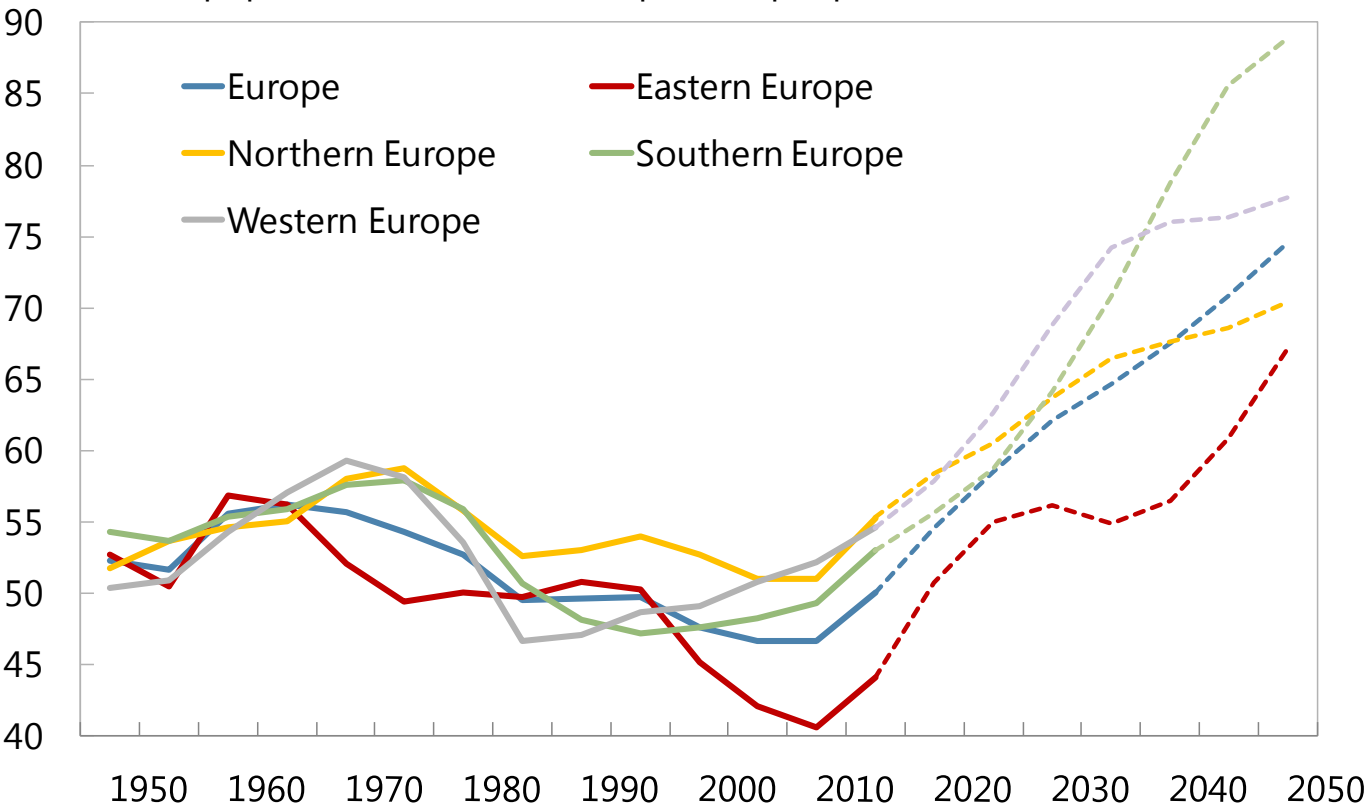
Conclusion

# MORE WORKING WOMEN MAY UNLEASH GROWTH POTENTIAL

# EUROPEAN POPULATION POPULATION IS AGING

## Old-Age Dependency Ratio

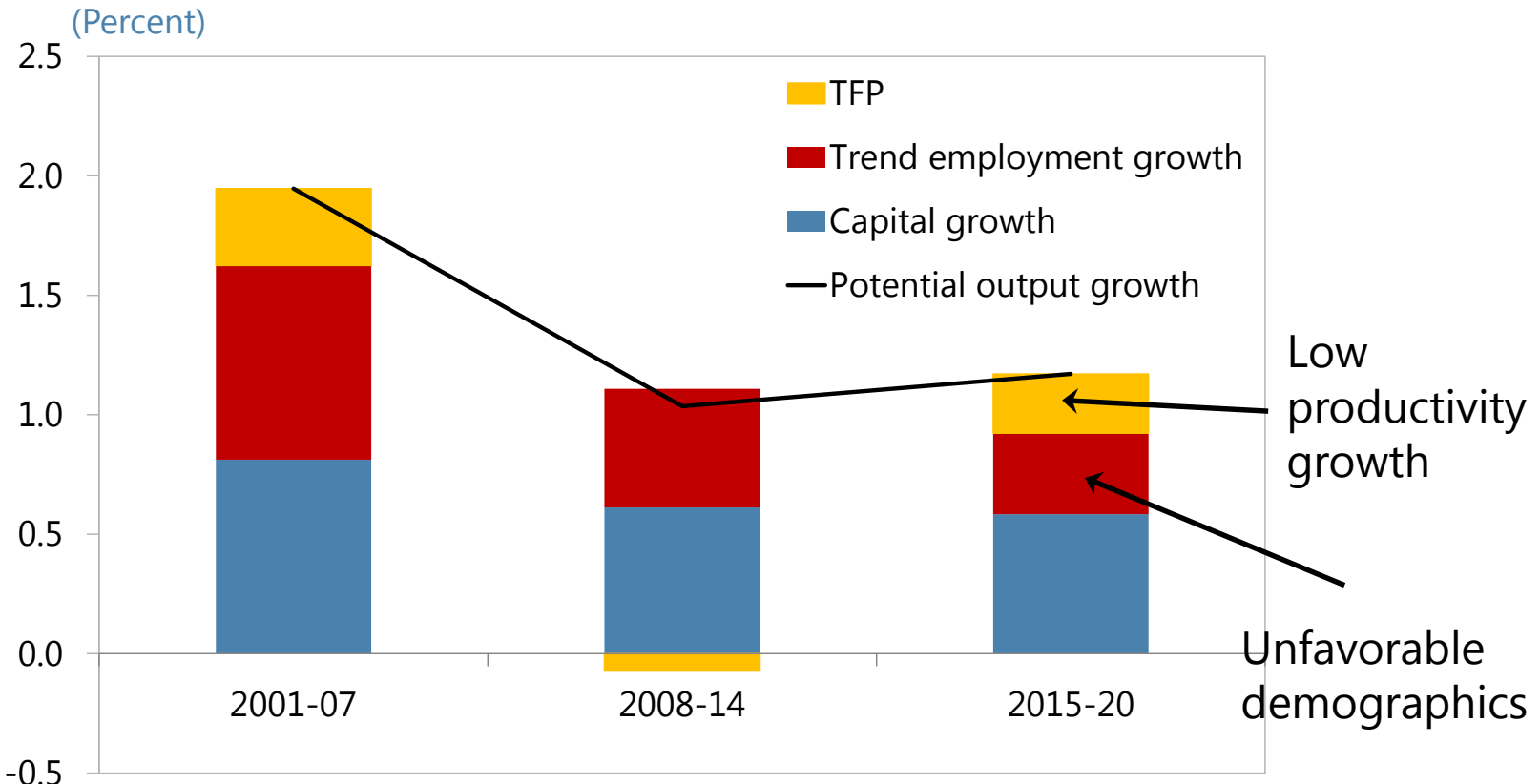
(Ratio of population 0 – 19 and 65+ per 100 people 15 – 64 )



Source: United Nations Population Division.

# ... AND LONG-TERM ECONOMIC PROSPECTS ARE SUBDUED

## Potential Growth: Europe



Source: WEO, April 2015, chapter 3.

Note: Includes Germany, Italy, Spain, Turkey, and the United Kingdom.

# CAN EUROPEAN WOMEN HELP?

## Labor supply

Higher female labor force participation raises labor input, mitigating the negative impact of aging

## Productivity

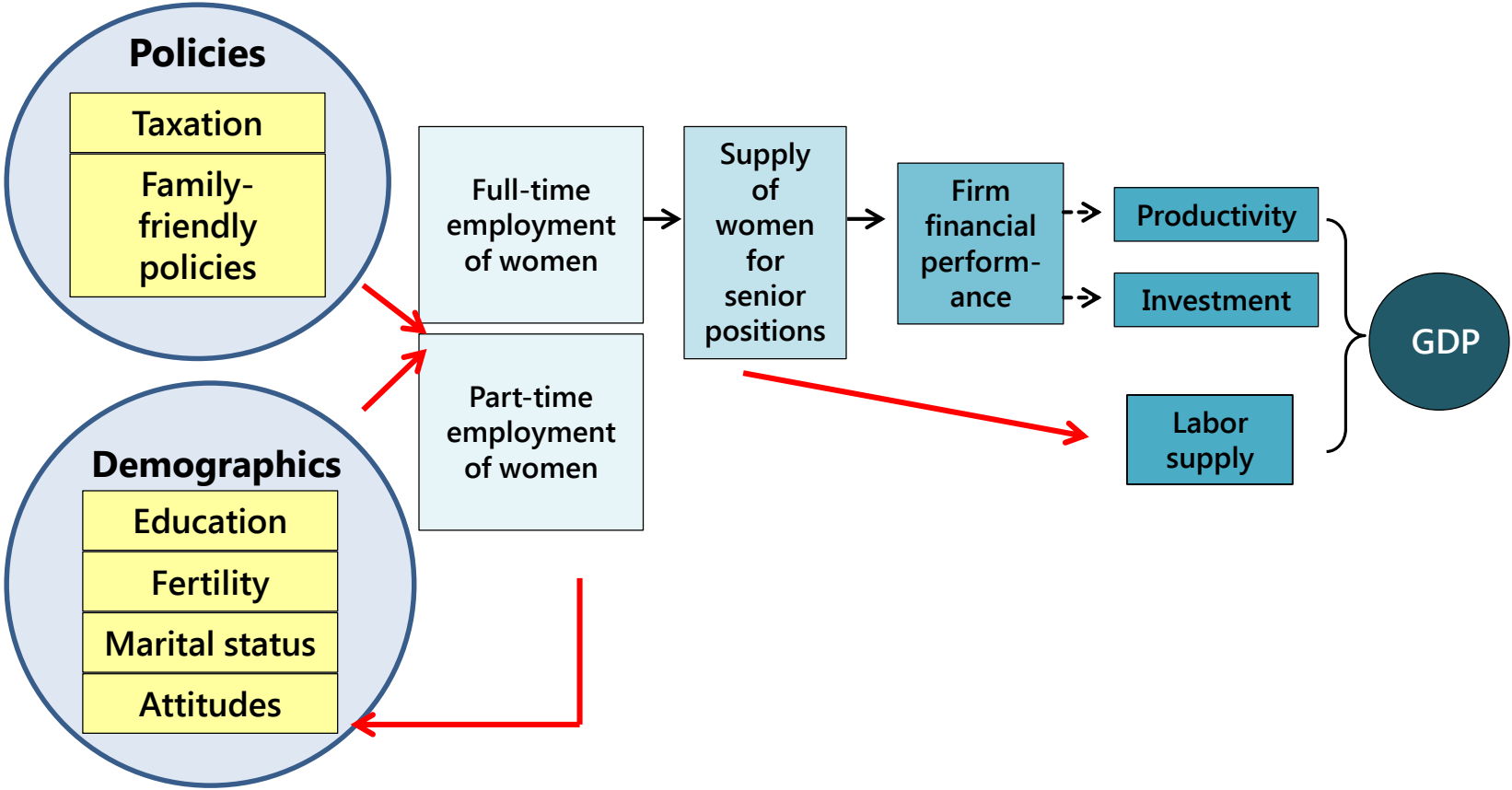
Higher participation of women in senior positions might raise productivity

## Our study: Two questions

What drives female labor force participation in Europe?

Could raising women representation in senior positions boost productivity?

# RAISING FEMALE LABOR SUPPLY ... BRINGS ECONOMIC BENEFITS





Motivation

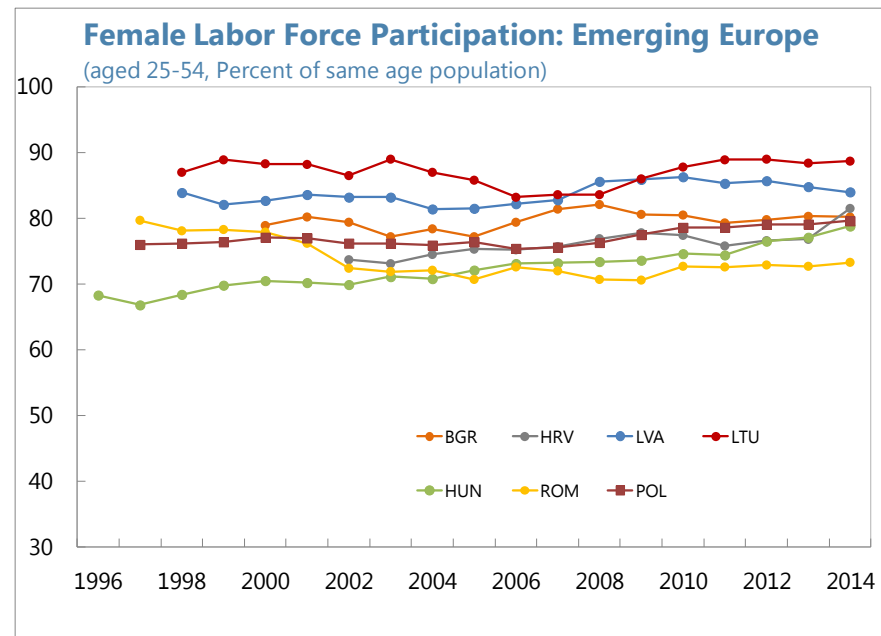
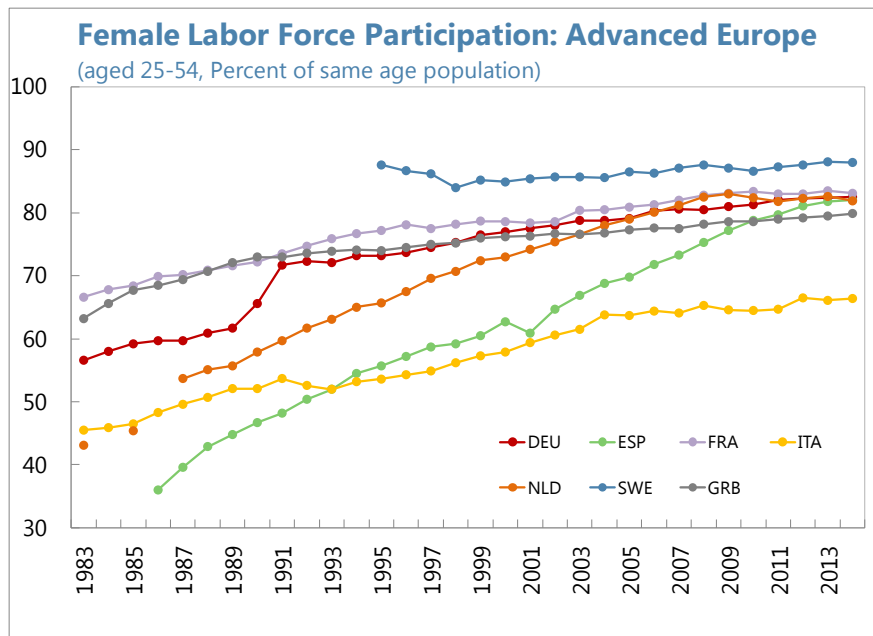
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# IMPRESSIVE PROGRESS, BUT GENDER GAP REMAINS

# SIGNIFICANT PROGRESS IN THE PAST DECADES

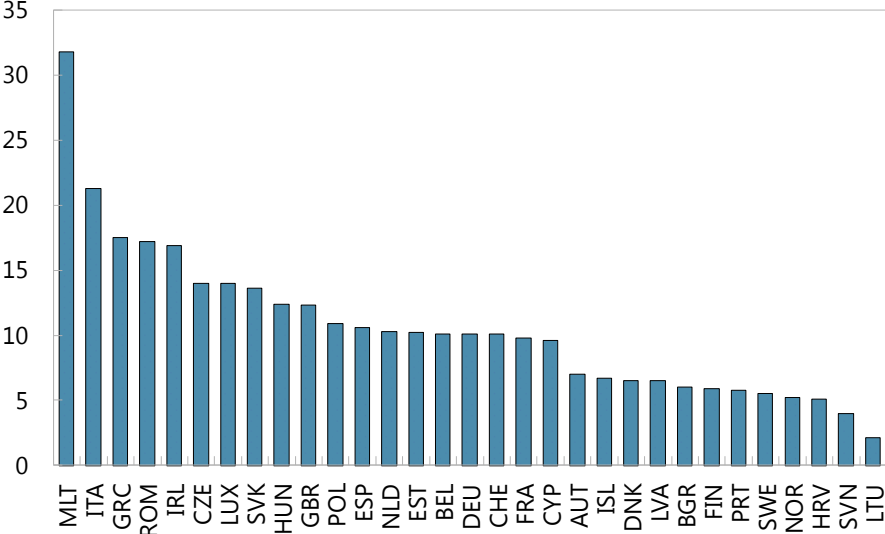




# BUT THE GENDER GAP IS SIZEABLE ...BOTH IN PARTICIPATION AND IN HOURS WORKED

**Labor Force Participation Gap, Male-Female, 2014**

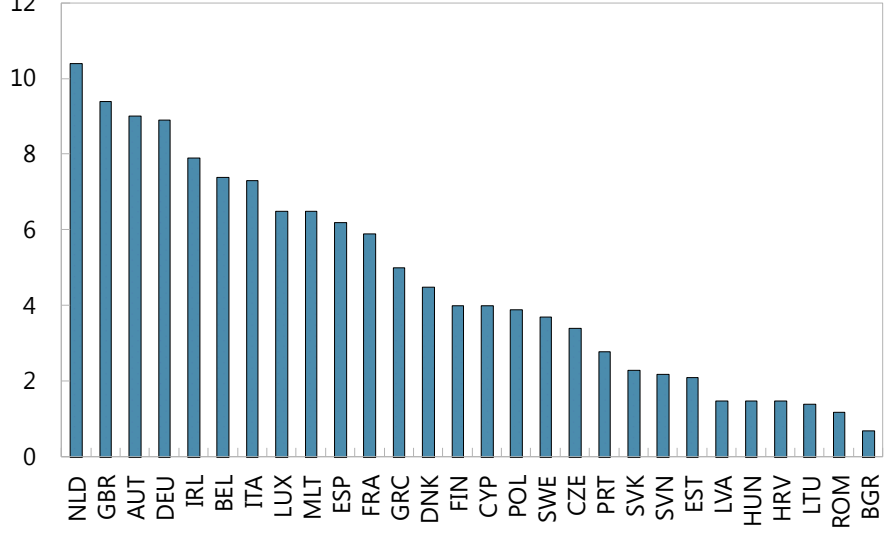
(Percentage points, 25 – 54 years old)



Sources: Eurostat and IMF staff calculations.

**Gap in Hours Worked, Male-Female, 2014**

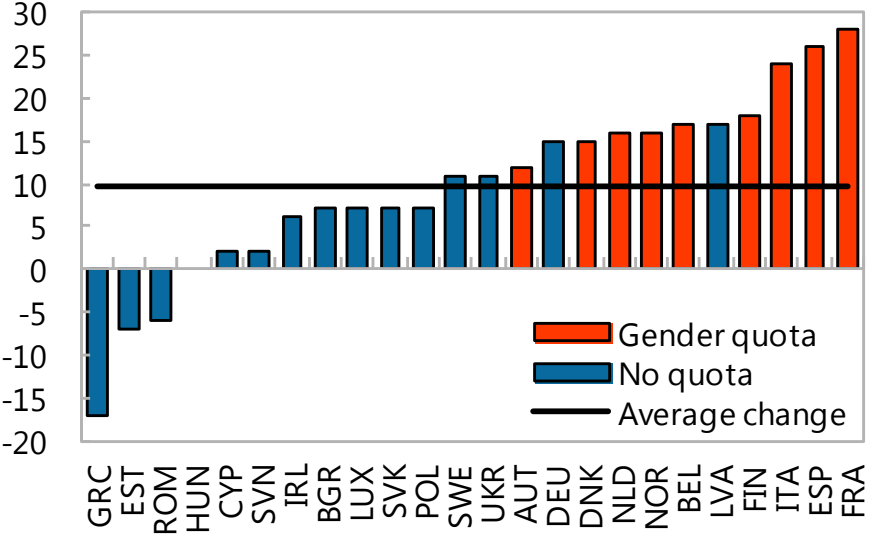
(Average hours per week, 25 – 54 years old)



Sources: Eurostat and IMF staff calculations.

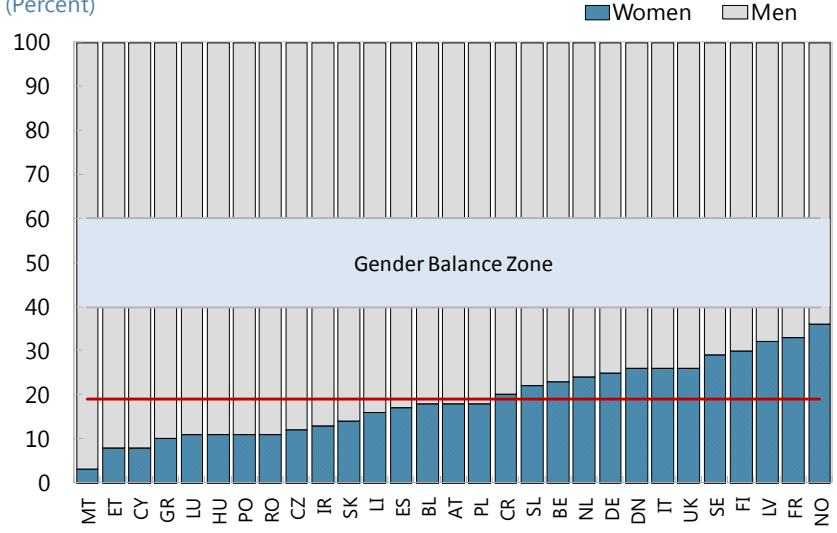
# QUOTAS FOR WOMEN HAVE HELPED RAISE... ...WOMEN'S SHARE ON CORPORATE BOARDS

**Share of Women on the Boards of Large Companies**  
(Change between 2003 and 2015; percentage points)



Sources: Eurostat and IMF staff calculations. Based on a sample of about 620 large listed companies.

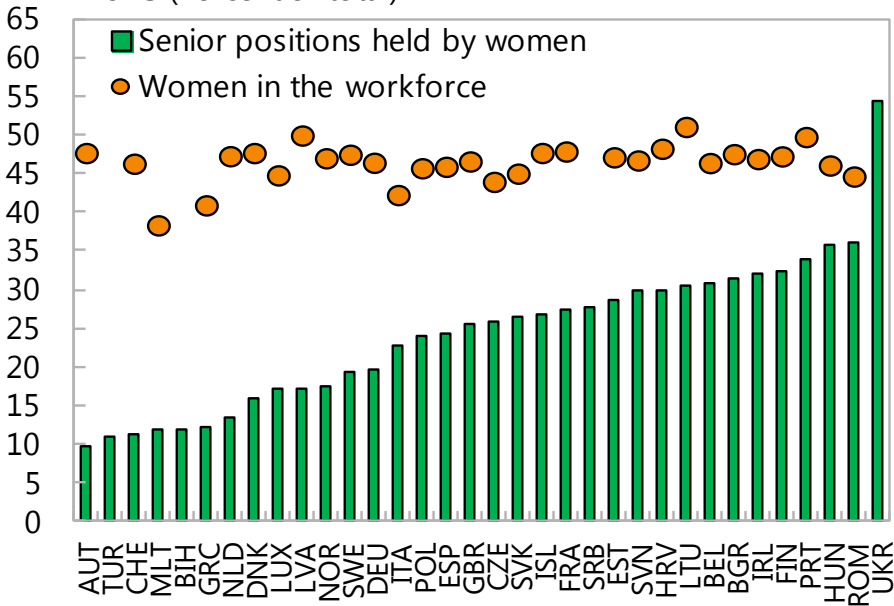
**Share of Women on Boards of Large listed Companies, April 2015**  
(Percent)



Sources: Eurostat and Fund staff calculations

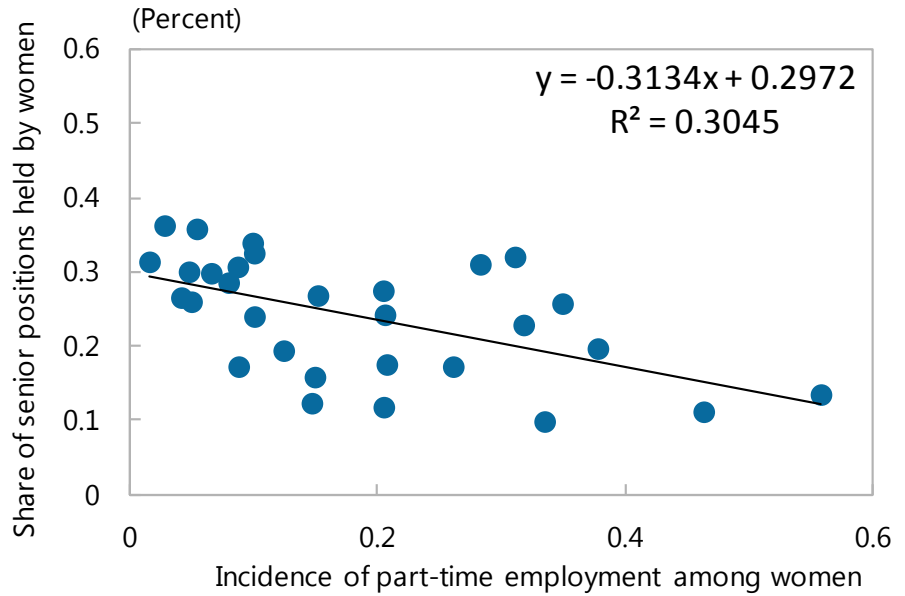
# BUT STILL FEW WOMEN IN SENIOR POSITIONS... ...MORE SO IF WORKING PART-TIME

**Women in Senior Positions and in the Workforce, 2013** (Percent of total)



Sources: Eurostat, Orbis, and IMF staff calculations.

**Share of Women in Senior Positions and Female Part-Time Employment, 2013**



Sources: Eurostat, OECD, Orbis, and IMF staff calculations.

## ... AND EVIDENCE IS MIXED ON BENEFITS OF FEMALE REPRESENTATION IN SENIOR POSITION

- Positive correlation between gender diversity on boards and economic performance
  - McKinsey (2007 and 2009); Catalyst (2009)
- No clear evidence of a positive impact from female representation
  - Ahern and Dittmar (2012); Matsa and Miller (2013).
- But evidence limited to individual countries, publicly listed companies, small sample size



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**(1) POLICIES MATTER FOR FEMALE EMPLOYMENT;**

**(2) WOMEN REPRESENTATION IN SENIOR POSITIONS MATTERS FOR FIRM FINANCIAL PERFORMANCE.**

# DO NATIONAL POLICIES MATTER?

## Data

### ***International Social Survey Program (ISSP)***

- Two rounds of “Family and Changing Gender Roles” Module (2002, 2012)
- 24 European economies included, more than 15,000 women aged 25-54 years old.
- Individual ( $j$ ) structural characteristics ( $Z$ ), incl. attitudes, and employment ( $E$ ) information

## OECD

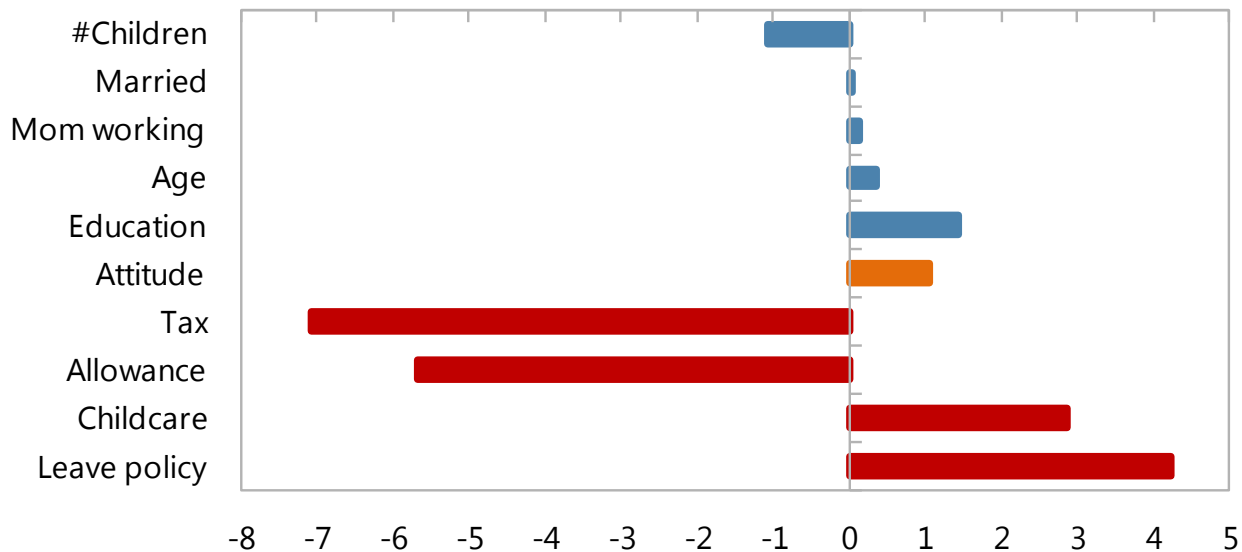
- Various policies ( $X$ ) at the country ( $i$ ) level, incl. relative tax on secondary earner, child benefits etc.

## Methodology

$$E_{jit} = \alpha + Z_{jit}\beta + X_{it}\delta + \theta_i + \rho_t + \varepsilon_{ijt}$$

# YES, AND THEIR IMPACT CAN BE LARGE, EVEN WHEN CONSIDERING WOMEN'S WORK PREFERENCES

**Marginal Effects of Individual Characteristics and Policies on Female Employment** (Percentage points)



Source: Christiansen and others (2016a).

Note: Impact per one-standard-deviation increase (during 2002 – 12 across countries) in the given variable. Coefficient on "Married" is insignificant.

# WOMEN IN SENIOR POSITIONS AND FIRM PERFORMANCE: NEW EVIDENCE FROM EUROPE

Large sample of listed and non-listed firms in 34 European countries (no single proprietorships)

Basic regression model

$$y_{inc} = \beta * sh_{wmn_{inc}} + \gamma * x_{inc} + \alpha_{nc} + \varepsilon_{inc}$$

$y_{inc}$ : Return on assets of firm  $i$ , in industry  $n$  and country  $c$

$sh_{wmn_{inc}}$ : Share of women in senior positions

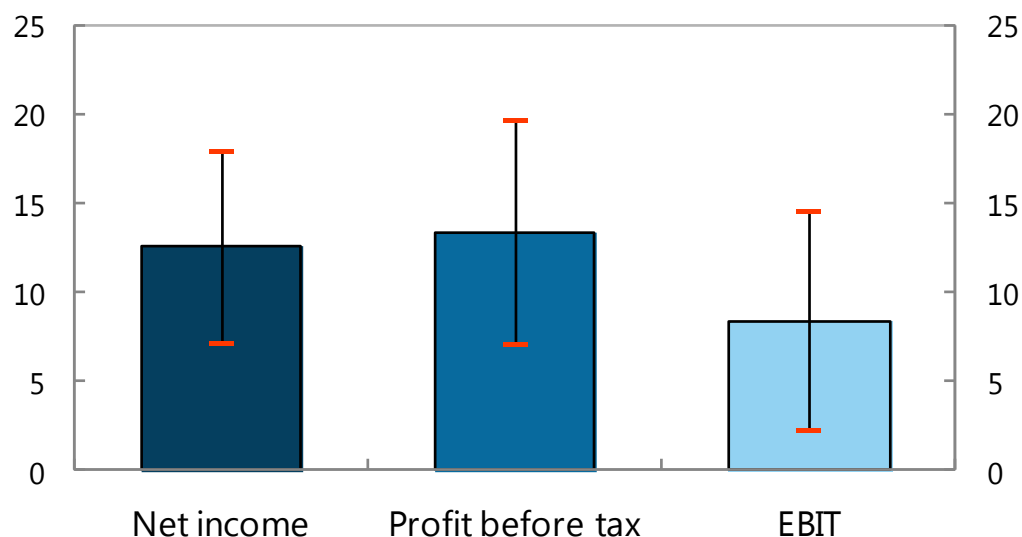
$x_{inc}$ : set of firm-specific controls

$\alpha_{nc}$ : country-industry fixed effects



# FEMALE REPRESENTATION IS POSITIVELY ASSOCIATED WITH CORPORATE FINANCIAL PERFORMANCE

**Female Representation in Senior Positions and Firm Financial Performance** (Estimated ROA change from an additional woman in a senior position, basis points)



Sources: Orbis and IMF staff calculations.

Note: Point estimate and 95% confidence interval. Return on assets computed using net income, profit before tax, and earnings before interest and tax (EBIT), respectively.

# WOMEN IN SENIOR POSITIONS AND FIRM PERFORMANCE: EXPLORING THE CHANNELS

Difference-in-difference estimation:

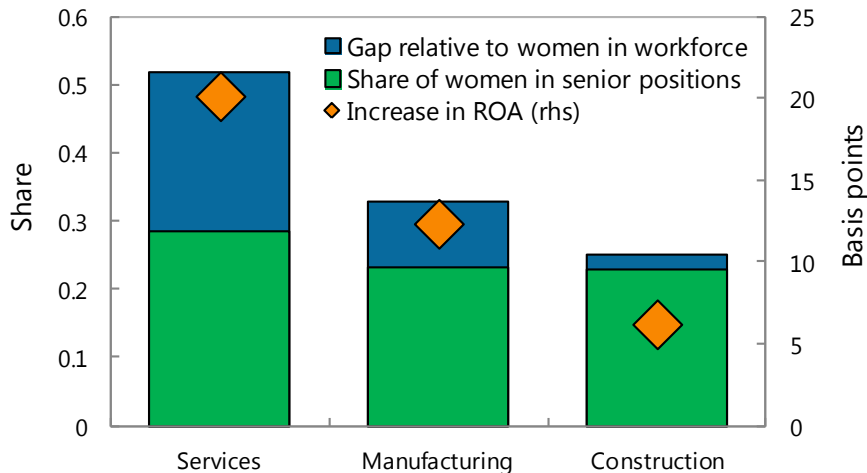
$$y_{inc} = \delta * SEC_n * sh_{wmn_{inc}} + \beta * sh_{wmn_{inc}} + \gamma * X_{inc} \\ + \alpha_{nc} + \varepsilon_{inc}$$

$SEC_n$  is either

- (1) the female intensity of the sector to which the firm belongs;
- (2) an indicator for whether the sector is a high-tech or knowledge-intensive sector.

# STRONGER ASSOCIATION IN INDUSTRIES EMPLOYING MORE WOMEN OR WITH GREATER DEMAND FOR CRITICAL THINKING

**High versus Low Female Intensity Sectors**

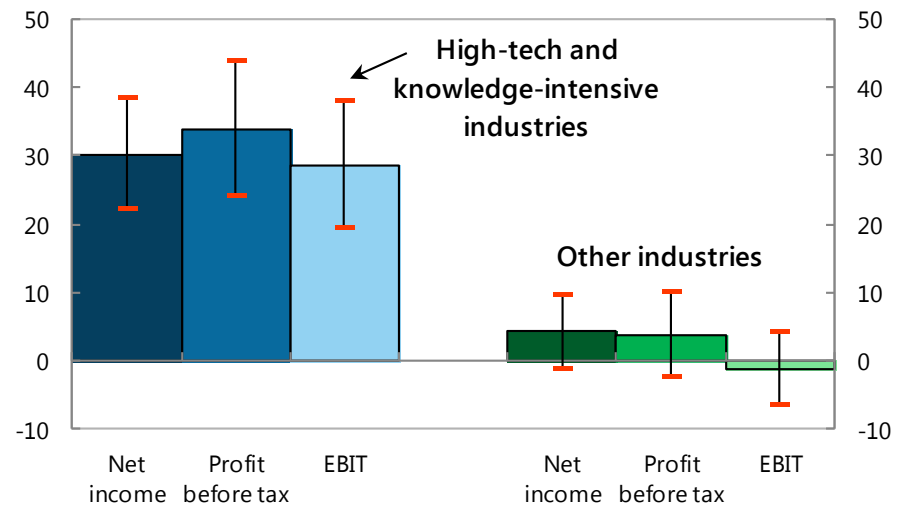


Source: Orbis and IMF staff calculations.

Note: Gap represents the share of women in sectoral workforce less the share of women in senior positions. The diamond denotes the estimated increase in ROA from additional woman in a senior position. ROA computed using net income.

**High-Tech and Knowledge-Intensive Sectors versus Other Sectors**

(Estimated ROA change from additional woman in a senior position, basis points)



Source: Orbis, Eurostat, and IMF staff calculations.

Note: Point estimate and 95% confidence interval. Return on assets computed using net income, profit before tax, and EBIT, respectively. Following Eurostat, industries are classified as high-tech (based on R&D expenditures) and knowledge-intensive (based on the share of workers with tertiary education).



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**IMPORTANT TO LEVEL THE  
PLAYING FIELD**

## LEVELING PLAYING FIELD IS IMPORTANT

- Whether or not to work is not just a personal choice—policies do matter
- Closing gender gaps in the labor market paves the way for greater diversity in senior corporate positions and higher firm performance.
- Policies should therefore aim at broadening opportunities for women to work, without discouraging full time employment.

Motivation

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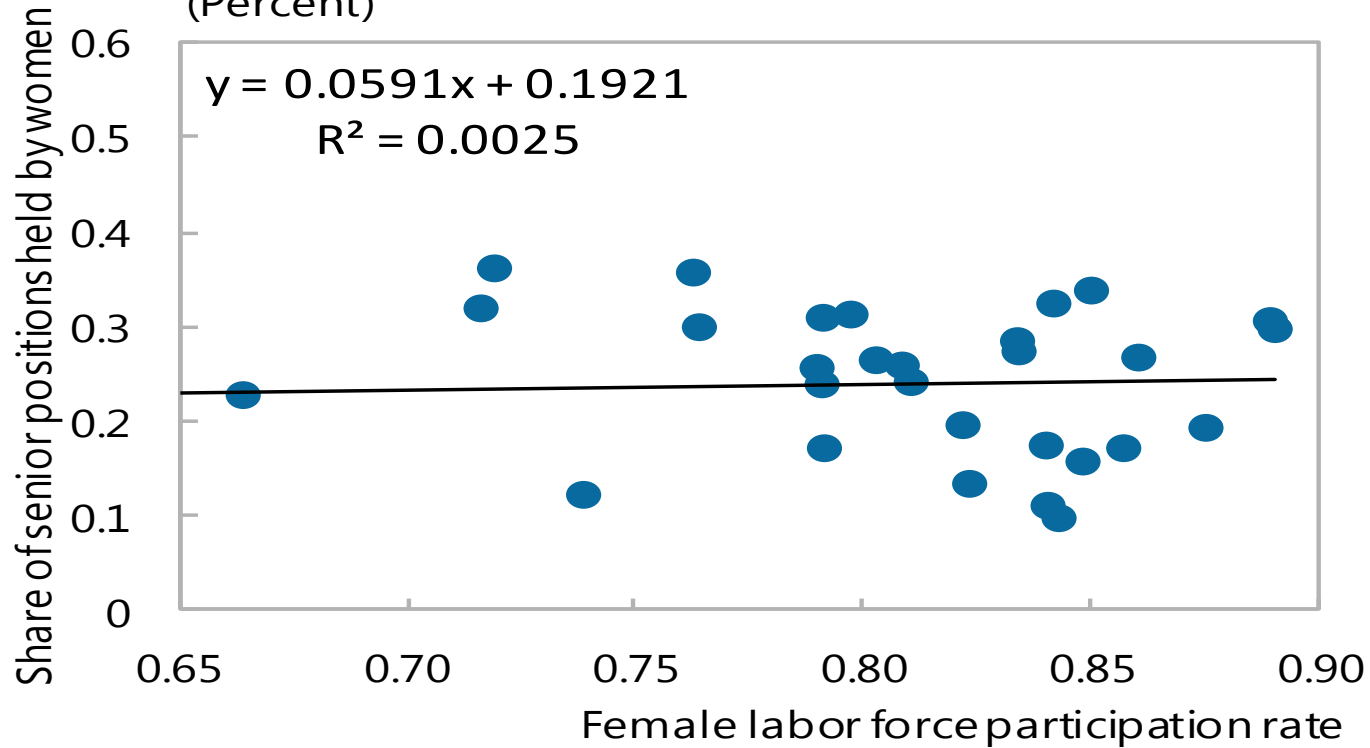
Conclusion

# THANK YOU

# Background Slides

## Share of Women in Senior Positions and Female Labor Force Participation, 2013

(Percent)



Sources: Eurostat, OECD, Orbis, and IMF staff calculations.

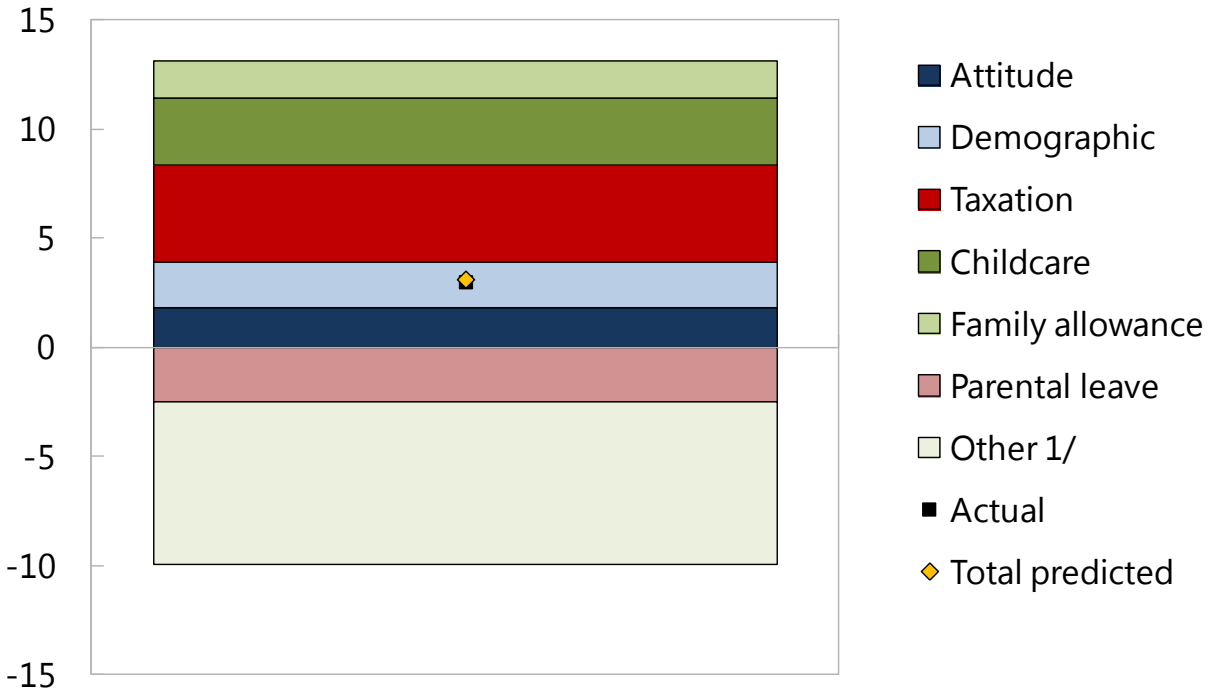


## Individual Characteristics, Policies, and Employment

		Whether or not employed	Fulltime vs. part-time	Hours worked
		All women	Employed women	Employed women
Structural	Number of children	-0.0565*** (0.0072)	-0.0659*** (0.0099)	-1.8585*** (0.2765)
	Education (years)	0.0391*** (0.0071)	0.0047 (0.0081)	-0.0531 (0.2878)
	Education (years), squared	-0.0010*** (0.0002)	-0.0001 (0.0003)	0.0048 (0.0101)
	Age (years)	0.0618*** (0.0104)	0.0209*** (0.0060)	0.7468*** (0.1653)
	Age (years), squared	-0.0008*** (0.0001)	-0.0003*** (0.0001)	-0.0098*** (0.0021)
	Mother working	0.0227** (0.0108)	0.0175 (0.0115)	0.9450*** (0.2935)
	Married	0.0011 (0.0127)	-0.0626*** (0.0125)	-1.7242*** (0.3496)
	Attitude	0.0437*** (0.0046)	0.0281*** (0.0038)	0.7490*** (0.1263)
Policies	Tax on the second earner	-0.6557*** (0.0520)	-0.1016 (0.0816)	-6.0473*** (2.1760)
	Childcare spending	0.1025*** (0.0363)	0.0336 (0.0299)	-1.6086* (0.8309)
	Family allowance	-0.1048*** (0.0280)	0.0328 (0.0326)	-0.6206 (1.0011)
	Parental leave	0.2079*** (0.0200)	-0.1338*** (0.0211)	-4.9310*** (0.6812)
	Parental leave, squared	-0.0007*** (0.0001)	0.0005*** (0.0001)	0.0193*** (0.0042)
Observations	10,495	8,174	8,174	
Adjusted R-squared	0.1535	0.1575	0.1501	

# POLICIES HAVE SUPPORTED FEMALE EMPLOYMENT

Decomposing the Change in the Female Employment Rate, 2002–12 (Percentage points)



Sources: IMF staff calculations.  
 1/ Captures time dummy and other macro controls.

## EMPIRICAL RESULTS

ROA based on	Correlation		Role of Female Intensity		Role of Knowledge-Intensity	
	Net income	Profit before tax	Net income	Profit before tax	Net income	Profit before tax
	(1)	(2)	(3)	(4)	(5)	(6)
Share of Women in Senior Positions	0.41 *** (0.09)	0.44 *** (0.11)	-0.26 (0.24)	-0.28 (0.26)	0.13 (0.09)	0.11 (0.11)
Share of Women in Senior Positions *Female Intensity of Sector			1.63 *** (0.57)	1.74 *** (0.65)		
Share of Women in Senior Positions *High-Tech/Knowledge Intensive Sector					1.02 *** (0.19)	1.19 *** (0.23)
N Obs	2,003,279	2,000,422	2,003,279	2,000,422	2,003,279	2,000,422

Note: All regressions include country-industry fixed effects, indicators for the size of the firm, and control for the age of the firm, log assets, and size of the board. Robust standard errors are clustered at the industry level.

## Share of Women in Senior Positions and Firm Financial Performance

Sample 1/ ROA based on	At least 2 people			At least 3 people			At least 4 people		
	Net income (1)	Profit BT (2)	EBIT (3)	Net income (4)	Profit BT (5)	EBIT (6)	Net income (7)	Profit BT (8)	EBIT (9)
Share of women in senior positions	0.0041 *** (0.0009)	0.0044 *** (0.0011)	0.0028 *** (0.0010)	0.0082 *** (0.0010)	0.0089 *** (0.0011)	0.0061 *** (0.0012)	0.0116 *** (0.0012)	0.0133 *** (0.0014)	0.0103 *** (0.0013)
Observations	2,003,279	2,000,422	1,992,658	928,133	927,227	925,399	494,870	494,794	493,866
Mean dep. variable	0.016	0.027	0.032	0.015	0.026	0.031	0.016	0.026	0.030
Mean share of women	0.26	0.26	0.26	0.23	0.23	0.24	0.23	0.23	0.23
Mean N senior positions	3.29	3.29	3.29	4.78	4.79	4.79	6.35	6.36	6.35
Increase in ROA (basis points)	12	13	8	17	19	13	19	20	16
Increase in ROA (percent)	7.9	5.0	2.6	11.3	7.2	4.1	12.2	7.9	5.3

Note: All regressions include country-industry fixed effects, indicators for firm size, firm age, and control for the log of firm's fixed assets and number of senior positions. Robust standard errors are clustered at the industry level.

1/ Sample includes all firms with at least two, three or four members in senior positions in columns (1)-(3), (4)-(6) and (7)-(9) respectively.

## Share of Women in Senior Positions and Firm Financial Performance

### Sectoral Differences

Sample	Services			Manufacturing			Trade			Construction		
	Net income	Profit BT	EBIT	Net income	Profit BT	EBIT	Net income	Profit BT	EBIT	Net income	Profit BT	EBIT
ROA based on	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(7)	(8)	(9)
Share of women in senior positions	0.0070 *** (0.0017)	0.0074 *** (0.0020)	0.0062 *** (0.0018)	0.0044 *** (0.0012)	0.0044 *** (0.0014)	0.0036 *** (0.0014)	0.0016 (0.0010)	0.0013 (0.0010)	0.0010 (0.0011)	0.0018 (0.0018)	0.0023 (0.0020)	-0.0020 (0.0015)
Observations	777,462	775,053	771,695	265,520	265,537	264,561	420,615	420,415	418,360	444,105	443,690	442,817
Mean dep. variable (ROA)	0.020	0.033	0.034	0.016	0.028	0.037	0.010	0.021	0.029	0.014	0.024	0.030
Mean share of women	0.28	0.28	0.28	0.23	0.23	0.23	0.28	0.28	0.28	0.23	0.23	0.23
Mean N senior positions	3.50	3.51	3.50	3.56	3.56	3.56	2.97	2.97	2.97	2.97	2.97	2.97
Increase in ROA (basis points)	20	21	18	12	12	10	5	4	3	6	8	-7
Increase in ROA (percent)	9.9	6.4	5.2	7.5	4.4	2.7	5.4	2.2	1.2	4.3	3.3	-2.2

Note: All regressions include country-industry fixed effects, indicators for firm size, firm age, and control for the log of firm's fixed assets and number of senior positions. Robust standard errors are clustered at the industry level.