

# Gender Diversity, innovative ideas and productivity In Colombian manufacturing industry

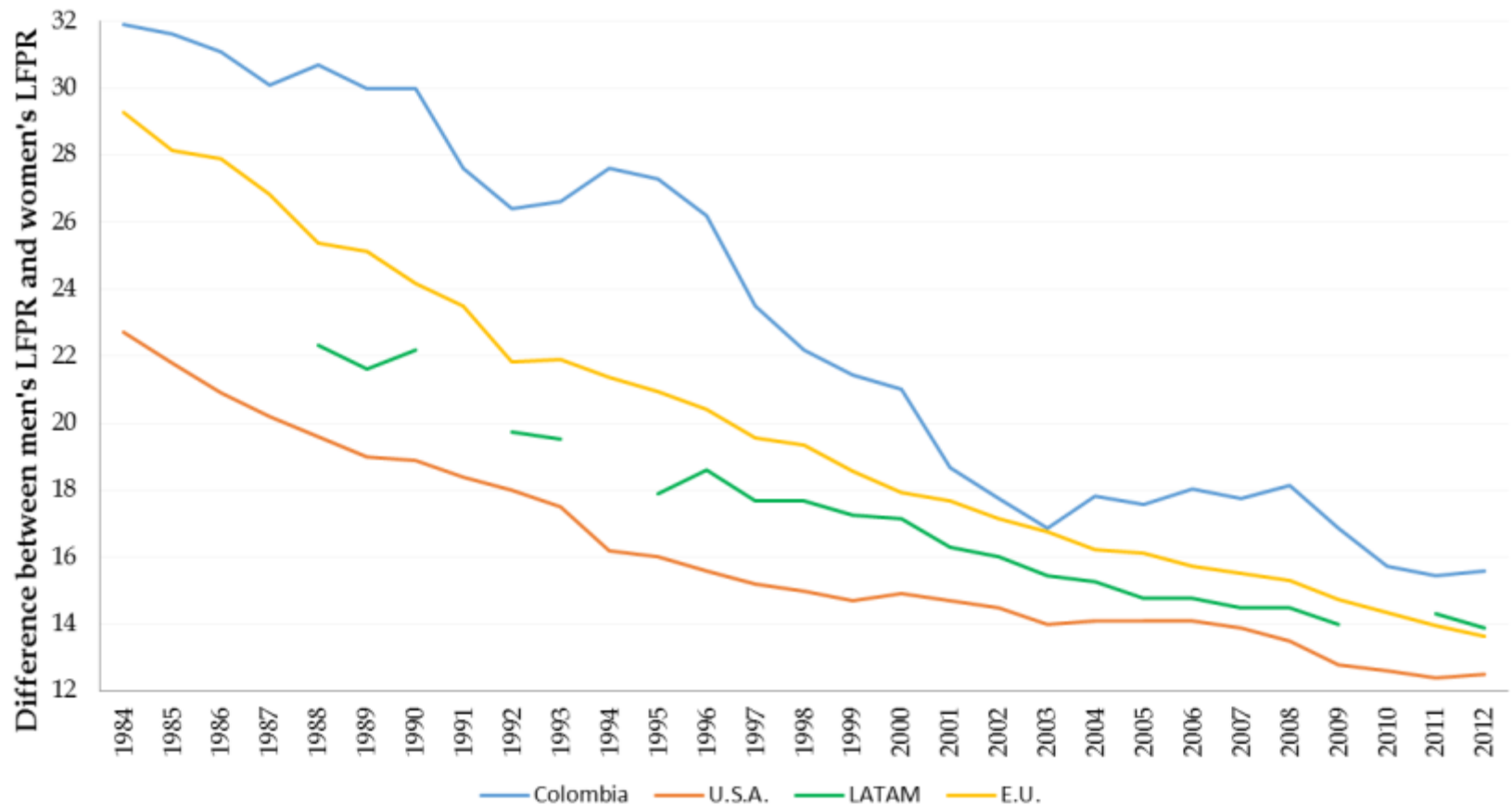


**Gender Gaps in Science, Technology and Innovation  
in LAC  
México City, April 28 2016**

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# Continuous and growing participation of Women in Colombian workplaces

## Ratio of Men's LFPR to Women's LFPR



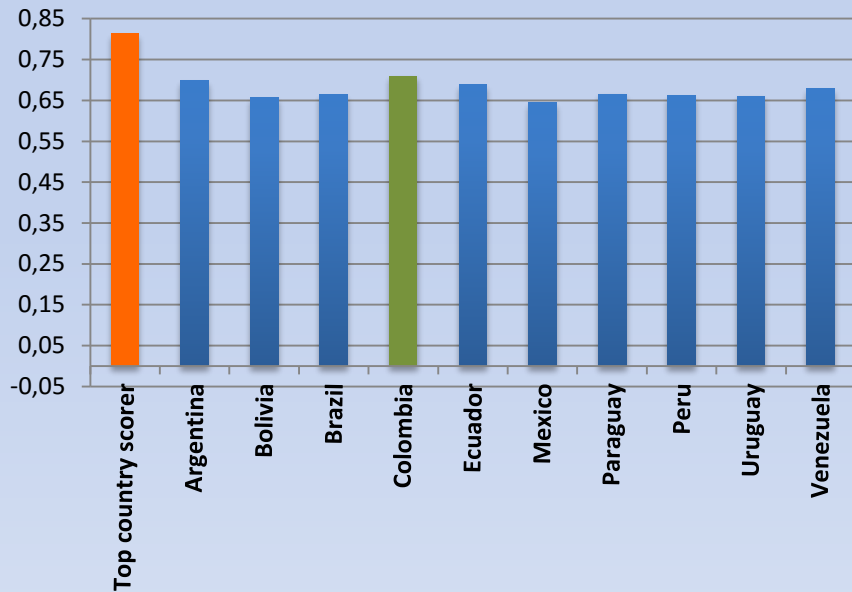
# ...But unequal participation across occupations

**Extensively in sales, clerical and related employments, while their entry into better paid jobs, like professional and management, is still on average below 50%**

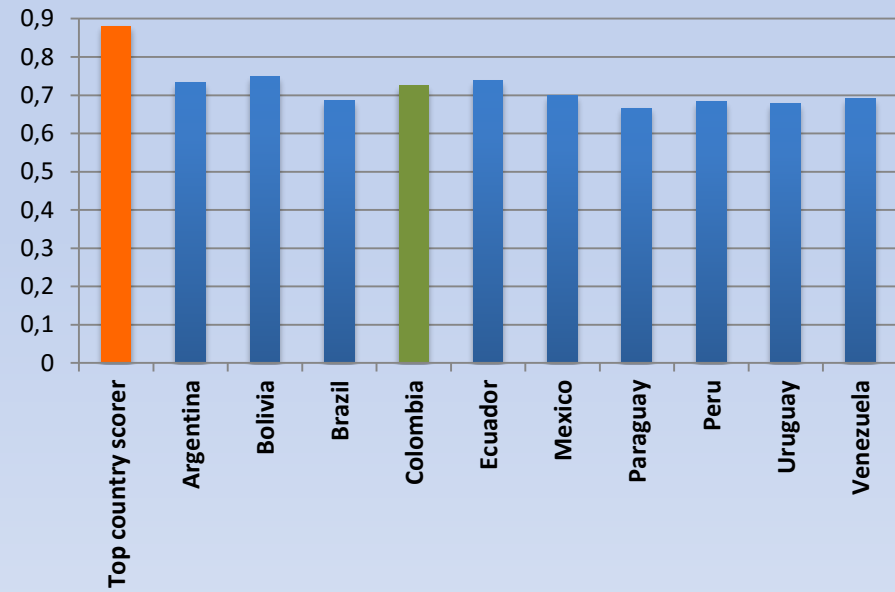


# *And still far from countries leading the closing of the gender gap*

2007



2015

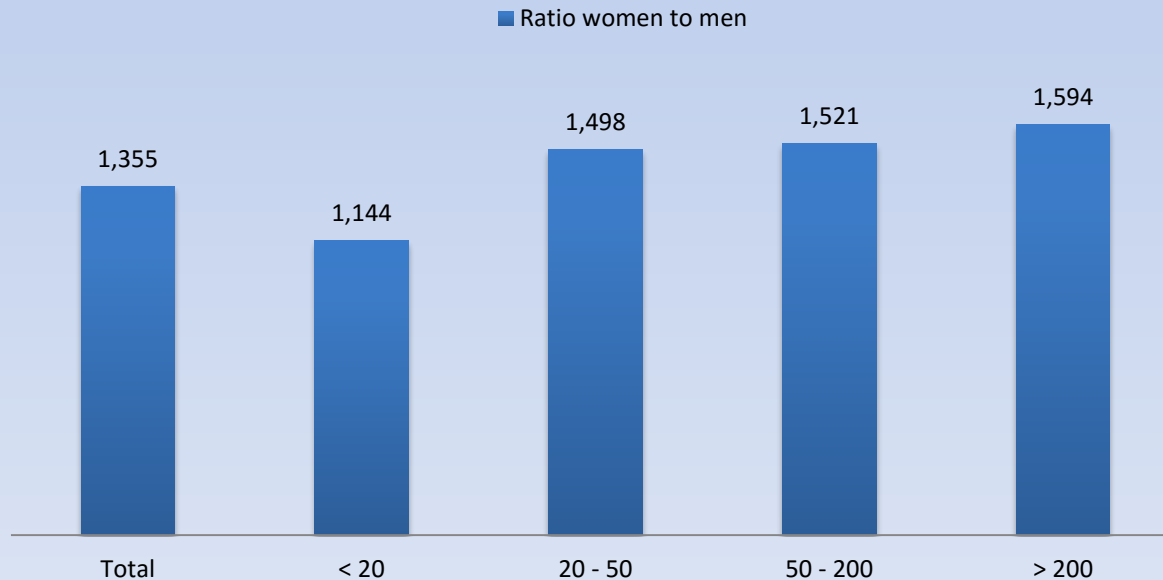


Gender Gap Index

# This research has found that..

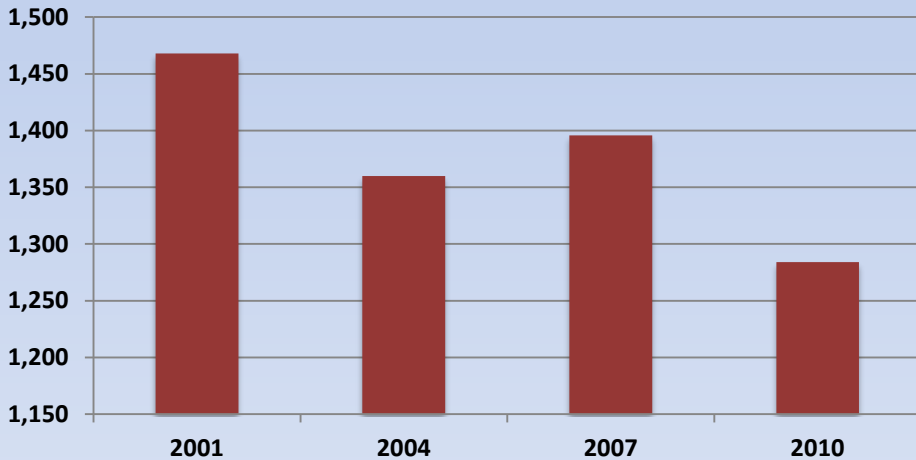
## Greater participation of Women to Men in Manufacturing, regardless of firm size

**Ratio of women to men In Manufacturing Labor Force 2001-2011**

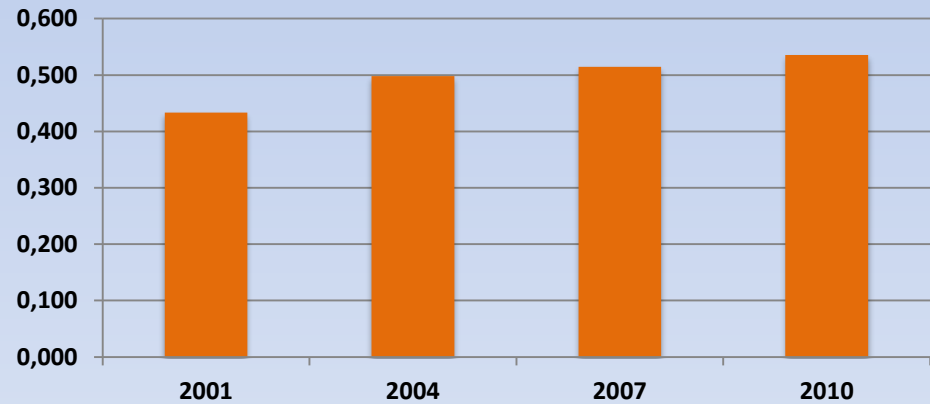


But decreasing in the last years...and...unequal across categories

**Ratio women to men**



**Ratio women to men in professional and technical areas**



Main questions of this research.

Does it pay for a firm, in terms of innovation and productivity, to have the creativity of ideas brought about by a more **diversified gender workforce?**



And also,

How and to what extent having women in the labor workforce contribute to a firm innovation and productivity in manufacturing activities?





## Approaching the questions

Use *large* panel data for about 6 thousand firms from two key Colombian surveys in the manufacturing sector.

Construct main indicators:

- An index of diversity
- Innovation indicators
- Productivity measures
- Control variables

# Approaching the questions

Use common econometric methods:

- one for productivity using an augmented production function.

$$\ln Y_{i,t} = \alpha_i + \gamma Q_{i,t} + \beta X_{i,t} + \lambda_t + \varepsilon_{i,t}$$

- One for innovation variables

$$INN_{i,t} = \widehat{RDE}_{i,t}^* \gamma + B_{i,t} + x' \delta + u$$

First research for a developing country  
has found *promising* results

**Gender Diversity**  
within firms shows  
to **contribute**  
**positively** to firm's  
propensity to  
**innovate.**



# First research for a developing country has found *promising* results

<b>Contribution of Gender Diversity to Innovation</b>	
<b>Modes</b>	
	<b>Total Labor force</b>
<b>Product or Process Innovation</b>	0.006 (0.040)
<b>Organizational and Marketing</b>	0.136*** (0.050)
<b>Any Mode of Innovation</b>	0.058* (0.032)
<b>N</b>	6,148

And also...

Increasing Gender Diversity would also increase labor productivity.

Contribution of Gender Diversity on Productivity

Gender diversity	Variable	1	2	3	4
Total workforce	< 20 employees	0.0968 (0.0972)			
	20 - 50		0.460*** (0.153)		
	51 - 200			0.389** (0.166)	
	> 200 employees				0.457** (0.196)

## In conclusion...

Our research has found promising results of the contribution to firm's innovation outcomes and productivity of having a more diversified gendered labor force.

These findings are an important message for managers and owners of companies because they show that including women in their firms' labor force has positive effects on productivity and innovation.

## In conclusion...

More research, using different econometric exercises and more granular data will help to get more robust insights.

!!Gracias!!

Thank you !!