

Reducing inequality – the great challenge of our time  
**UNU-WIDER – UNIANDES – October 2022**  
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# **Changes in Occupations and their Task Content. Implications for Employment and Inequality in Argentina, 2003-19\***

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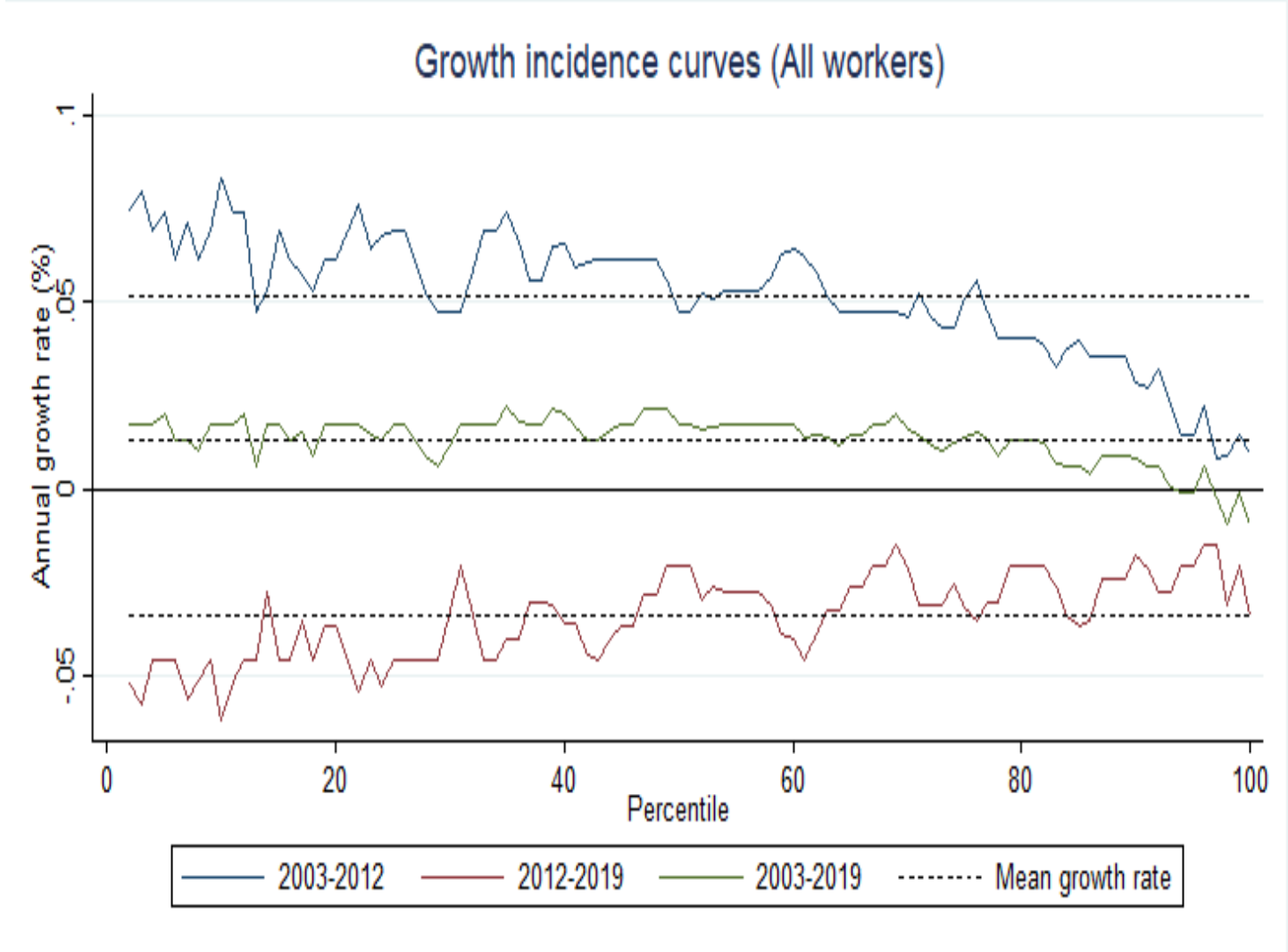
Universidad Nacional de General Sarmiento, Argentina

\* WIDER Working Paper 2021/15. Project “The changing nature of work and inequality “ UNU-WIDER.

# Objetives

1. Analyze the **patterns of changes in earnings, occupations and their task content** in Argentina during the new millennium.
2. Assess the extent to which these changes resulted in a **polarizing pattern**.
3. Evaluate the **role of structural changes in occupation and task contents in explaining distributional changes** in Argentina.

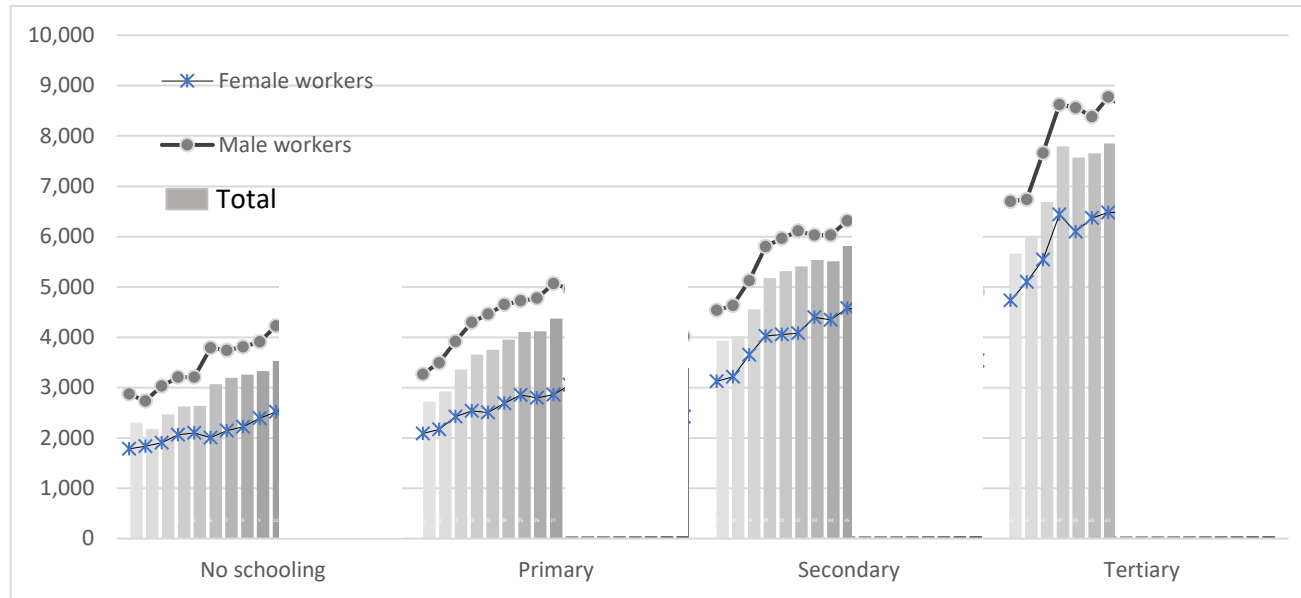
Period characterised by a falling trend in inequality. **Two contrasting subperiods: equalizing process during 2003-2012, distributive worsening during 2012-2019.**



Source: authors' elaboration based on EPH

# Opposite trends between sub periods

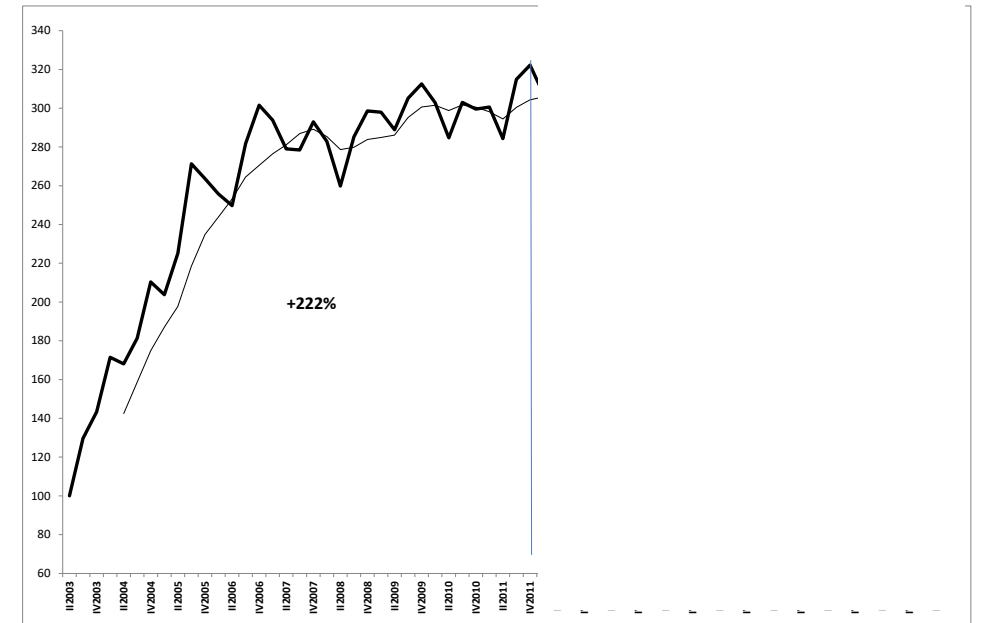
Evolution of real weekly **mean earnings** by gender and education level. 2003-2019



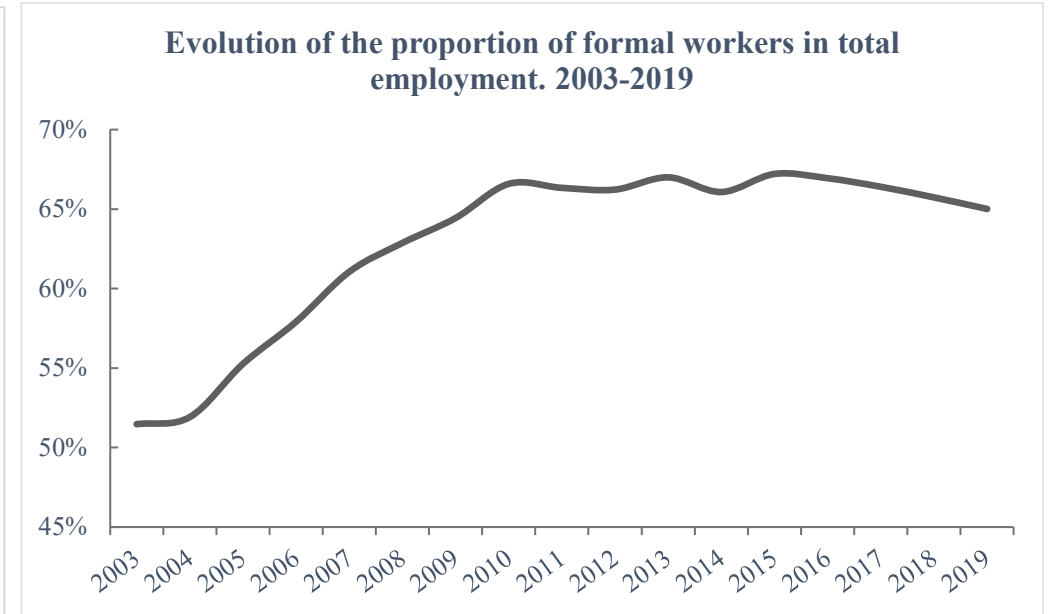
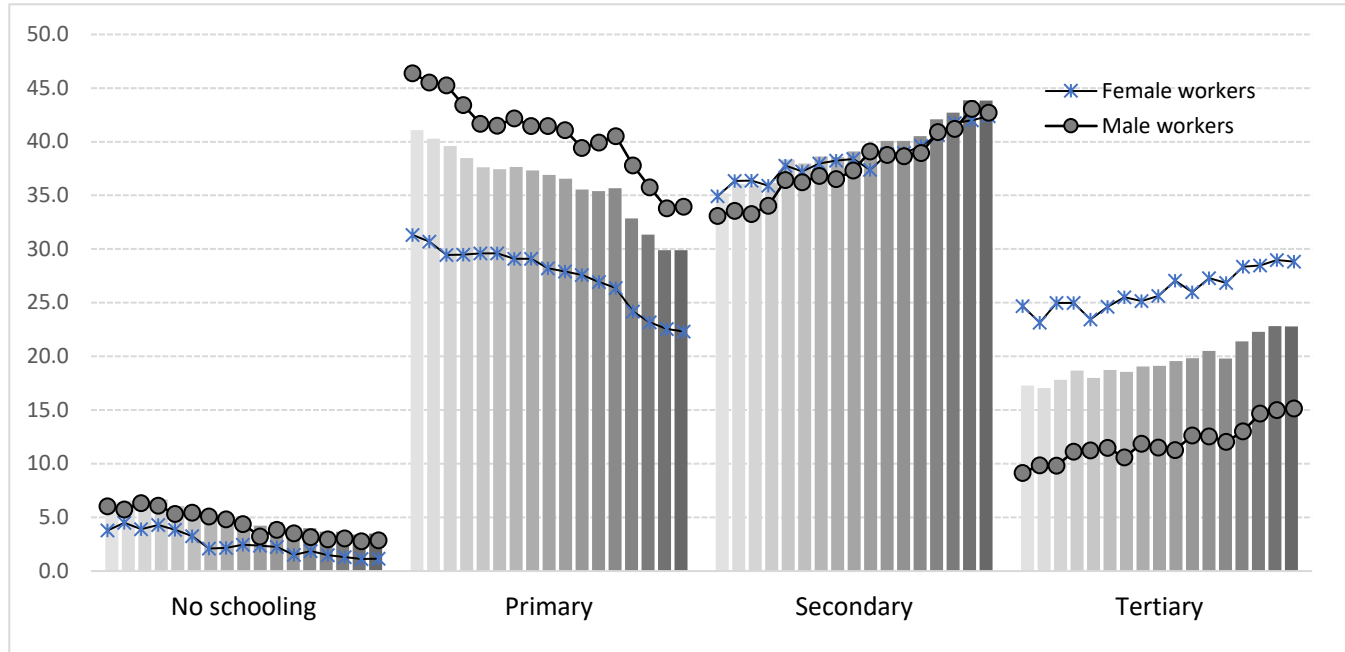
Source: authors' elaboration based on EPH

	2012/2003
No schooling	48%
Primary	68%
Secondary	45%
Tertiary	40%
<b>Total</b>	<b>56%</b>

Evolution of real **Minimum Wage**. 2003-2019



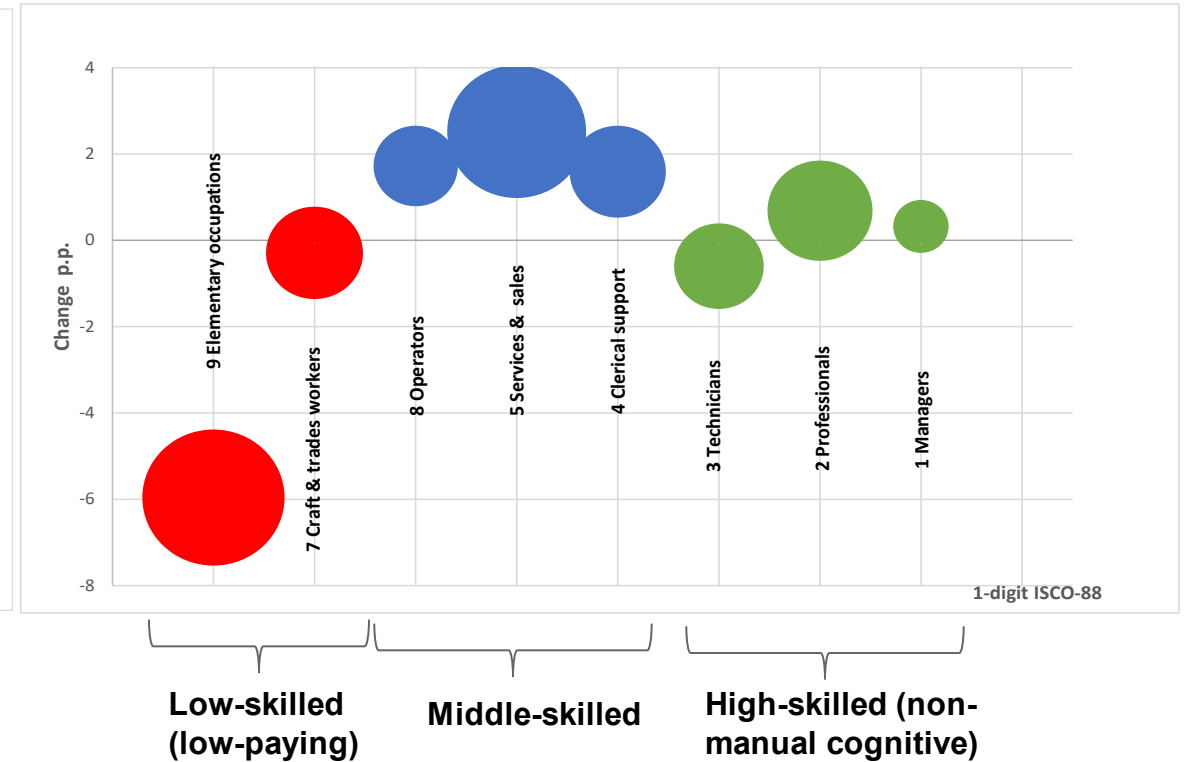
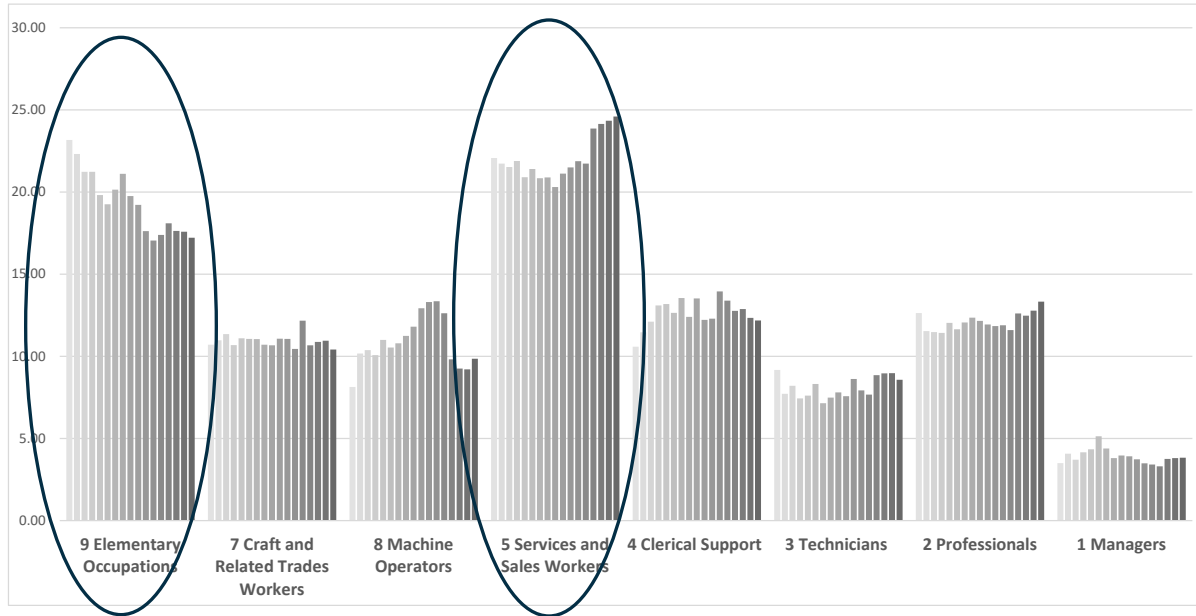
# Employment growth by education level and evolution of labour formality



**The workforce became more skilled:** increase in secondary and tertiary education and a fall in workers with none or primary education.

**Intense labour formalization process: + 14 p.p.**

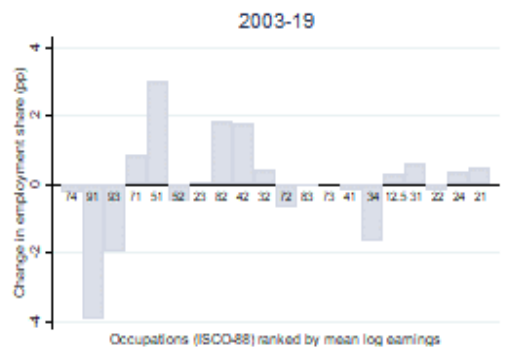
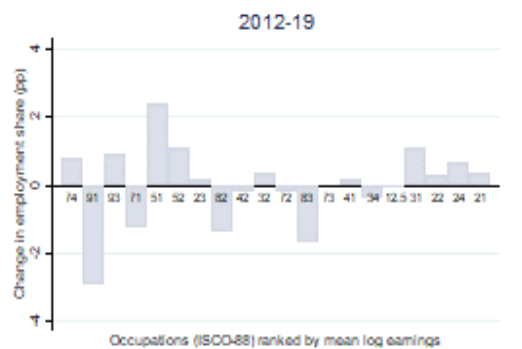
# Employment growth by type of occupation (ISCO-88, one digit)



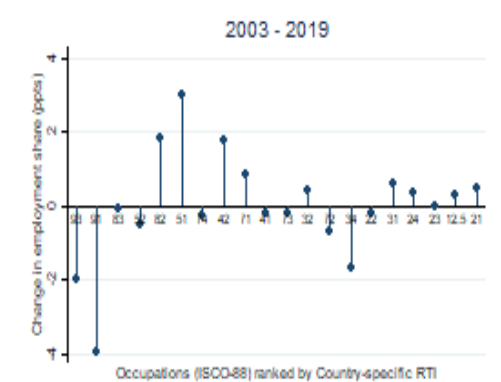
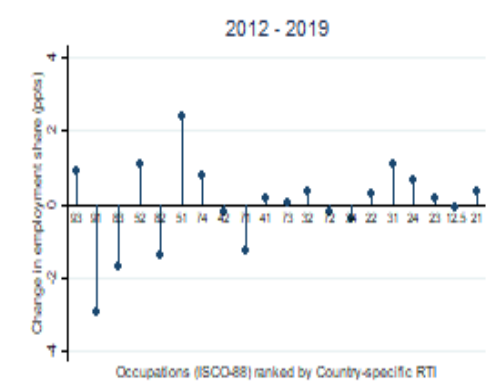
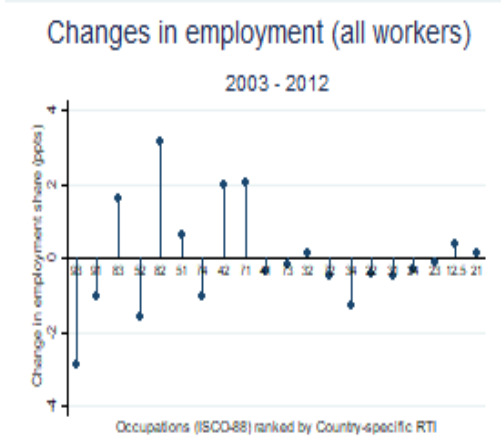
Bubble size indicates the initial relative importance of each occupation in total employment. Occupations are ranked by the median years of education at the initial year.

Relocation from low and –to a lesser extent- high to middle-skilled jobs. **More consistent with an inverted U-shaped pattern than with a polarizing pattern.**

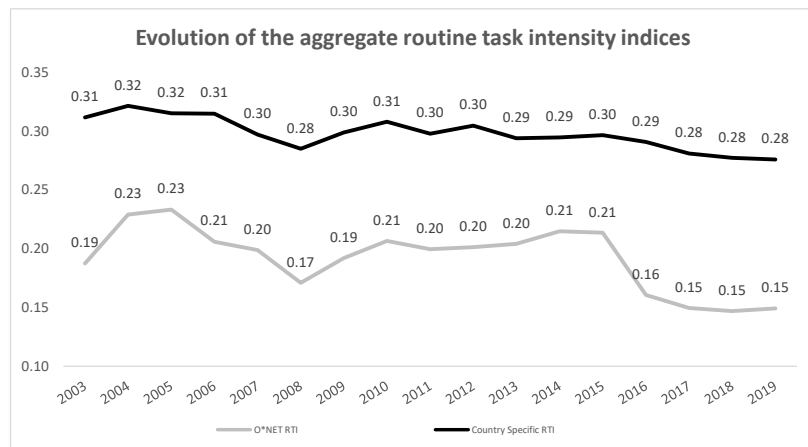
# Employment growth by type of occupation (ISCO-88 2D) ranked by initial earnings and CS RTI



**Relocation** of workers from low-paid to middle-paid jobs (1<sup>st</sup> subperiod). High-skilled jobs remained fairly stable or slightly increased over time.



**Similar Relocation:** A loss of share of occupations with high RTI, and less intense reduction (or slight increase) with low RTI.



**Decline in average RTI** regardless of the measure used. It is, partly, associated with the reduction in the share of elementary occupations

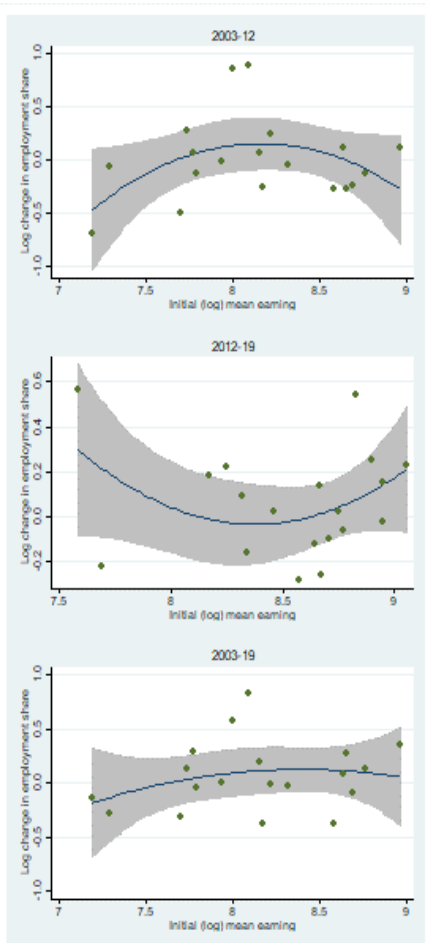
# Objetives

- Analyze the patterns of changes in occupations, earnings and their task content in Argentina during the new millennium.
- Assess the extent to which these changes resulted in a **polarizing pattern**.
- Evaluate the **role of structural changes in occupation and task in explaining distributional changes**, taking into account institutional (MW) and other country-specific factors in Argentina.



# Test for job polarization

$$\Delta \log E_{j,t} = \beta_0 + \beta_1 \log(w_{j,t-1}) + \beta_2 \log(w_{j,t-1})^2$$



Group variable : ISCO 88 2 digits Covariates	Log change in employment share		
	2003 -2012	2012 -2019	2003 -2019
(log) mean hourly wage (t-1)	5.386 (3.386)	-1.499 (3.823)	4.681 (3.043)
Sq. (log) mean hourly wage (t-1)	-0.339 (0.214)	0.099 (0.231)	-0.284 (0.194)
Constant	-21.395 (13.304)	5.587 (15.734)	-19.287 (11.882)
Observations	19	19	19
R-squared	0.073	0.092	0.098
Adj. R-squared	-0.0426	-0.0214	-0.0149
F test	0.296	0.256	0.0384

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Authors' elaboration based on EPH

A polarization pattern involves a negative first (linear) coefficient followed by a positive quadratic coefficient

**Non-significant changes in employment** (neither polarization nor inverted-U)

# Test for earning polarization

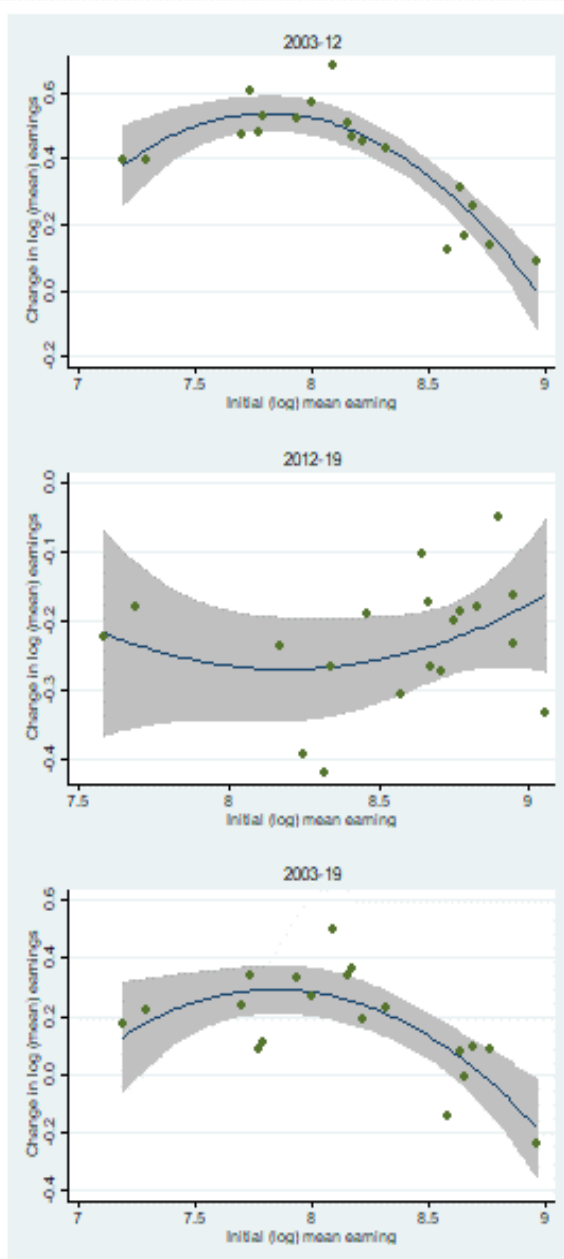
$$\Delta \log(w_{j,t}) = \beta_0 + \beta_1 \log(w_{j,t-1}) + \beta_2 \log(w_{j,t-1})^2$$

	2003 - 2012	2012 - 2019	2003 - 2019
(log) mean hourly wage (t-1)	6.703*** (0.765)	-5.773** (2.263)	3.668** (1.675)
Sq. (log) mean hourly wage (t-1)	-0.429*** (0.049)	0.349** (0.138)	-0.237** (0.106)
Constant	-25.666*** (2.962)	23.553** (9.265)	-13.941** (6.574)
Observations	20	20	20
R-squared	0.750	0.362	0.314
Adj. R-squared	0.721	0.287	0.234
F test	0.000	0.036	0.043

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Source: Authors' elaboration based on EPH



**Significant changes in earnings:** an inverted U-shaped growth in the first period, characterized by a decreasing trend in inequality. On the contrary, a polarization pattern in the second period. Generalized fall of real earnings and rising inequality, the greatest reductions among middle-paid jobs.

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# Gini decomposition: the role of occupation shares and wage gaps

Gini	2003	Actual		Change in the Gini index decomposed into the contribution of changes in employment shares and in mean earnings			
		2012	2019	2012 - 2003	2019-2012	2019-2003	
<b>1 Overall</b>	0.466	0.368	0.389				
<b>2 Between-occu</b>	0.148	0.104	0.114	Change in employment shares (mean earnings constant)	-0.008	0.001	-0.007
% 2/1	32%	28%	29%	Change in mean earnings (employment shares constant)	-0.082	0.020	-0.062
<b>3 Within-occupa</b>	0.318	0.265	0.275	<b>Total change</b>	<b>-0.045</b>	<b>0.010</b>	<b>-0.034</b>
% 3/1	68%	72%	71%				

The intensity of routinization tasks in occupation did play any role in the narrowing wage gap?

## Task composition and inequality between occupations

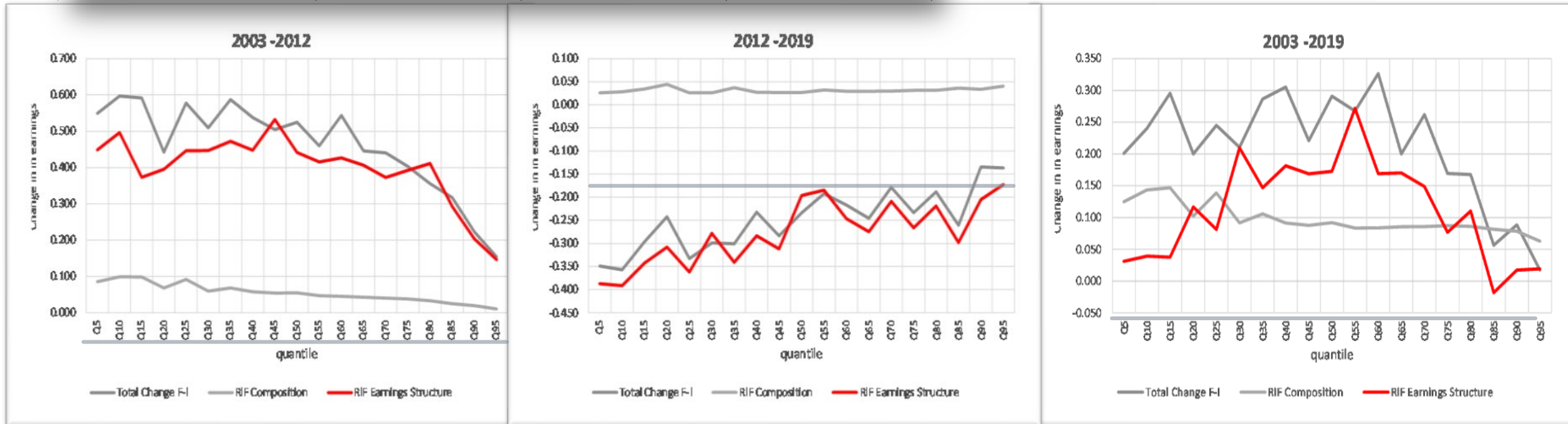
Group : ISCO 88 2D	Actual		
	2003	2012	2019
<b>Gini</b>			
<b>Gini between occupation</b>	0.244	0.175	0.194
<b>Concentration index</b>	0.194	0.131	0.152
<b>Ratio</b>	79%	75%	78%

Source: Authors' elaboration based on EPH

# Drivers of inequality trends—the RIF-regression decomposition

	2003 2012		2012 2019		2003 2019	
	Coef.		Coef.		Coef.	
<b>Distribution</b>						
Total Change F-I	-0.097	***	0.021	***	-0.076	***
<b>RIF Aggregate Decomposition</b>						
RIF Composition	-0.019	***	-0.001	***	-0.018	***
RIF Earnings Structure	-0.078	***	0.022	***	-0.057	***

Change in Gini Index is driven more by structure than composition in both period



The aggregate decomposition of the change in earnings quantiles shows that the earnings structure effect drives the trend in both subperiods, over the entire distribution and not only at specific points

# Drivers of inequality trends—detailed RIF-regression decomposition

	2003 2012		2012 2019		2003 2019	
	Coef.		Coef.		Coef.	
<b>Distribution</b>						
Total Change F-I	-0.097	***	0.021	***	-0.076	***
<b>RIF Aggregate Decomposition</b>						
<b>RIF Detailed Decomposition</b>						
<i>RIF Composition</i>						
Age	-0.002	***	-0.001		-0.003	***
Sex	0.000		0.001	**	0.001	*
Education	0.000		0.001		0.001	
Ethnic	0.000		0.000		0.000	
Region	0.002	***	0.001	***	0.002	***
Formality	-0.017	***	-0.001		-0.018	***
CS-RTI	-0.002	**	-0.002	**	-0.002	*
Total explained	-0.019	***	-0.001		-0.018	***
<i>RIF Earnings Structure</i>						
Age	-0.005		-0.002		-0.007	*
Sex	0.018	***	0.002		0.018	***
Education	-0.003		0.001		0.001	
Ethnic	0.019		-0.011		-0.004	
Region	-0.009	**	-0.012	***	-0.020	***
Formality	-0.015	***	0.012	***	0.000	
CS-RTI	0.021	***	-0.007		0.010	**
Intercept	-0.102	***	0.040	*	-0.055	*
Total unexplained	-0.078	***	0.022	***	-0.057	***

**First sub period: falling inequality , strong job creation and MW operative**

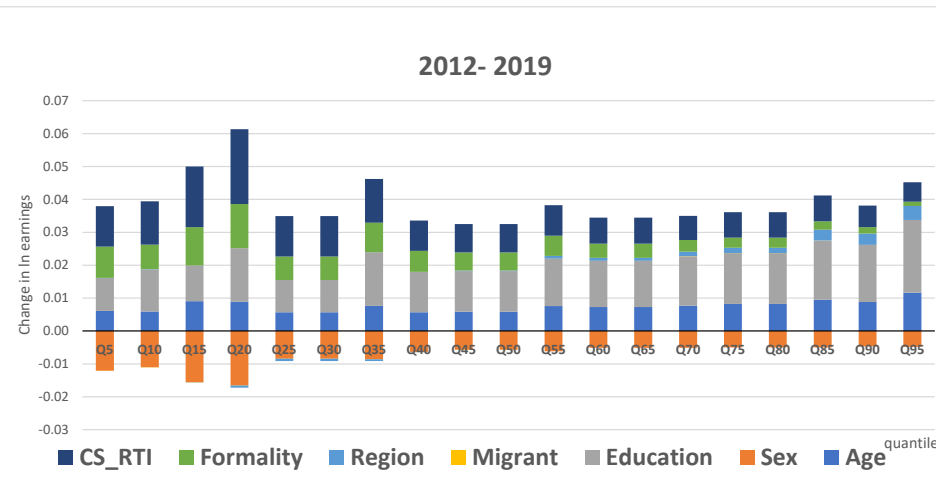
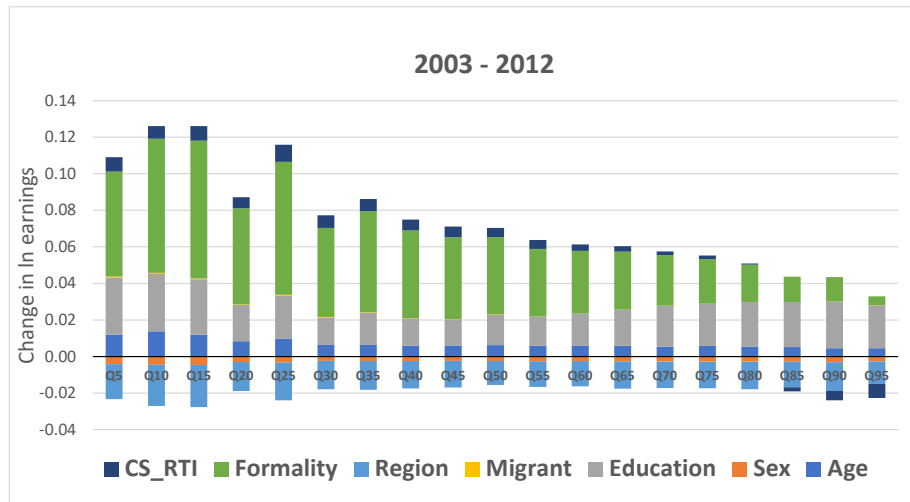
- *Formality* was an inequality-reducing factor in both effect.
- RTI mixed effects

**Second Sub period: increased Gini Index.**

- RTI equalizing but only via composition effect.
- Formality stopped being a channel of earning equalizing,

# Drivers of inequality trends—detailed RIF-regression decomposition

COMPOSITION

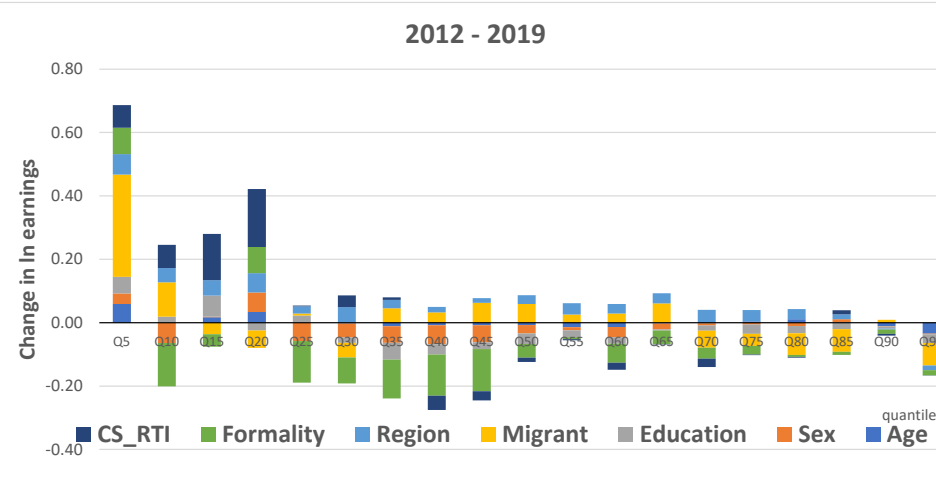
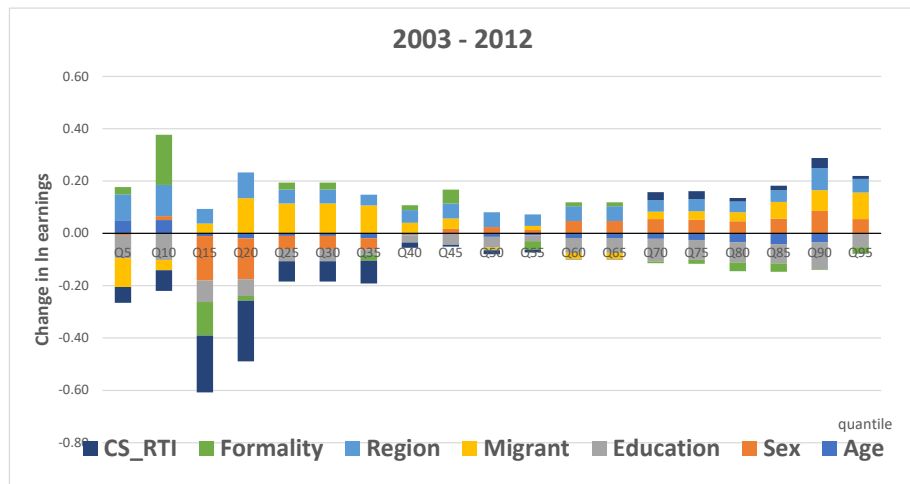


Pro por profile associated with + formality

1st period: + RTI bottom , - top

2d: ++ RTI bottom, +top

STRUCTURE



The RTI factor with null effect in the whole period

1st period: Pro rich effect - RTI lower , + top

Then in 2d: ++ RTI bottom

# Final remarks and discussion

- **Non-significant changes in occupations** (neither polarization nor inverted U-shaped profile)
- **Significant changes in earnings:** wages grew in low-paying occupations while employment shares fell. Contrasts with standard labour market models

## **Reasons why we not observe the same trends registered in the advanced world:**

- Strong macroeconomic instability + significant disruptions in the production structure
- Influence of labour institutions (minimum wage, collective bargaining)
- Ongoing process which full realization calls for a longer period of time
- Whether or not technological change and offshoring result in a polarizing pattern depends on several factors like the initial position of different jobs with different RTI in wage distribution