

# **Openness, Wage Gaps and Unions in Chile: A Micro Econometric Analysis**

ILO and ECLAC

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**International Collaborative Initiative on Trade and Employment (ICITE)**

# **ECLAC and ILO cooperation on trade, globalization and labor markets**

- ❑ Joint work on the employment impact of the financial crisis (4 joint bulletins)
- ❑ At ECLAC, this paper is part of LA-KLEMS project and research on social dimensions of regional trade
- ❑ At ILO, this paper is part of the “Program for the Implementation of Decent Work in MERCOSUR”

# Summary

**I. Evidence**

**II. Stylized facts**

**III. Micro-econometric analysis & results**

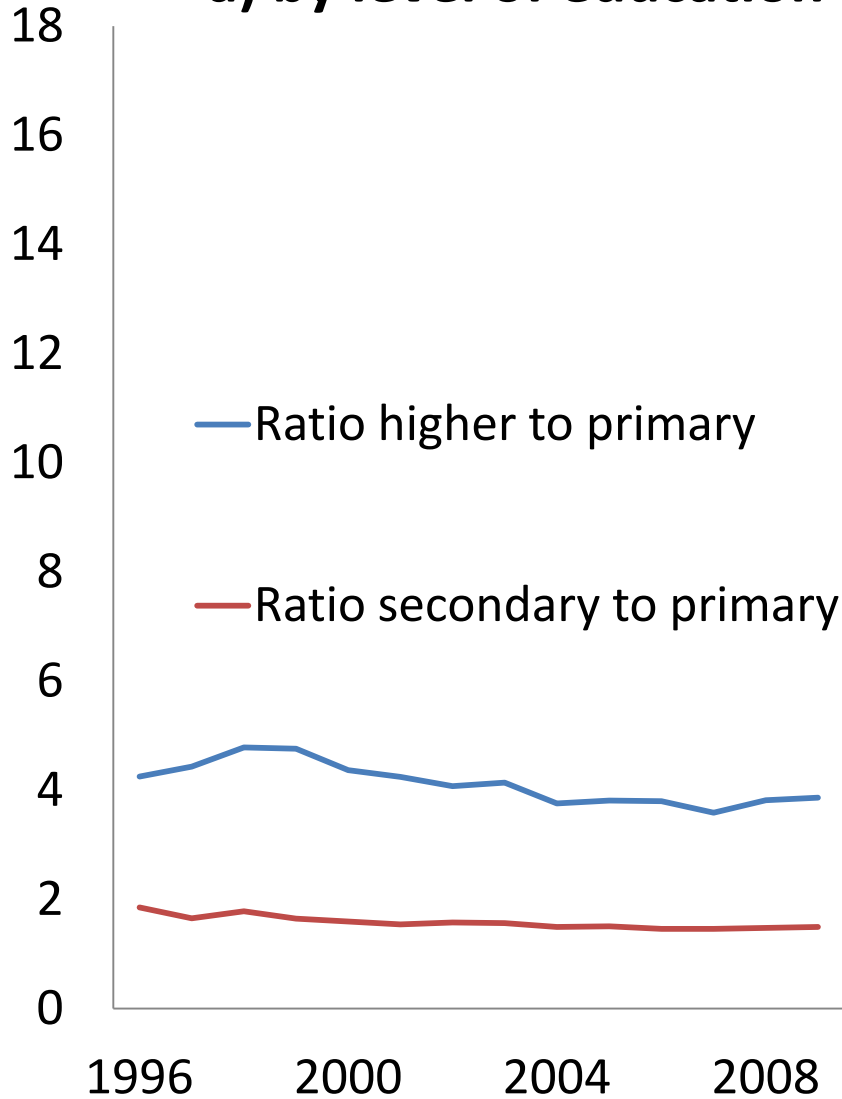
**IV. Conclusions & future research**

# I. Evidence on trade and wage gaps in Chile

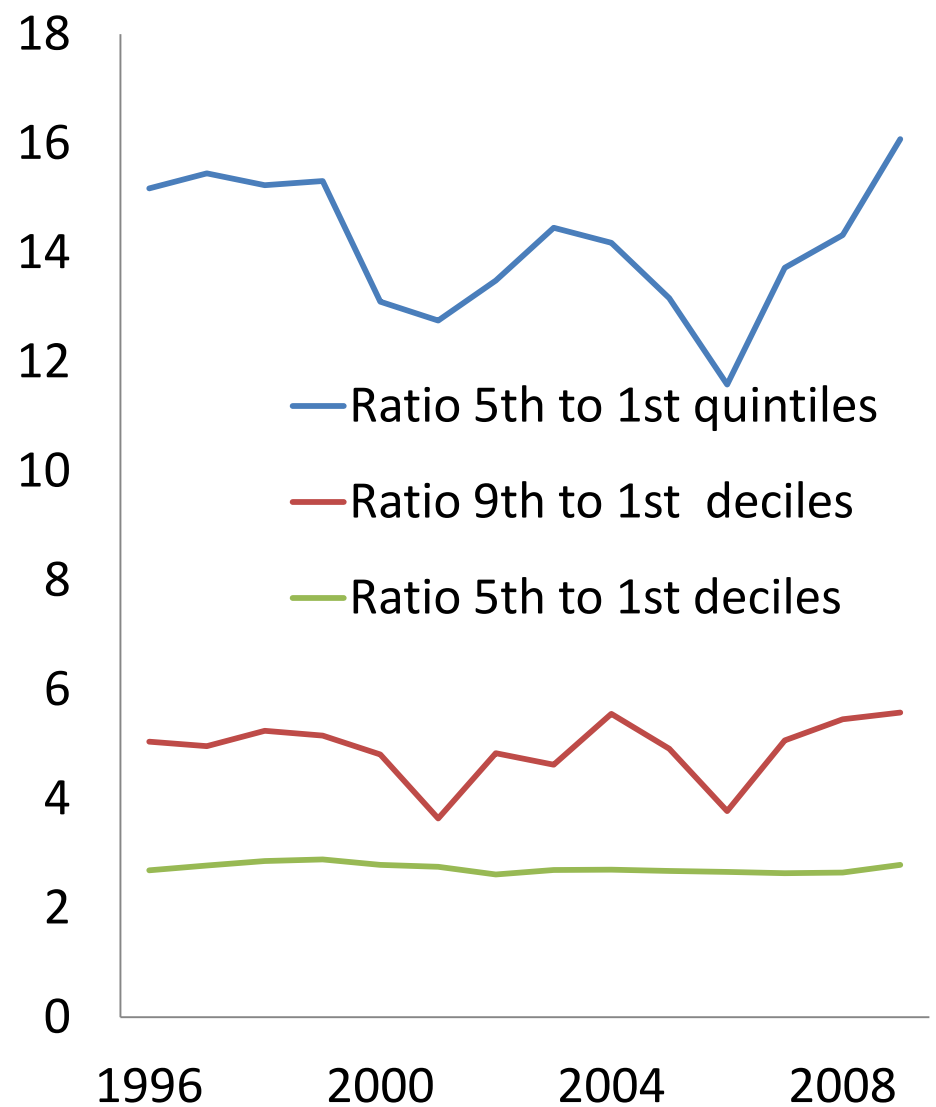
- ❑ Skill-premium increased during trade liberalization (80s-90s)
- ❑ ... but effect was small related to skill-biased technological change and “quality effect” in open sectors ...
- ❑ ... and the impact of capital imports from rich countries (tradable and non-tradable sectors)
- ❑ Labor demand was biased towards the more educated
- ❑ in 2000s, wage gap fell as supply of higher educated rose
- ❑ Wage gaps also depended on labor market institutions (minimum wage, unions, norms, ...)

# II. Stylized facts: Wage gaps

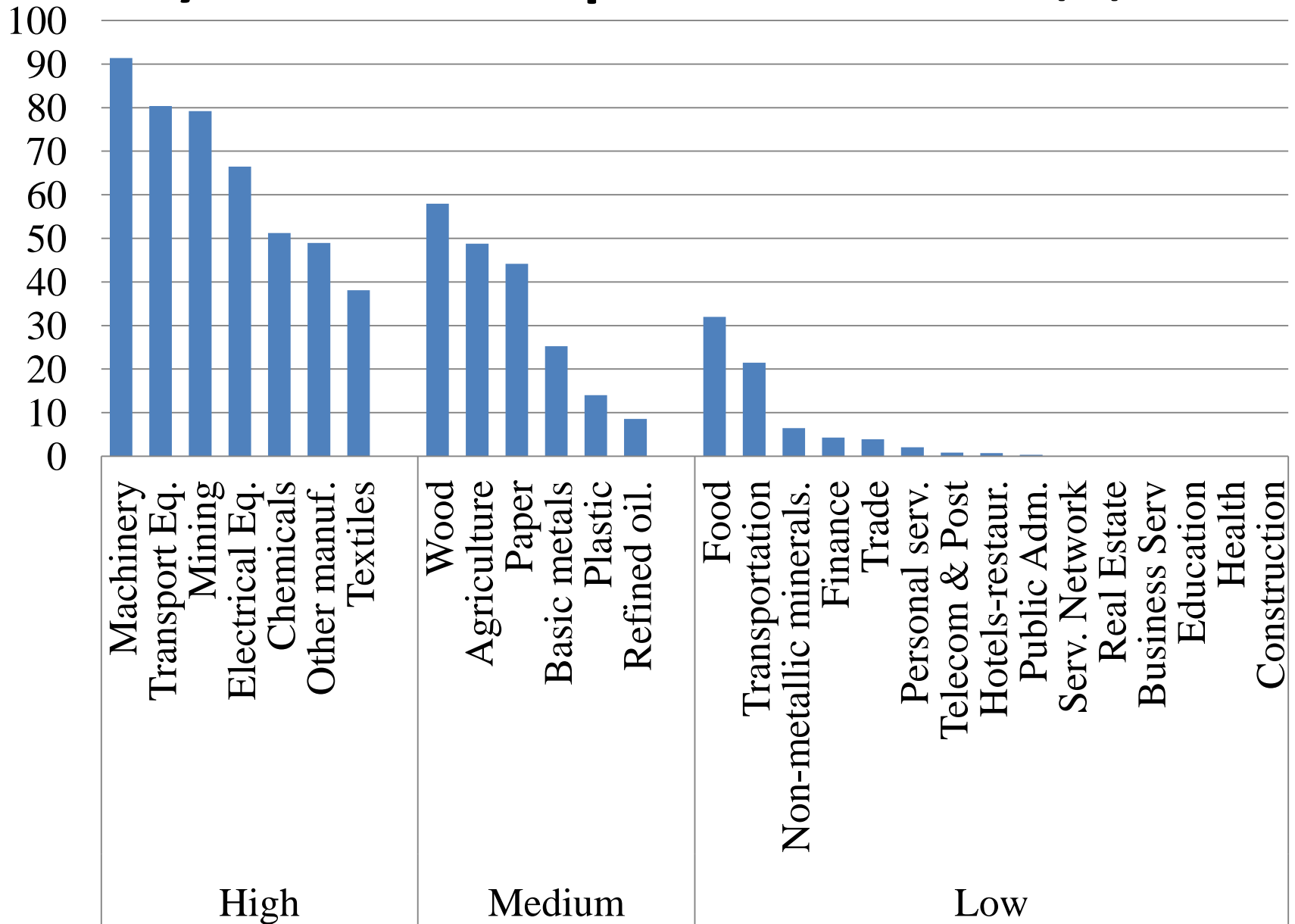
## a) by level of education



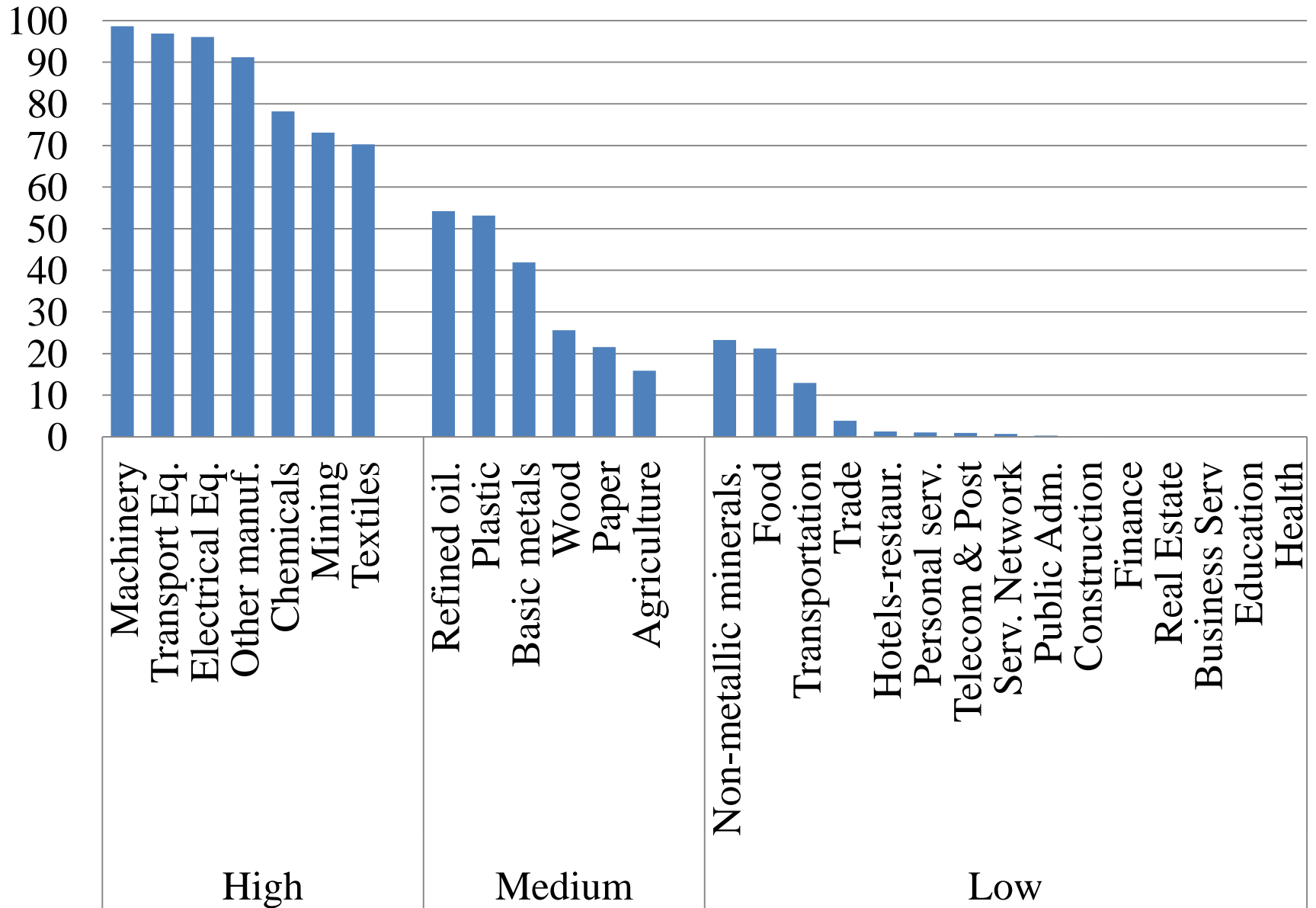
## b) by income groups



## II. Stylized facts: Export coefficient (%), 2008



## II. Stylized facts: External dependence (%), 2008



# III. Micro-econometric analysis & results

- ❑ Goal: explain average wage gaps between salaried workers in sectors with high, medium and low openness
- ❑ Data: micro data of Supplementary Income Survey of NSI of salaried workers (gender, education, experience, sector, union m.), around 50,000 individuals in 2003 and 2008
- ❑ Method: Oaxaca-Blinder decomposition method:
  - a. Differences in *endowments*
  - b. *Sectoral* price, discrimination and/or quality effect
  - c. Interaction effect (residual)

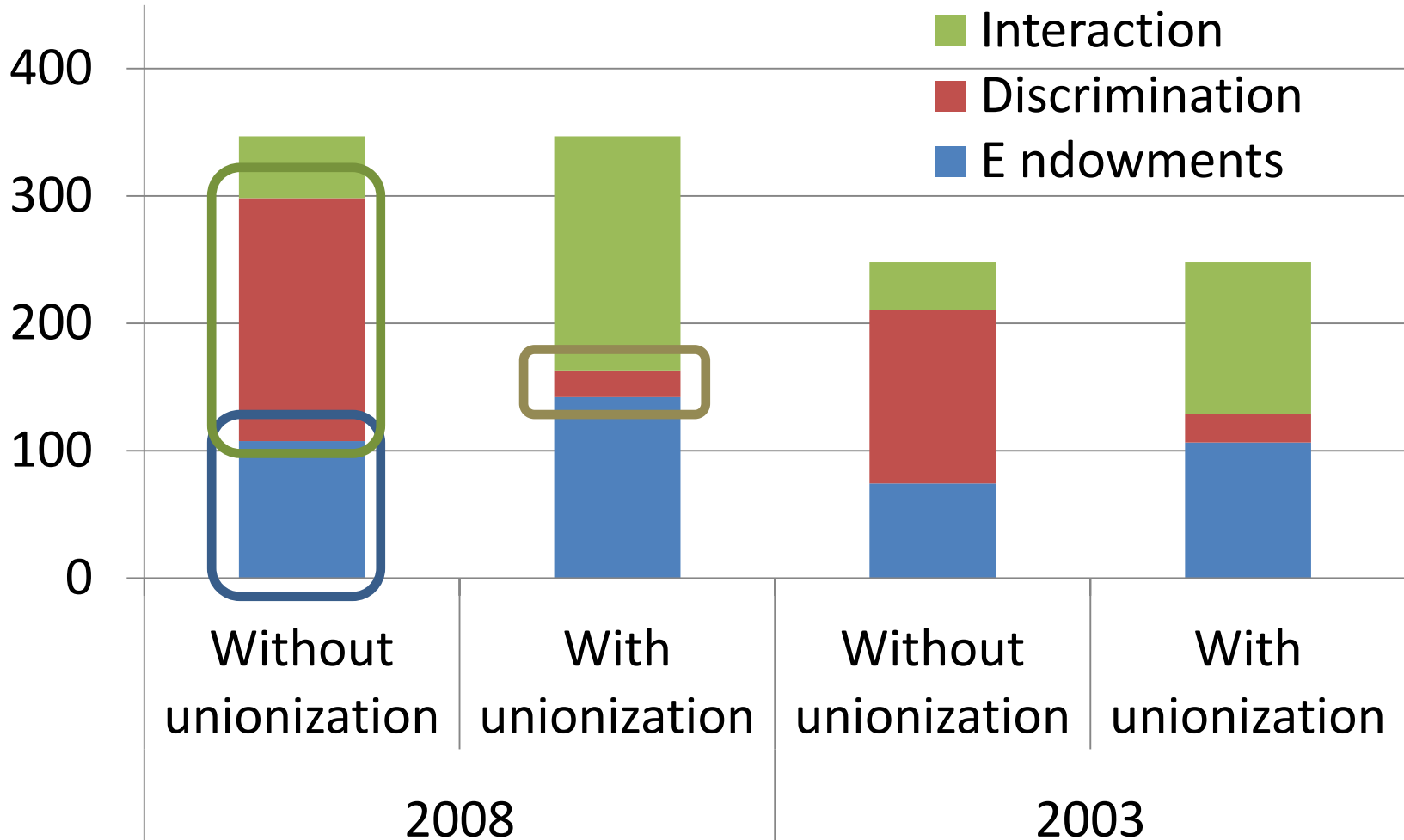


# III. Average wage regressions, 2008

	High vs. Low Openness		High vs. Rest of the economy	
	High	Low	High	Rest
<b>Education (years)</b>	0.137	0.135	0.137	0.129
	0.000	0.000	0.000	0.000
<b>Experience</b>	0.014	0.017	0.014	0.017
	0.000	0.000	0.000	0.000
<b>Experience (squared)</b>	0.000	0.000	0.000	0.000
	0.011	0.000	0.011	0.000
<b>Gender</b>	0.267	0.216	0.267	0.200
	0.000	0.000	0.000	0.000
<b>Unionization</b>	0.336	0.060	0.336	0.078
	0.000	0.000	0.000	0.000
<b>Constant</b>	5.094	5.164	5.094	5.232
	0.000	0.000	0.000	0.000

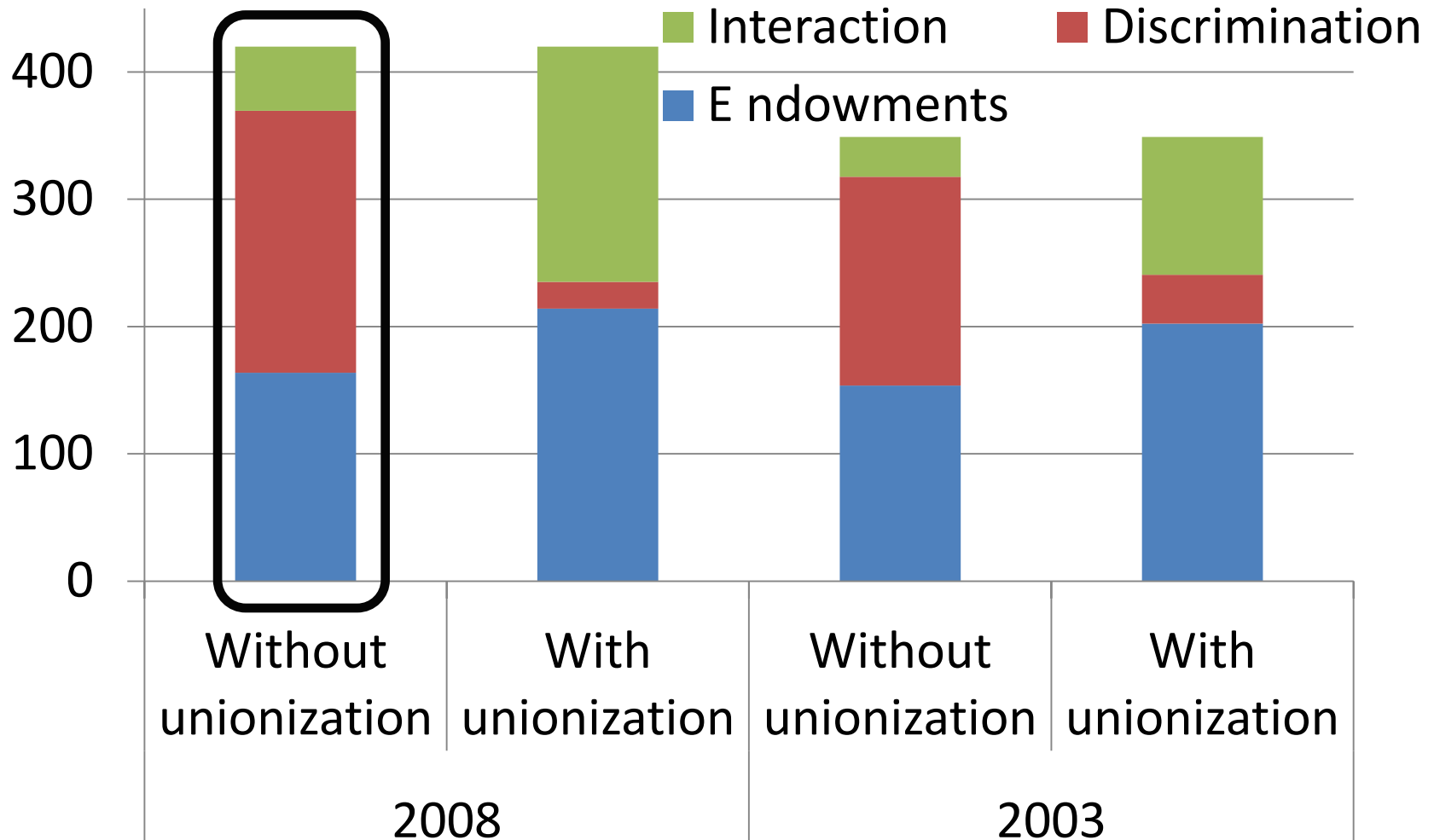
# III. Decomposition of average wage gap

High vs. low openness (constant 2008 pesos per hour)



# III. Decomposition of average wage gap

High vs. Rest of the economy (constant 2008 pesos per hour)



## IV. Conclusions

- ❑ Average wage differentials between high versus low openness sectors increased between 2003 and 2008.
- ❑ Higher average wages in high openness group are related to better worker endowments...
- ❑ ... and a discrimination effect in favor of group with high openness ...
- ❑ ... but this is due to greater union membership.

## IV. Future research

- ❑ Include **other variables** in cluster analysis of sectors:
  - a. Imported intermediate inputs as share of total inputs
  - b. Imported capital from industrialized countries (Gallego)
- ❑ Analysis into **two** instead of three groups:
  - a. Tradable vs. non-tradable sectors
- ❑ Add “**structural**” variables to wage equations :
  - a. Job tenure
  - b. Firm size
  - c. Capital intensity
- ❑ Add “**institutional**” variables to wage equations :
  - a. Minimum wage
  - b. Sectoral provisions
- ❑ Expand analysis to 1980s and 1990s

# Thank you & Gracias

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# Two groups: tradables\*

<b>Mineria y extraccion</b>	<b>c</b>
Otras maquinarias	29
Equipos eléctricos y ópticos	30t33
Equipos de transporte	34t35
Otras manufacturas, reciclaje	36t37
Alimentos, bebidas y tabaco	15t16
Textiles, productos textiles, cuero y calzado	17t19
Madera y de madera, corcho	20
Pulpa, papel, productos de papel, impresiones y publicaciones	21t22
Químicos y productos derivados	24

\* Excluding agriculture, government and education.

# Two groups: nontradables\*

Otros minerales no metálicos	26
<b>Electricidad, gas y oferta de agua</b>	<b>e</b>
<b>Construcción</b>	<b>f</b>
<b>Ventas del comercio al por mayor</b>	<b>g</b>
<b>Hoteles y restaurantes</b>	<b>h</b>
Correspondencia y telecomunicaciones	64
Intermediación financiera	j
Actividades de bienes raíces	70
Renta de máquinas y equipos y otras actividades de negocios	71t74
Administración pública y defensa; seguridad social	l
Educación	m
Salud y trabajo social	n
Otra comunidad, servicios sociales y personales	o
Coque, petróleo refinado y combustible nuclear	23
Caucho y plástico	25
Metales básicos y productos fabricados de metal	27t28
Transporte y almacenamiento	60t63



### III. Average wage regressions, 2008 (2 groups)\*

	Sin Sindicalización		Con Sindicalización	
	Trans.	No Trans.	Trans.	No Trans.
Año <sup>sest</sup>	0.133	0.124	0.123	0.122
	0.000	0.000	0.000	0.000
Experiencia	0.018	0.017	0.017	0.017
	0.000	0.000	0.000	0.000
Exper*Exper	0.000	0.000	0.000	0.000
	0.000	0.000	0.000	0.000
dHombre	0.257	0.235	0.219	0.224
	0.000	0.000	0.000	0.000
Sindic.			0.334	0.115
	0.000	0.000	0.000	0.000
Constante	5.196	5.275	5.283	5.287
	0.000	0.000	0.000	0.000

\* Excluding agriculture, government and education.

### III. Oaxaca decomposition, 2008 (2 groups)

	2008	
	Sin Sindicalización	Con Sindicalización
	Alta/Baja	Alta/Baja
Trans.	1482	1482
No Trans.	1302	1302
Diferencia	14%	14%
Dotación	27%	29%
Coeficientes	71%	64%
Interacción	2%	6%
Total	100%	100%

# Employment by sector

	Employment		Shares (%)	
	2003	2008	2003	2008
High	136	634	2,9	11,7
Medium	2.283	1.018	48,0	18,7
Lower	2.339	3.793	49,2	69,7
Total	4.758	5.445	100	100
Tradable*	436	1.310	9,2	24,1
Non-tradable	4.321	4.134	90,8	75,9
Total	4.758	5.445	100	100
*Excluding agriculture				