

# Technical High School and Vocational Training in Latin America.

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# The One Slide Presentation

## What is this paper about?

- » To what extent is there a penalty or premium for those who followed technical paths of human capital formation instead of the traditional ones?
- » What role do their socio-demographic characteristics play? How are these differences distributed? How these differences evolved during 1995-2009?

## How do we do it? Methodology

- » Harmonized and comparable measures for 12 LA countries
- » Matching and a decomposition that compares only individuals with the same characteristics (Ñopo, 2008)

## Findings?

- » At the secondary level
  - » Workers who followed the technical path earn between 5% and 10% more than their peers who followed the humanistic path,
  - » The gaps are homogeneous along the earnings distribution, and
  - » This did not changed much during the period of analysis
- » At the tertiary level
  - » Workers who attended college earn between 40% and 50% more than their peers who attended technical studies,
  - » This gap is increasing along the earnings distribution, and
  - » Such gap increased between 10 and 20 percentage points during the period.

# The Literature: Mixed Evidence

- » (Psacharopoulos, 1986, 1987, 1994) General secondary education ↑ social rates of return
- » Bennell (1996) in a number of countries: General secondary education = social rates of return
- » Neuman and Ziderman (1989, 1991, 1999) Israel; Moenjak and Worswick (2003) Thailand; El-Hamidi (2006) Egypt and Bucarey and Urzua (2012) Chile: Secondary vocational students earn ↑
- » Bishop and Mane (2004) 12 years of international longitudinal data: Vocational students earn ↑
- » Horowitz and Schenzler (1999) Suriname and Kahyarara and Teal (2008) Tanzania: Technical or vocational students earn ↓
- » Hanushek and Woessmann (2011) micro data for 18 countries: Any relative labor-market advantage of vocational education decreases with age

# This paper: Data Sources and Sample Sizes

Workers who attended a Technical/Academic Secondary/Tertiary education program

Country	Name Of The Survey	Year	Technical		Academic/Humanist		Secondary Education		Technical		University		Tertiary Education	
			(1)		(2)		(1 & 2)		(3)		(4)		(3 & 4)	
			Number of observations	Expanded observations	Number of observations	Expanded observations	Number of observations	Expanded observations	Number of observations	Expanded observations	Number of observations	Expanded observations	Number of observations	Expanded observations
Argentina	Encuesta Permanente de Hogares (EPH)	1995	2116	471682	1483	1391220	3599	1862902	1483	290253	2976	729206	4459	1019459
		2002	1388	417664	6137	1628425	7525	2046089	1653	479066	2929	940535	4582	1419601
Bolivia	Encuesta Nacional de Empleo (ENE) Encuesta Continua de Hogares (ECH)	1996	198	41513	2064	451101	2262	492614	126	25341	648	136623	774	161964
		2007	189	106096	1470	858893	1659	964989	58	32045	532	348620	590	380665
Chile	Encuesta de Caracterización Socioeconómica Nacional (CASEN)	1996	3876	459238	14543	1800798	18419	2260036	2174	311960	3411	544809	5585	856769
		2009	9159	719023	28878	2148904	38037	2867927	5098	519067	6220	794499	11318	1313566
Costa Rica	Encuesta de Hogares de Propósitos Múltiples (EHPM)	1994	269	20747	2506	219416	2775	240163						
		2009	391	40230	4875	512102	5266	552332						
Ecuador	Encuesta de Empleo, Desempleo y Subempleo (ENEMDU)	1998							117	41498	1194	511785	1311	553283
		2010							234	39484	4107	873850	4341	913334
Honduras	Encuesta Permanente de Hogares de Propósitos Múltiples (EPHMP)	1995							31	4064	285	37431	316	41495
		2009							56	4480	1679	125965	1735	130445
México	Encuesta Nacional sobre Ingresos y Gastos de los Hogares (ENIGH)	1994							1412	2428272	1250	2291874	2662	4720146
		2010							2056	2307921	5761	6195379	7817	8503300
Nicaragua	Encuesta Nacional de Hogares sobre medición de Niveles de Vida (EMNV)	1998	157	30704	1144	236866	1301	267570	63	11055	222	50457	285	61512
		2009	209	34402	3600	527134	3809	561536	78	11890	1304	190046	1382	201936
Peru	Encuesta Nacional de Hogares (ENAHO)	1997							631	594168	1152	1092705	1783	1686873
		2009							2305	777236	2302	844772	4607	1622008
Paraguay	Encuesta de Hogares por Muestra (Mano de obra) Encuesta Permanente de Hogares (EPH)	1996	172	46659	599	160468	771	207127						
		2009	114	48121	862	343232	976	391353						
El Salvador	Encuesta de Hogares de Propósitos Múltiples (EHPM)	1998							353	35336	714	99565	1067	134901
		2007							548	55699	1092	153688	1640	209387
Uruguay	Encuesta Continua de Hogares (ECH)	1995							3037	134237	2028	90594	5065	224831
		2010							6491	159277	3984	95460	10475	254737

Source: (Ñopo & Bassi, 2013). Compilations based on Latin American countries household surveys, circa 1995 and circa 2009.

# Some Descriptive Statistics

	Secondary Education				Tertiary Education			
	Technical		Academic/Humanist		Technical		University	
	<i>Circa 1995</i>	<i>Circa 2009</i>	<i>Circa 1995</i>	<i>Circa 2009</i>	<i>Circa 1995</i>	<i>Circa 2009</i>	<i>Circa 1995</i>	<i>Circa 2009</i>
Average years of education	11.08	11.70	10.79	10.91	12.91	14.43	15.99	16.39
<i>Personal Characteristics</i>								
Drop out (the individual did not finished his studies)	37.8%	33.1%	44.9%	42.4%	80.7%	76.4%	34.4%	41.7%
Men (gender)	76.8%	70.3%	62.9%	62.6%	47.2%	44.8%	64.0%	55.7%
Age groups								
24 and under	19.9%	16.5%	20.3%	17.9%	24.8%	10.6%	6.2%	7.6%
25 to 34	33.5%	29.9%	31.7%	28.1%	40.0%	28.2%	39.2%	33.7%
35 to 44	25.8%	25.6%	26.1%	25.5%	22.0%	32.0%	34.8%	27.6%
45 to 54	14.7%	19.3%	15.1%	19.4%	10.7%	21.1%	15.0%	22.1%
54 and over	6.1%	8.6%	6.7%	9.0%	2.6%	8.1%	4.7%	9.0%
Presence of children ( $\leq 12$ years) in the household	59.6%	54.7%	60.9%	57.7%	61.5%	54.9%	59.0%	46.3%
Presence of elder ( $\geq 65$ years) in the household	14.7%	14.9%	14.2%	14.8%	14.2%	16.2%	15.7%	15.9%
Head of the Household	54.7%	52.2%	48.4%	47.9%	36.9%	42.1%	54.4%	47.0%
Presence of other household member with labor income	62.5%	62.3%	65.6%	64.5%	71.2%	70.8%	66.4%	69.1%

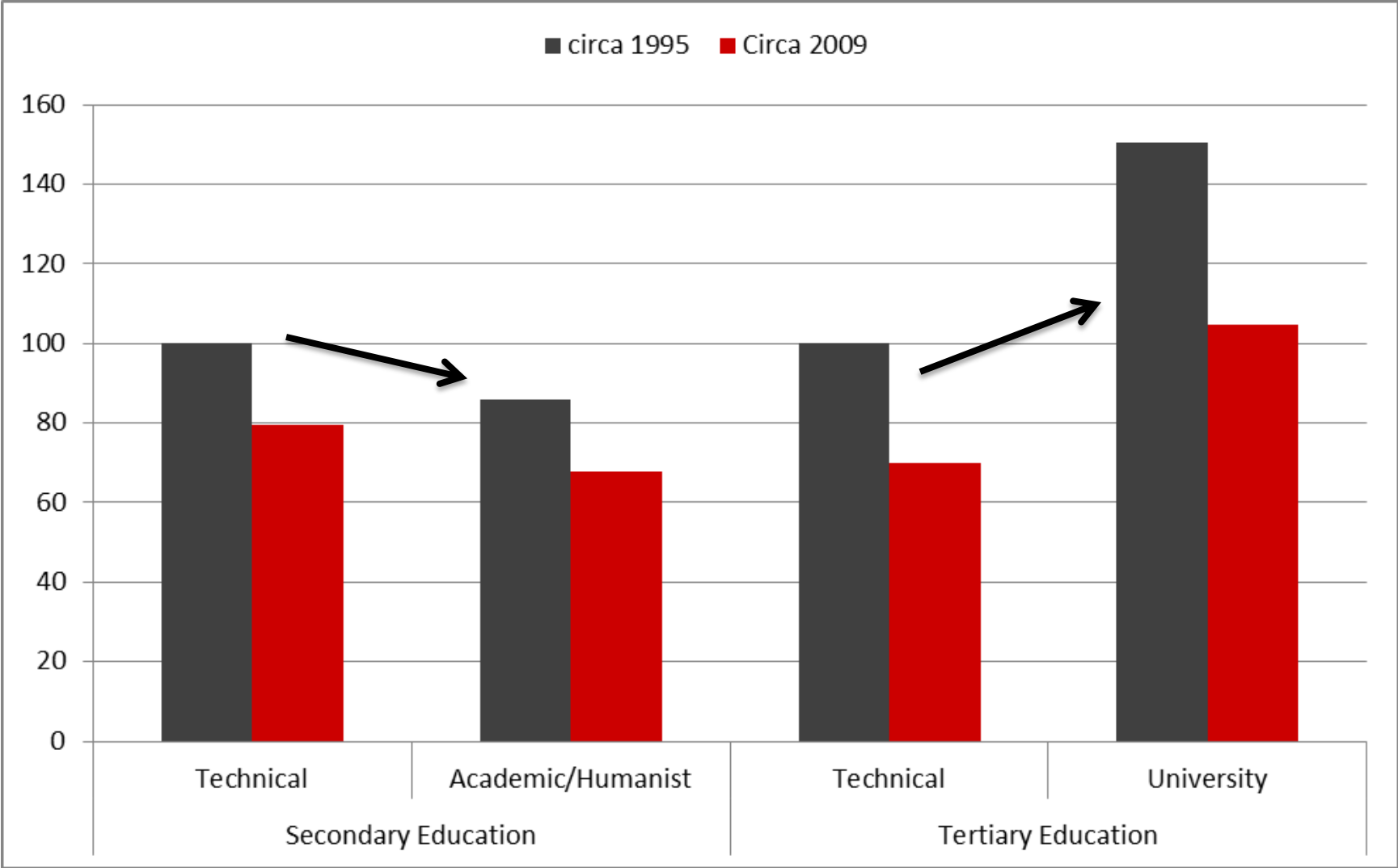
Source: (Ñopo & Bassi, 2013). Calculations based on Latin American countries household surveys, circa 1992 and circa 2007.

# Some Descriptive Statistics (2)

	Secondary Education				Tertiary Education			
	Technical		Academic/Humanist		Technical		University	
<i>Labor Characteristics</i>								
Part time workers (≤30 hours)	12.0%	15.1%	13.8%	17.9%	17.9%	23.0%	21.6%	17.9%
More than one job	5.1%	5.9%	4.9%	6.0%	8.7%	10.5%	14.5%	9.1%
Type of Employment								
Employer	5.0%	3.7%	4.9%	3.8%	3.3%	1.8%	7.3%	2.3%
Self-employed	20.1%	19.5%	21.2%	22.8%	13.4%	15.4%	14.9%	13.9%
Employee	75.0%	76.8%	73.9%	73.3%	83.3%	82.8%	77.9%	83.8%
Economic Sector								
Agriculture, hunting, forestry and fishing	2.8%	4.6%	5.1%	6.0%	1.9%	2.7%	1.6%	1.7%
Mining and quarrying	1.5%	2.2%	1.4%	1.7%	1.0%	2.9%	0.9%	1.1%
Manufacturing	23.7%	16.5%	18.5%	14.0%	15.1%	12.9%	10.6%	9.2%
Electricity, gas and water supply	1.7%	1.7%	0.9%	1.2%	1.2%	1.5%	1.1%	1.0%
Construction	8.2%	9.6%	6.7%	9.6%	3.1%	3.6%	3.9%	3.9%
Wholesale and retail trade and hotels and restaurants	25.1%	23.3%	27.5%	25.9%	21.0%	16.0%	14.7%	13.3%
Transport, storage	9.3%	11.3%	9.8%	11.7%	5.5%	4.3%	4.7%	4.5%
Financing insurance, real estate and business services	7.0%	7.2%	6.0%	6.1%	6.3%	4.4%	11.5%	8.6%
Community, social and personal services	20.7%	23.6%	24.2%	23.6%	45.0%	51.7%	51.1%	56.7%

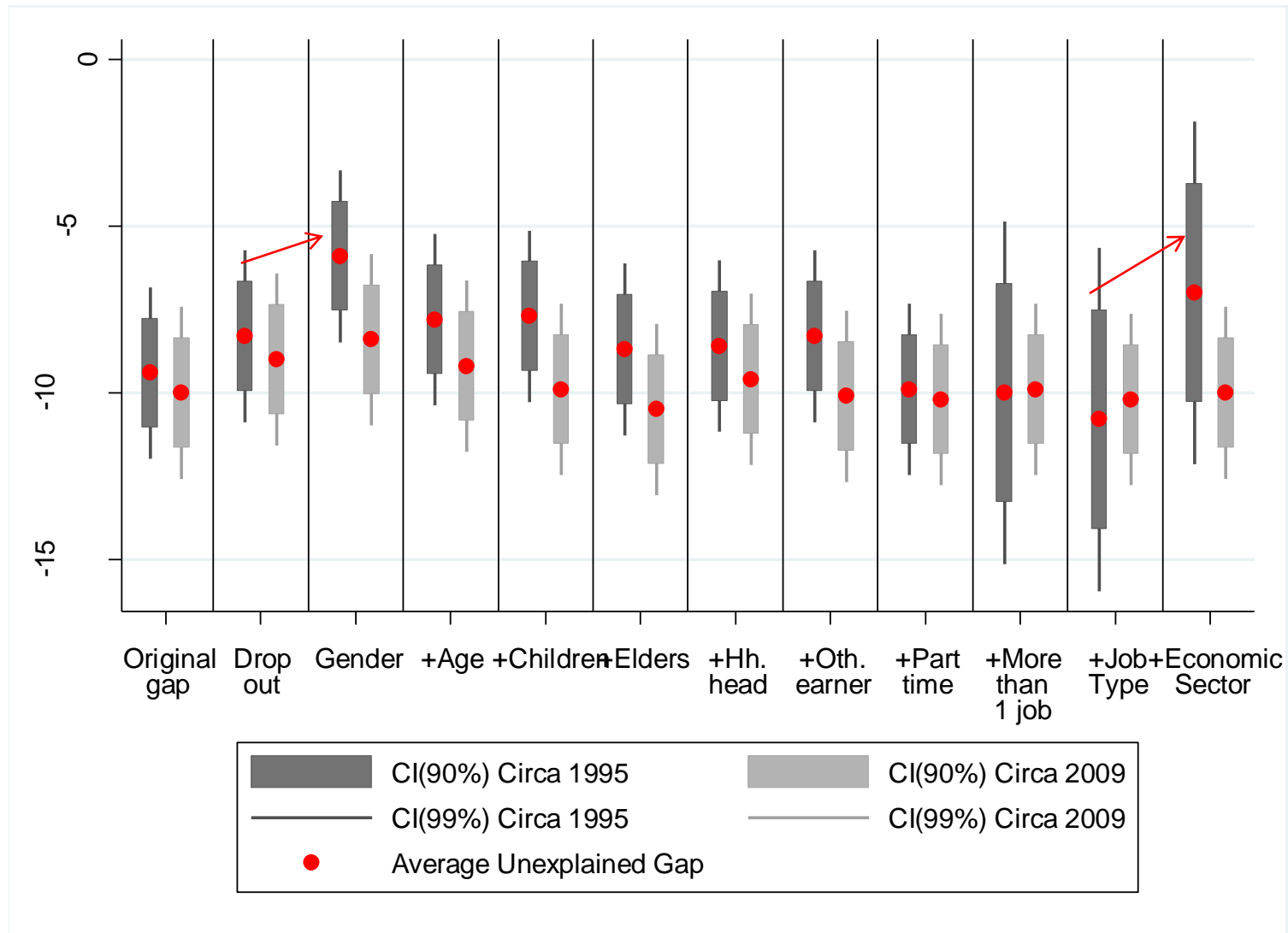
Source: (Ñopo & Bassi, 2013). Calculations based on Latin American countries household surveys, circa 1995 and circa 2009.

# Relative Hourly Earnings



Source: (Ñopo & Bassi, 2013). Calculations based on Latin American countries household surveys, circa 1995 and circa 2009.

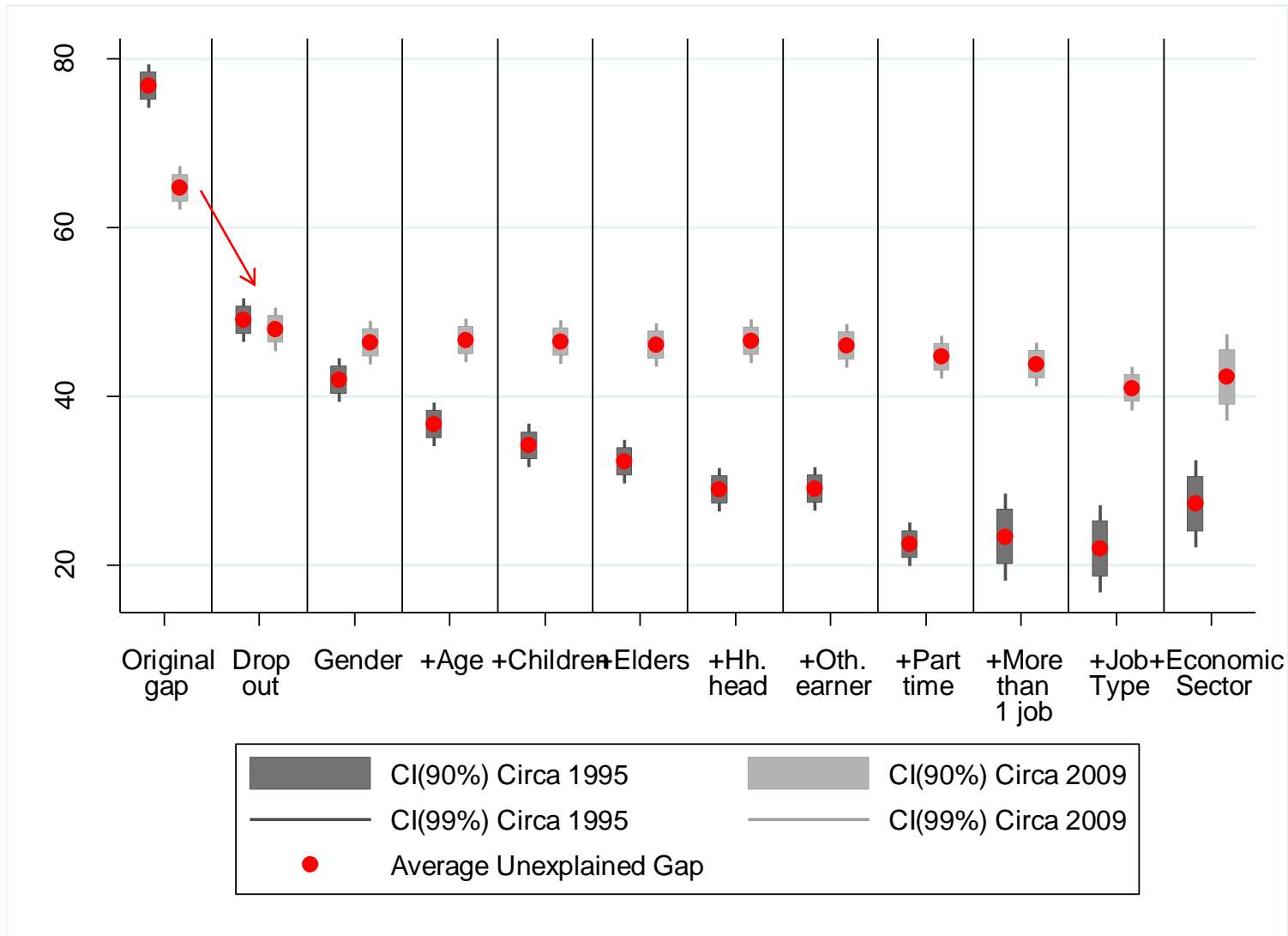
# The role of individual characteristics: Secondary



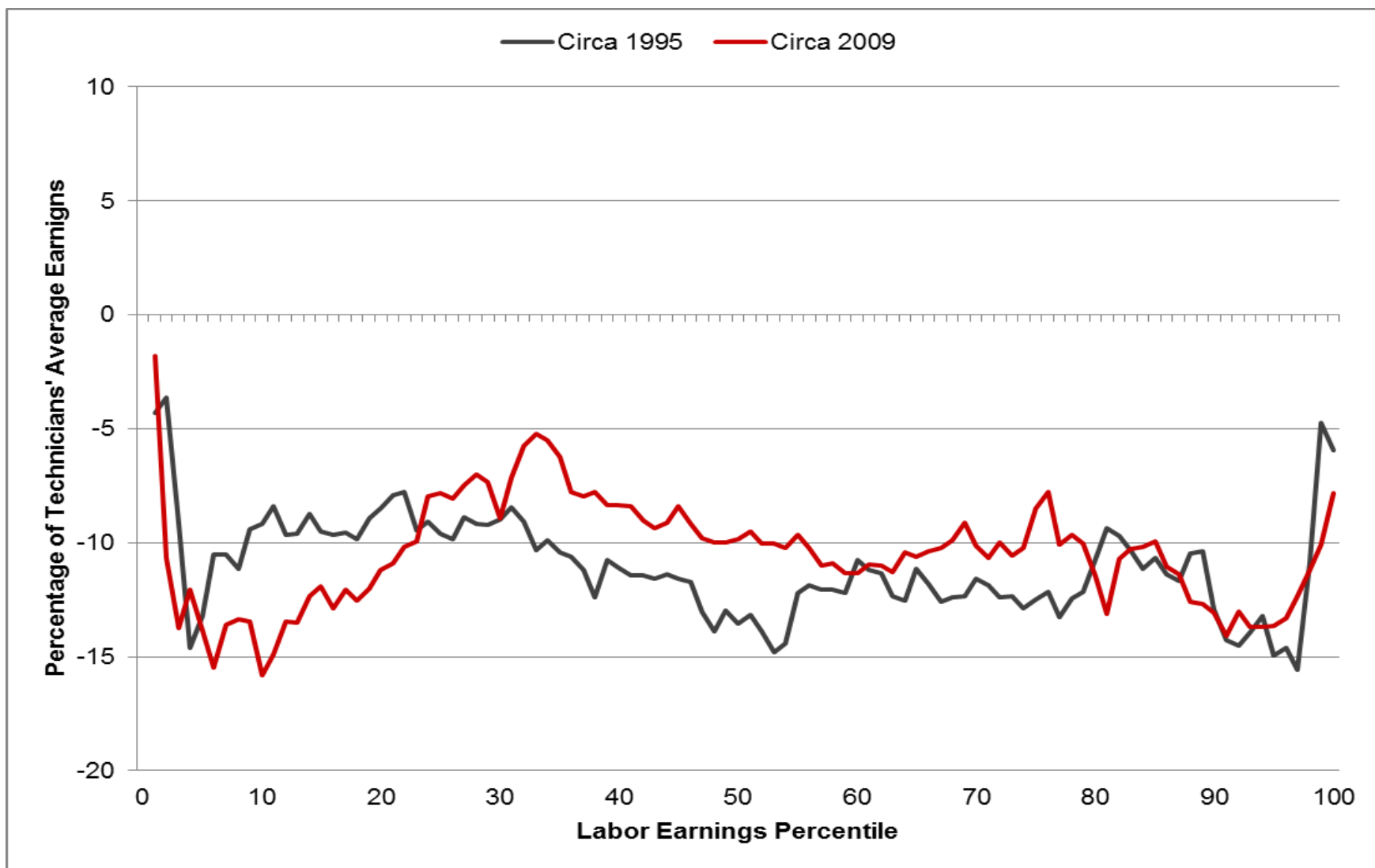
Source: (Ñopo & Bassi, 2013). Calculations based on Latin American countries household surveys, circa 1995 and circa 2009.



# The role of individual characteristics: Tertiary

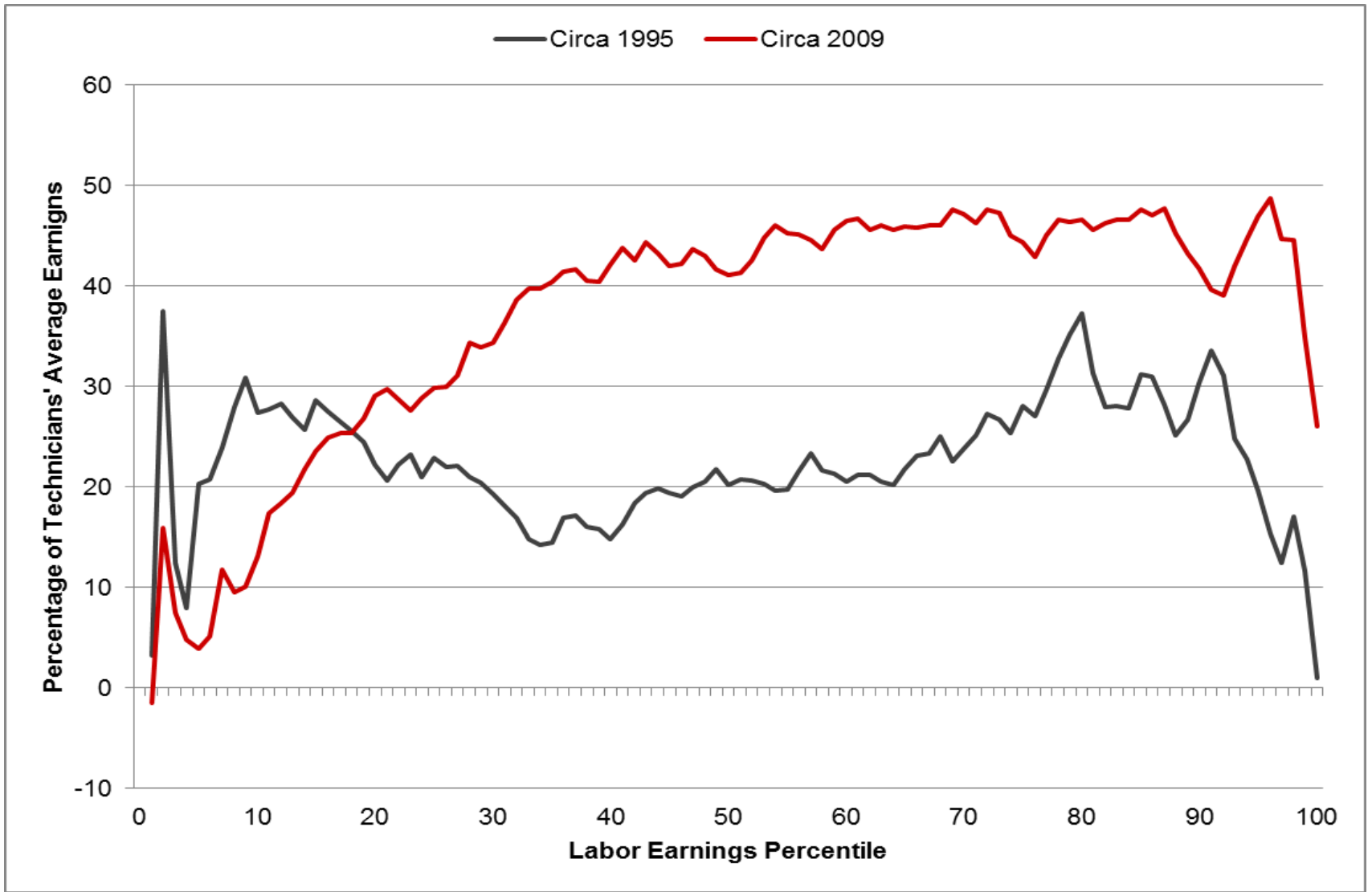


Source: (Ñopo & Bassi, 2013). Calculations based on Latin American countries household surveys, circa 1995 and circa 2009.



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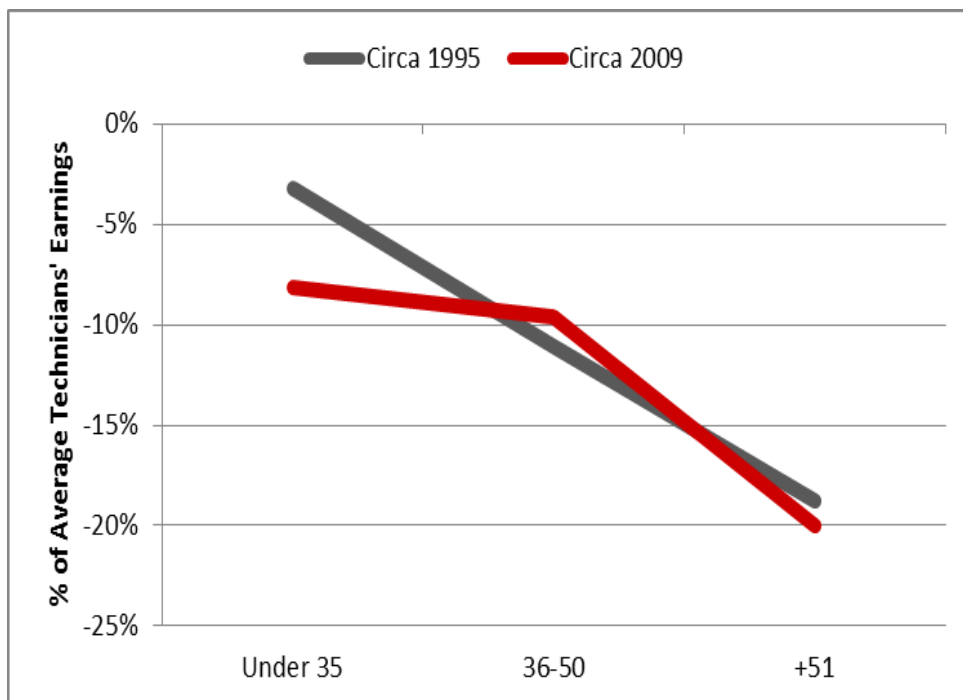
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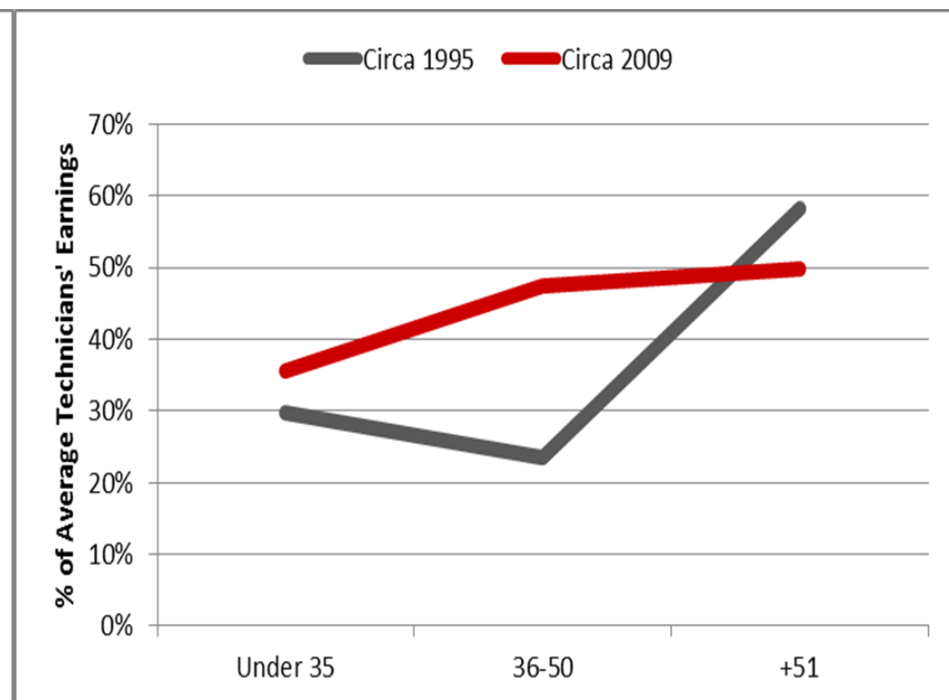
Source: (Ñopo & Bassi, 2013). Calculations based on Latin American countries household surveys, circa 1995 and circa 2009.

# Average unexplained Earnings Gap Controlling by the full set of Observable Characteristics, by age group

## Secondary



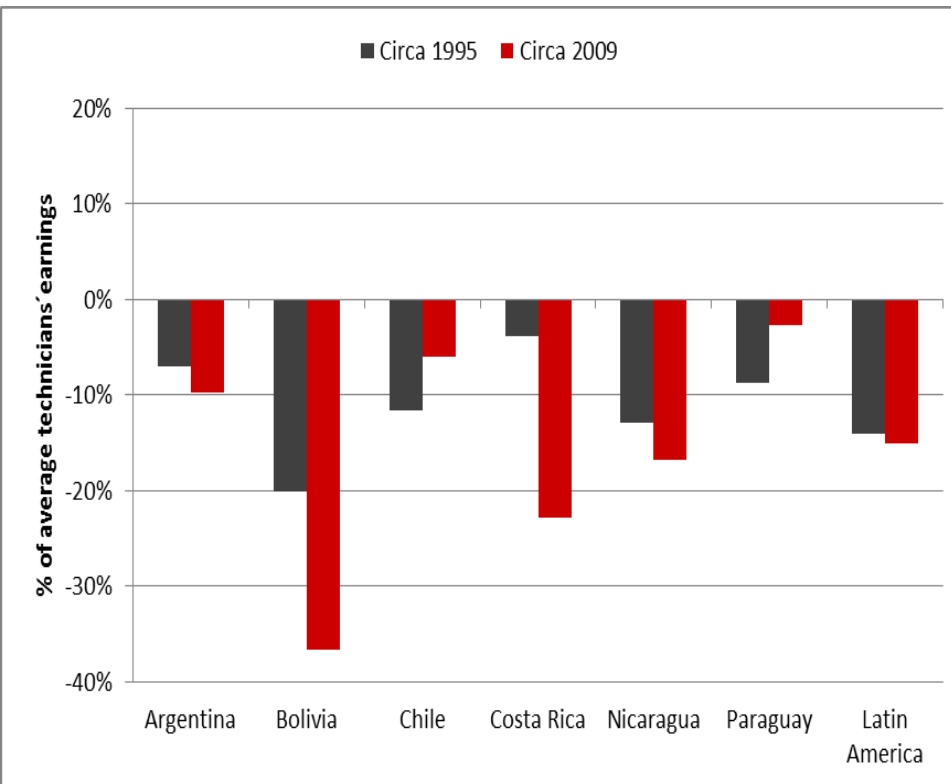
## Tertiary



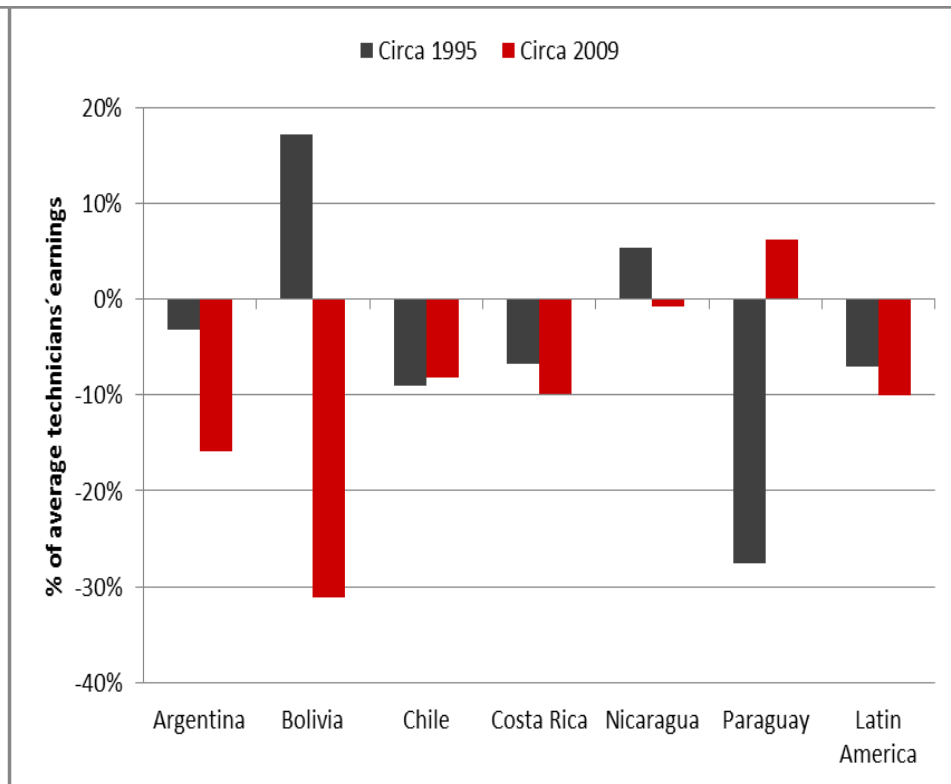
Source: (Ñopo & Bassi, 2013). Calculations based on Latin American countries household surveys, circa 1995 and circa 2009.

# Secondary: Unexplained Gaps

## Original Gap



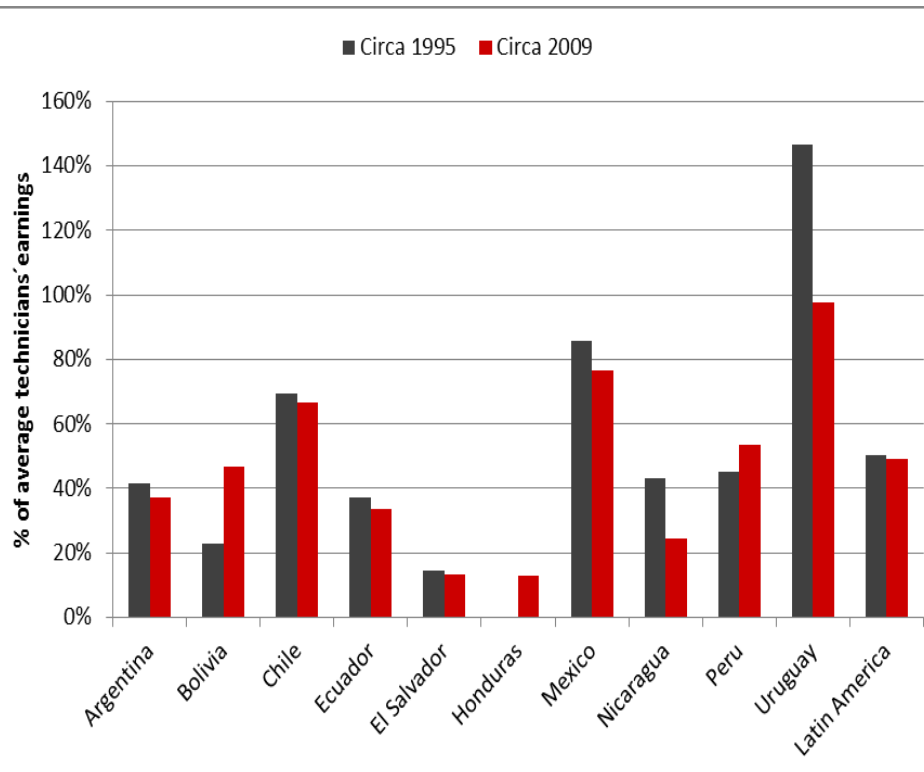
## Controlling for the full set of attributes



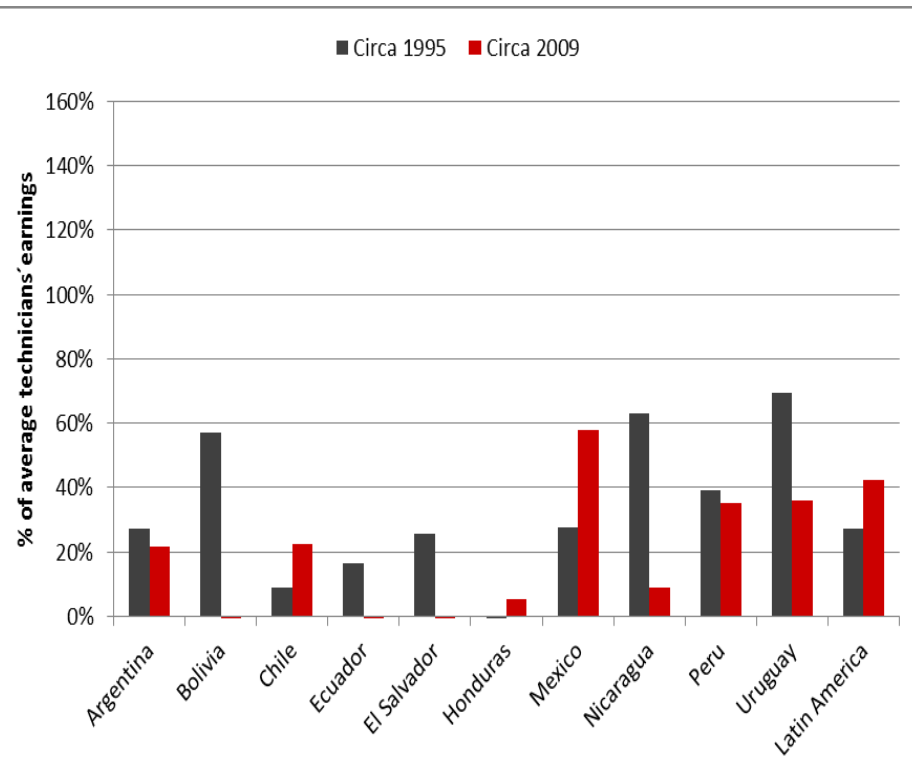
Source: (Ñopo & Bassi, 2013). Calculations based on Latin American countries household surveys, circa 1995 and circa 2009.

# Tertiary: Unexplained Gaps

## Original Gap



## Controlling for the full set of attributes



Source: (Ñopo & Bassi, 2013). Calculations based on Latin American countries household surveys, circa 1995 and circa 2009.

# Summary and conclusions

- » At the secondary level
  - » Workers who followed the technical path earn between 5% and 10% more than their peers who followed the humanistic path,
  - » But these workers are ageing (lack of renewal)
  - » The gaps are homogeneous along the earnings distribution, and
  - » This did not changed much during the period of analysis
  - » An important role for experience (proxy: age)
  
- » At the tertiary level
  - » Workers who attended college earn between 40% and 50% more than their peers who attended technical studies,
  - » This gap is increasing along the earnings distribution, and
  - » Such gap increased between 10 and 20 percentage points during the period.

Thanks!



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