Inherited Inequality in Latin America

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Joint work with Paolo Brunori, Francisco H. G. Ferreira, Guido Neidhöfer and Louis Sirugue. This is a preliminary version of a chapter commissioned for the Elsevier Handbook of the Economics of Intergenerational Mobility (eds: Durlauf and Mazumder)

Let me begin with an anecdote:

No fewer than 31 presidents of Costa Rica (Stone, 1976), and 285 members of its parliament are direct descendants of Juan Vázquez de Coronado y Anaya (Spain, 1523).

Advantages and disadvantages are, indeed, transmitted through generations.

We summarize what we have learned in the literature for LATAM.

Intergenerational persistence is typically measured as:

- **Intergenerational mobility (IGM)**: measure of the association in $F(y_c, y_p)$.
- **Inequality of opportunity (IOp)**: amount of inequality in y_c predicted by "circumstances" *Circ*.

The concept of "inherited inequality" theoretically encompasses both measuring the association between y_c and H, is a selected set of inherited personal characteristics.

If $y_c \not\perp H$, then $\exists f \in \mathcal{F}$ such that $y_c = f(H, \varepsilon)$ outperforms the mean in predicting y_c.

"Relative" inherited inequality often takes the form:

$$Rel.Inh = \frac{I(\hat{y}_H)}{I(y_c)}$$

For example, in the IGM literature, H $= y_p$:

$$y_c = f(H, \varepsilon) = \alpha + \beta y_p + \varepsilon \qquad \hat{\rho} = \hat{\beta}\frac{\sigma_p}{\sigma_c}$$

Alternatively, the Relative IOp (ex-ante), H $= Circ$:

$$y_c = f(H, \varepsilon) = \alpha + \beta Circ + \varepsilon \qquad Rel.IOp = \frac{I(\hat{y}_{Circ})}{I(y_c)}$$

Education Intergenerational Mobility in LAC

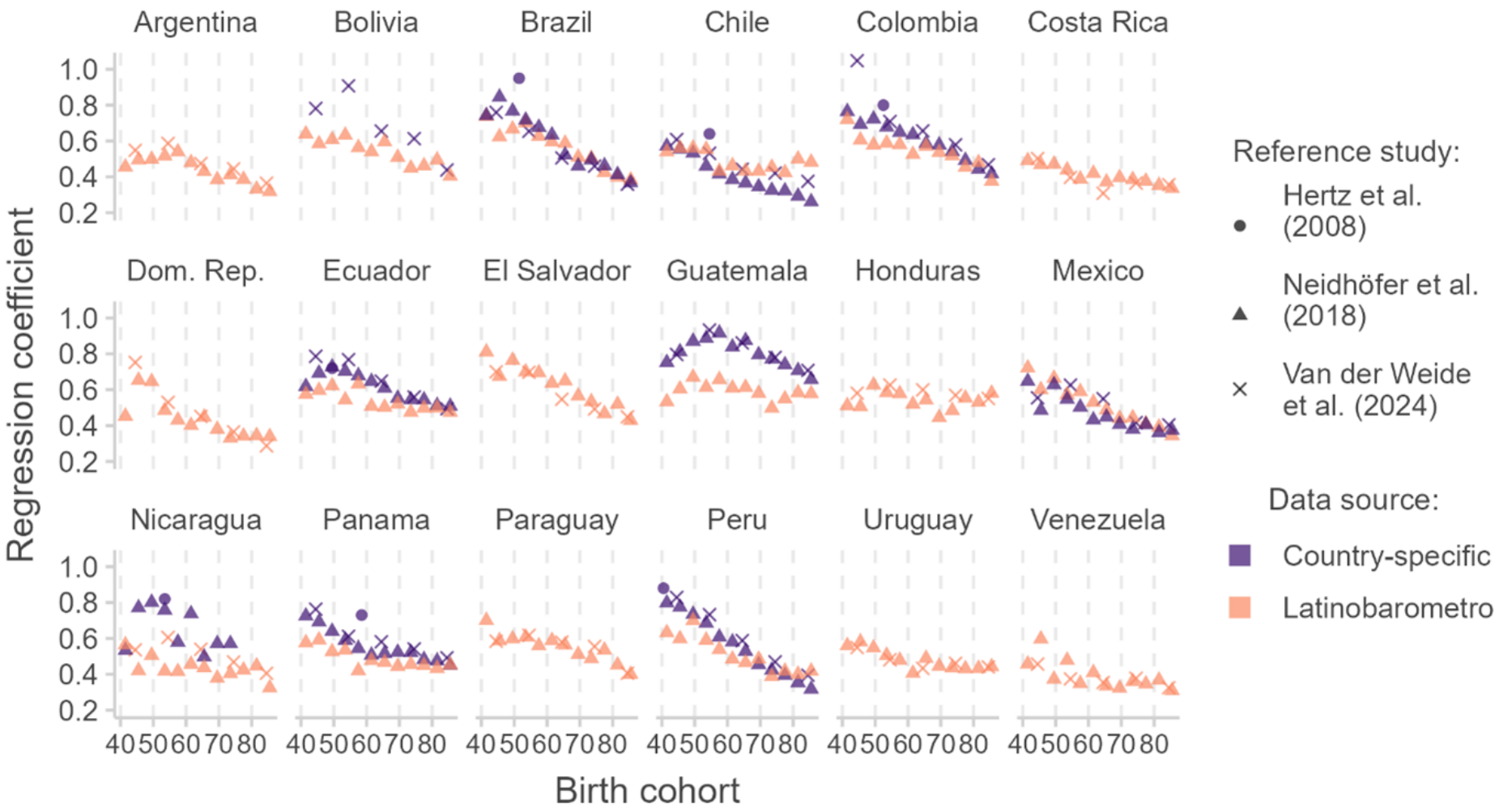
The literature goes back 25 years or so, including Behrman et al. (1999, 2001); Hertz et al. (2008); Torche (2014); Neidhöfer et al. (2018); Van der Weide et al. (2024), among many others.

Main take out: lower mobility than in developed countries (Europe β around 0.3-0.35). In older cohorts, β in LATAM reaches 0.5-0.6!

But encouraging: β goes down in many countries.

Warning: Estimates from different studies, samples, data origin and so on.

Education IGE Trends



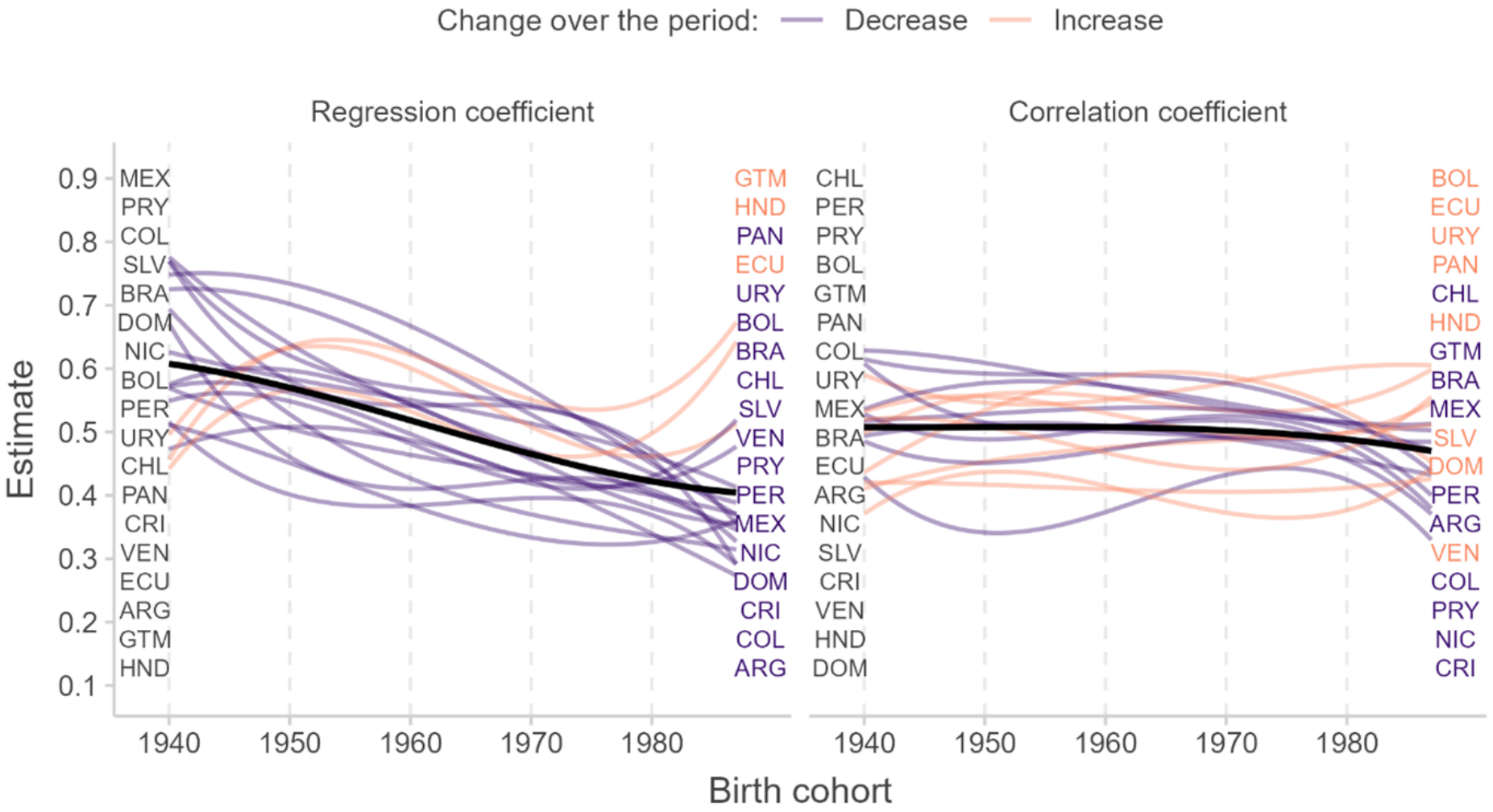
Education average IGE levels

Table 1 – Educational mobility in Latin America: Average estimates of intergenerational regression coefficients.

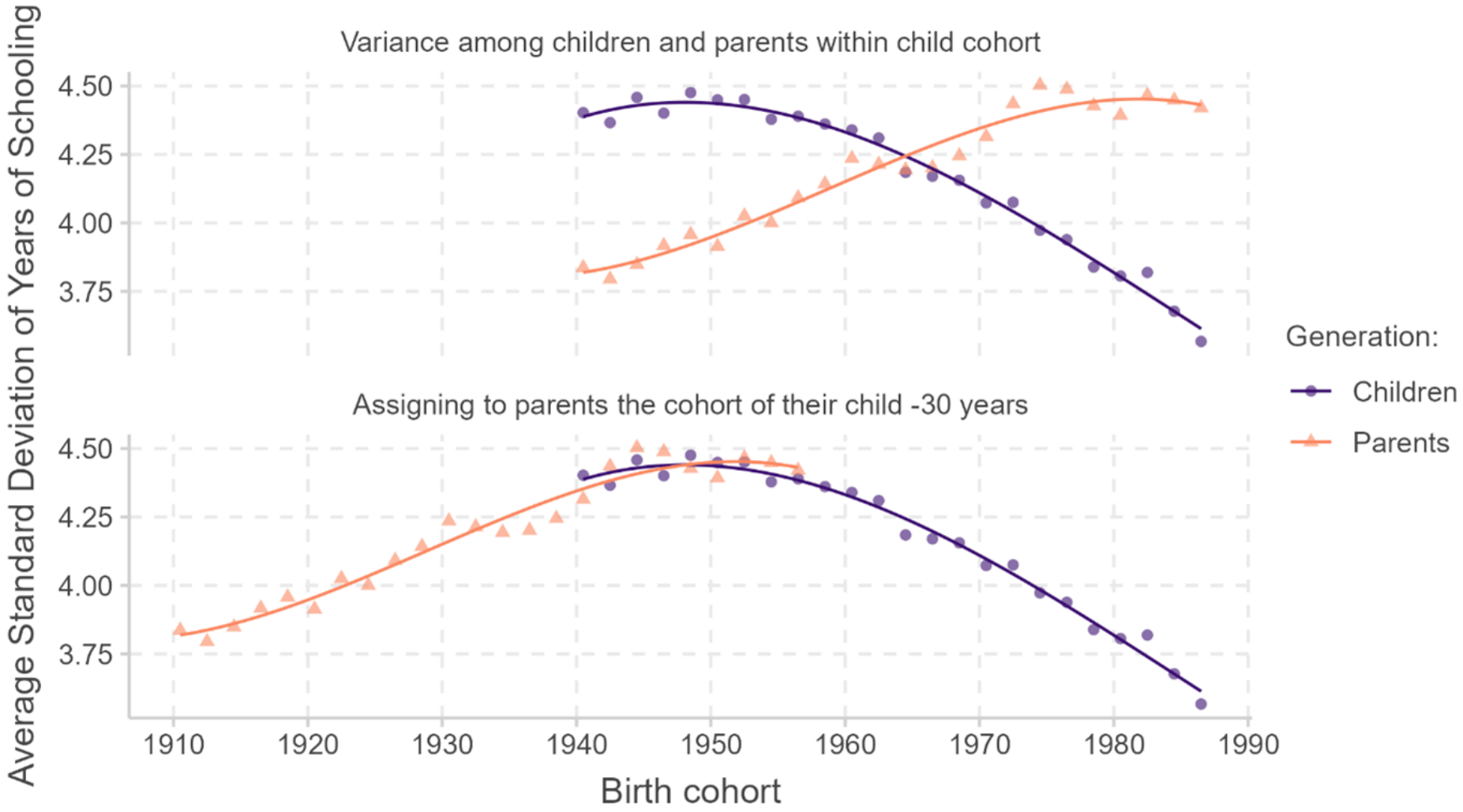
	Van der Weide et al. ***(2024)***	*Neidhöfer et al. (2018)*	*Hertz et al. (2008)*	*Ciaschi et al. (2023)*	*Celhay and Gallegos (2023)*
ARG	0.484	0.437			
BOL	0.679	0.540			
BRA	0.548	0.578	0.950	0.763	
CHL	0.476	0.444	0.640	0.489	0.453
COL	0.692	0.572	0.800		0.521
CRI	0.386	0.408			
DOM	0.477	0.438			
ECU	0.651	0.574	0.720	0.768	
GTM	0.815	0.696			
HND	0.585	0.538			
HTI	0.585				
MEX	0.510	0.492		0.648	0.672
NIC	0.511	0.525	0.820		
PAN	0.598	0.521	0.730	0.728	
PER	0.603	0.532	0.880		
PRY	0.548	0.549			0.459
SLV	0.577	0.620			0.553
URY	0.473	0.480			0.351
VEN	0.378	0.392			
Cohorts	1940-1989	1940-1987	1916-1983*	1940-1989	1940-1990**
Parental education	Maximum	Maximum	Average	Both (Lubotsky-Wittenberg estimate)	Either father or mother***

*Notes: *BRA 1927-76, CHL 1930-79, COL 1928-77, ECU 1925-74, NIC 1929-78, PAN 1934-83, PER 1916-65; ** While the youngest children in data are indicated to be born in 1990, we could not find any information on the oldest ones. 1940 is an approximation based on the parents' cohorts, which are 1920-1970; ***Estimates are obtained from census data where respondents are asked about their children's education. Depending on whether the respondent is male or female the estimate refers to father's or mother's education.*

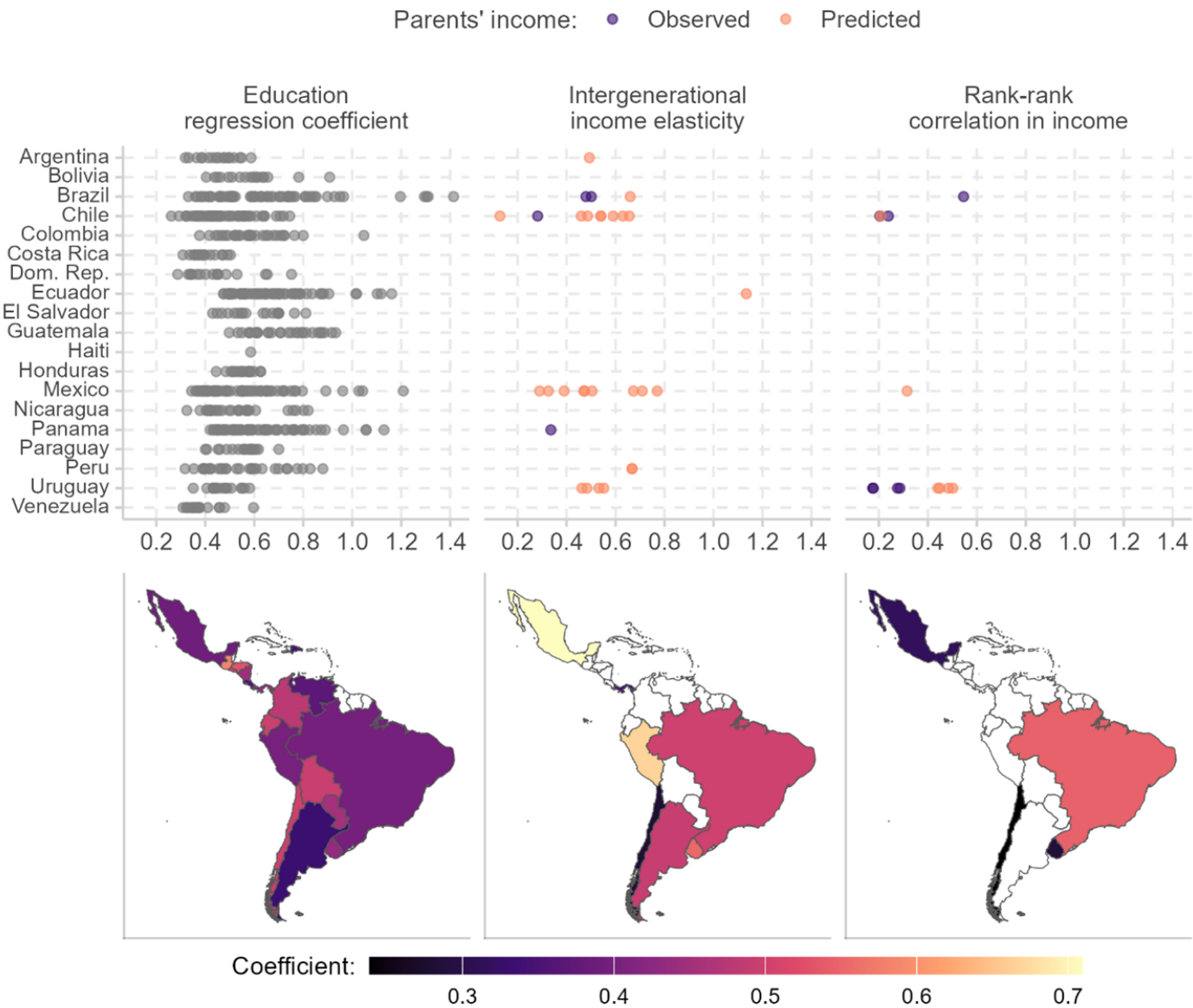
Education β vs ρ: distentangling the trends



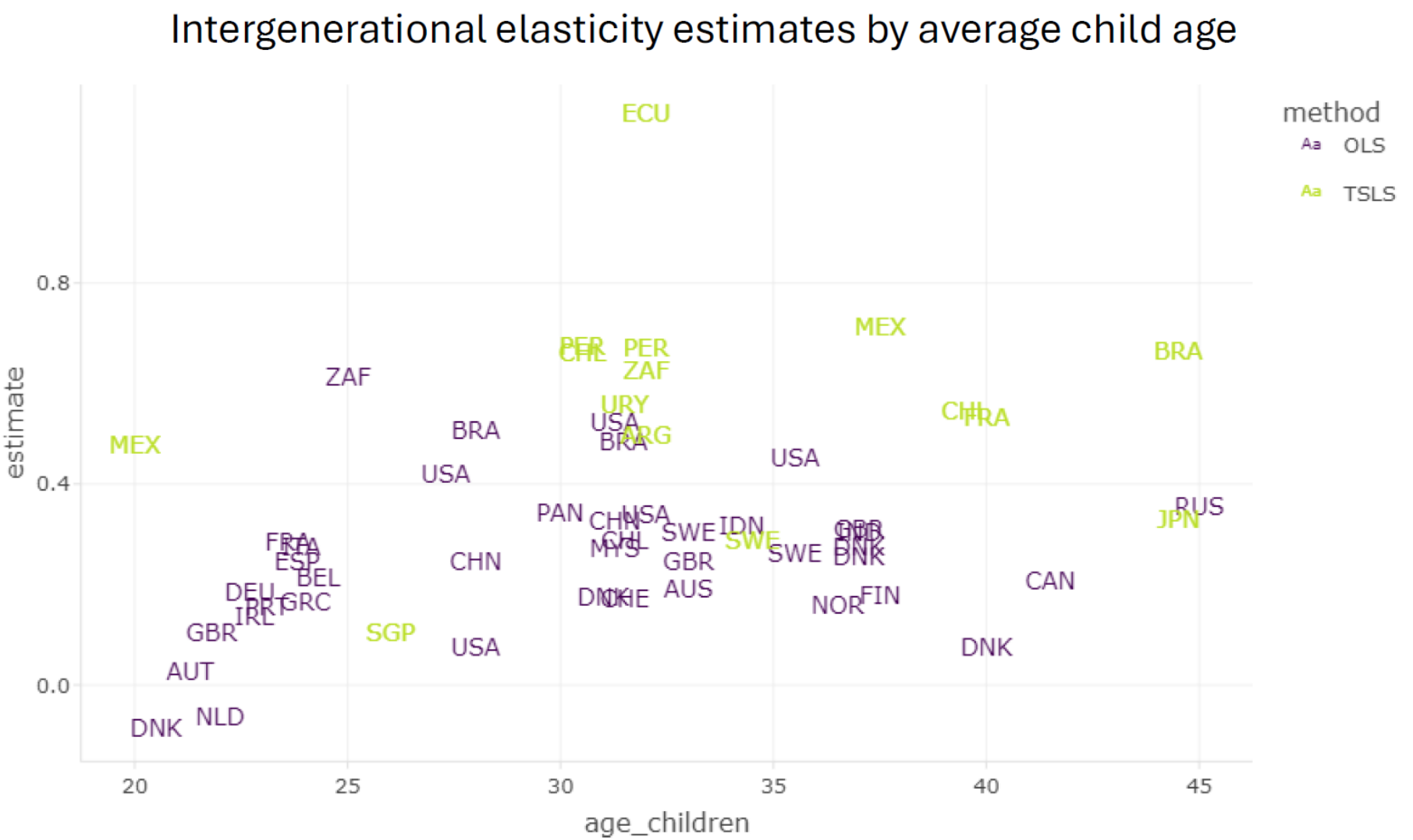
Education Inequality across Cohorts



Education vs Income β and ρ



Inverted U-shaped pattern when compared with age?



Exante IOp

We rely on the Global Estimates of Opportunity and Mobility (GEOM). Other sources: are Brunori et al. (2024, 2025).

Use random forests to estimate $y_c = f(Circ, \varepsilon)$ accounting for interactions and non-linearities avoiding overfitting. See more in the GEOM website.

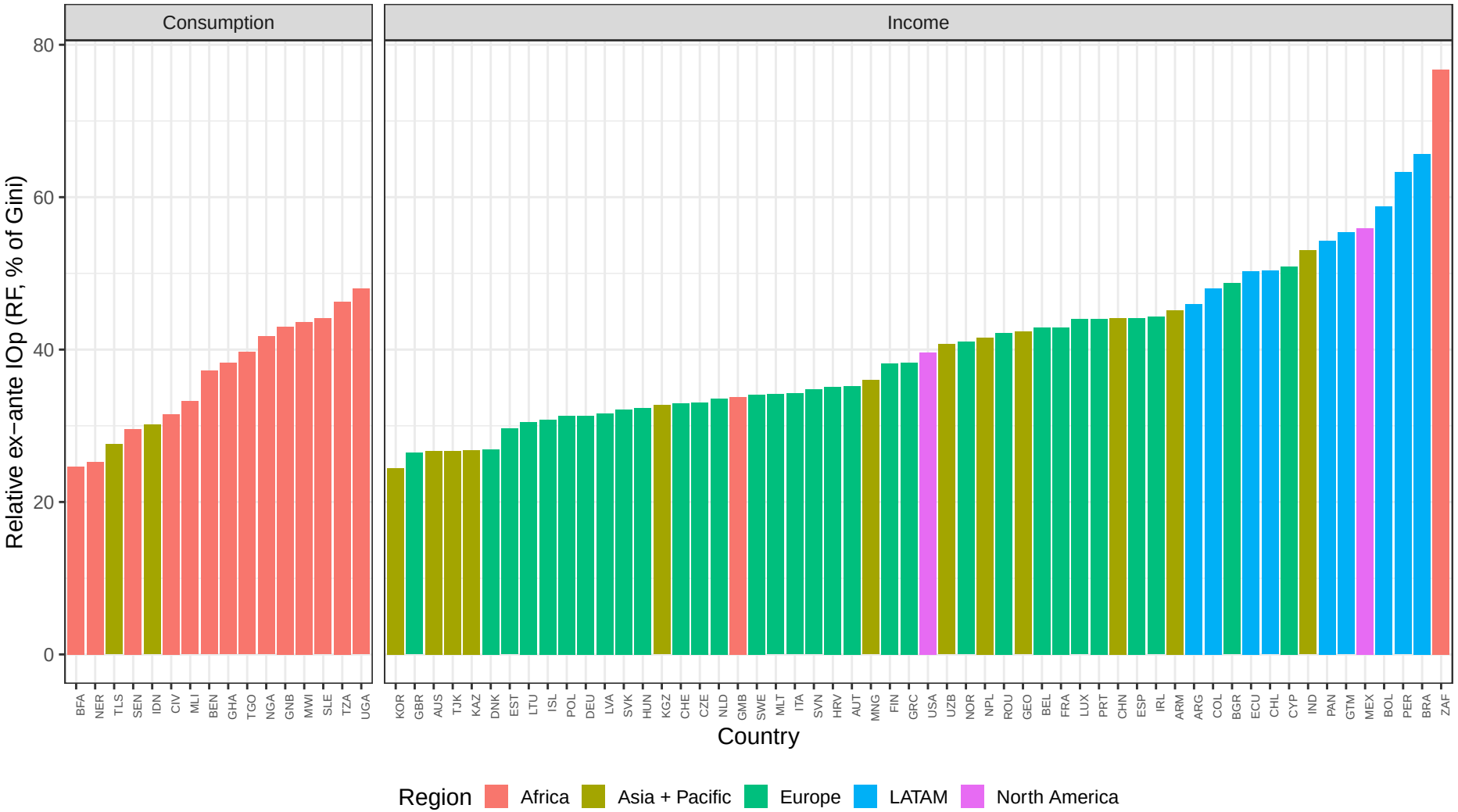
Circumstances used: Birth Area, Ethnicity, Father Education and Occupation, Mother Education and Occupation, Sex.

Data used in GEOM for LATAM

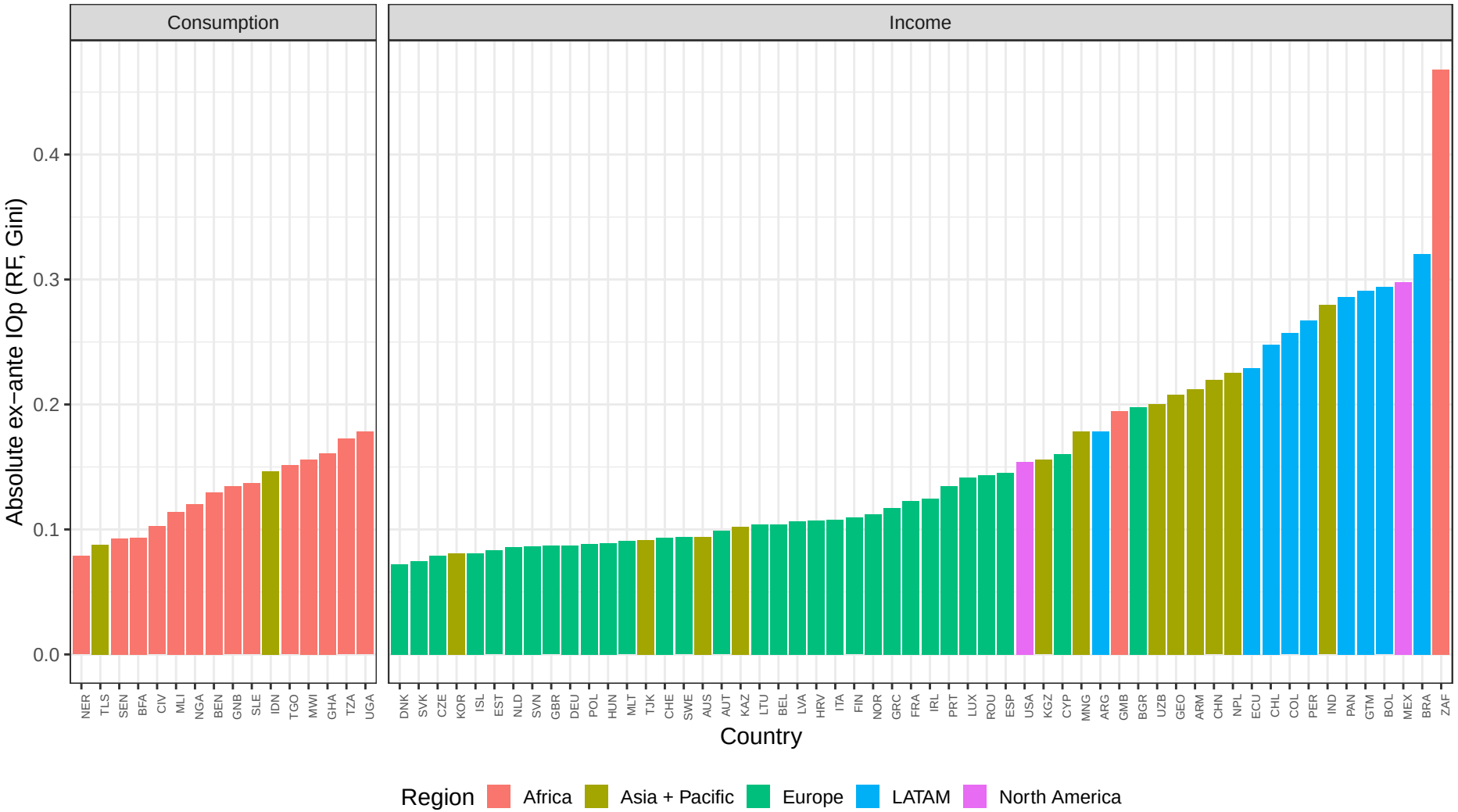
Table 1: Household surveys used in our analysis

Country	Survey Name	Acronym
Argentina	Encuesta Nacional sobre la Estructura Social	ENES
Bolivia	Encuesta de Hogares	EH
Brazil	Pesquisa Nacional por Amostra de Domicílios	PNAD
Chile	Encuesta de Caracterización Socioeconómica Nacional	CASEN
Colombia	Encuesta Nacional de Condiciones de Vida	ECV
Ecuador	Encuesta de Condiciones de Vida	ECV
Guatemala	Encuesta Nacional sobre Condiciones de Vida	ENCOVI
Mexico	Encuesta ESRU de Movilidad Social en México	EMOVI
Panama	Encuesta de Niveles de Vida	ENV
Peru	Encuesta Nacional de Hogares	ENAHO

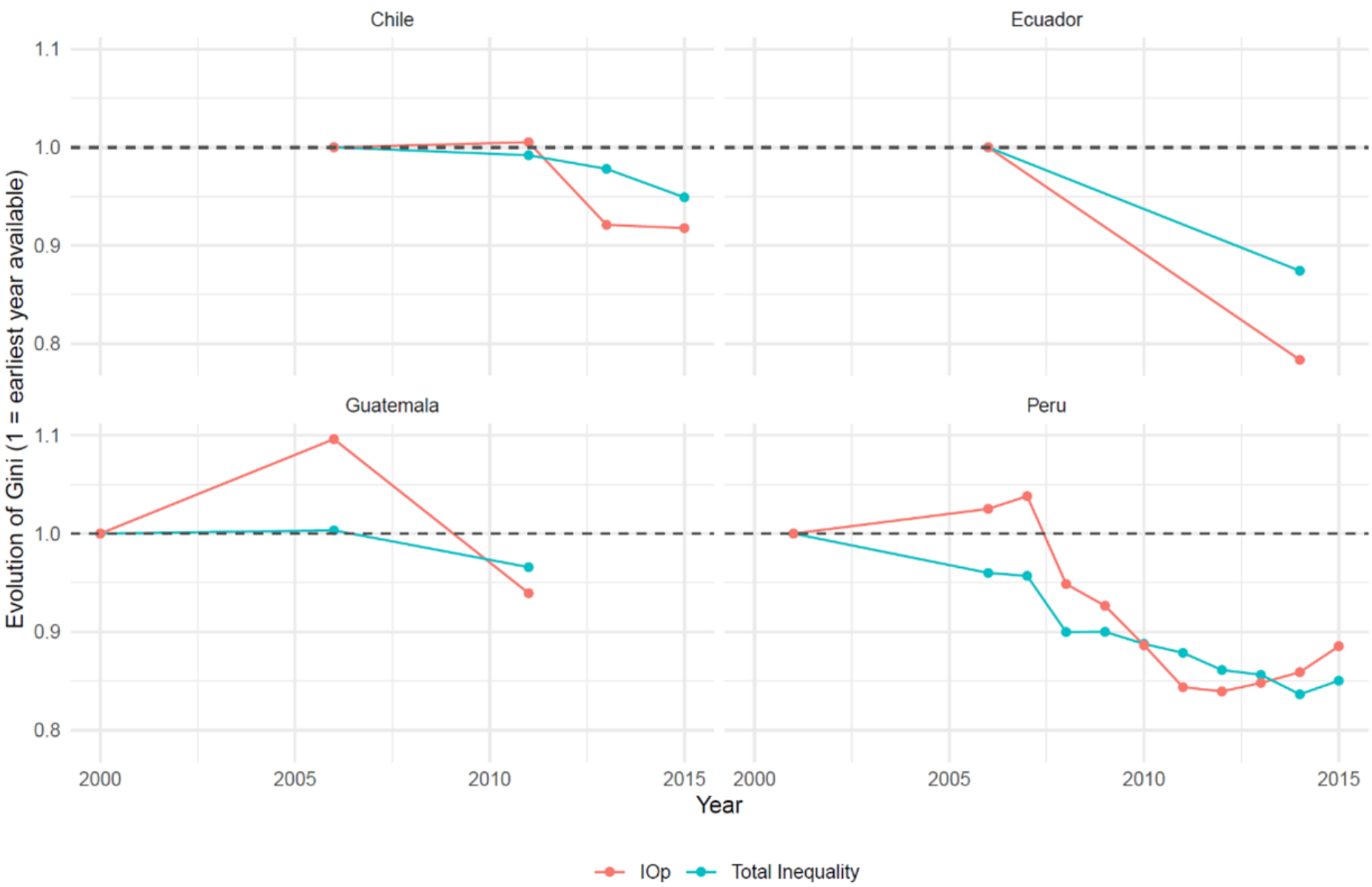
Relative Income IOp in LATAM is huge (0.44-0.66)



Absolute Income IOp in LATAM vs rest of the World



Income IOp Trends in four LATAM countries



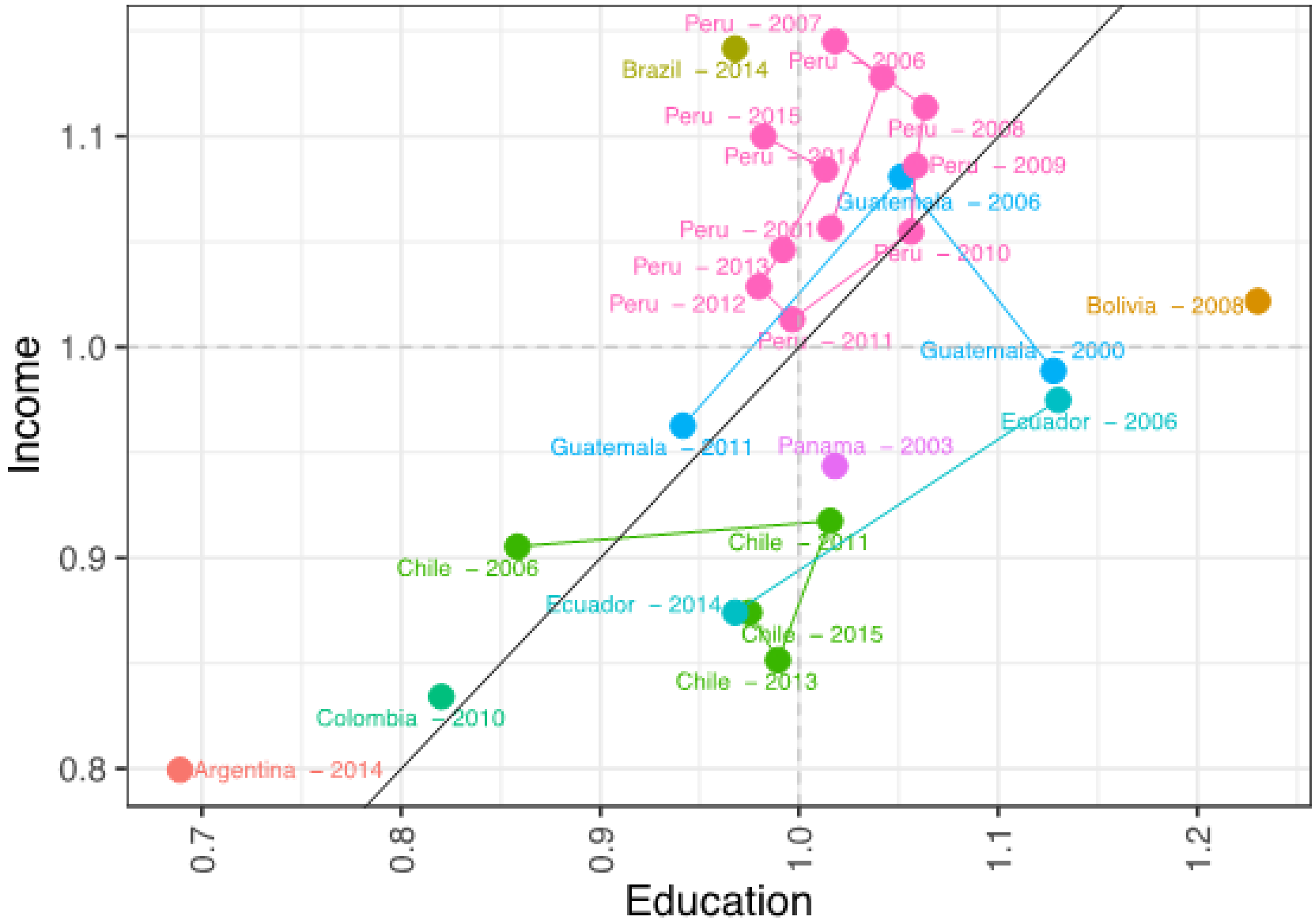
Contribution of Circumstances to Income IOp

Table 4: Ex-ante Shapley value decompositions

Circumstances	ARG (2014)	BOL (2008)	BRA (2014)	CHL (2015)	COL (2010)	ECU (2014)	GTM (2011)	MEX (2017)	PAN (2003)	PER (2015)
Birth Area	33.74	15.01	12.81	14.58	26.56	.	27.95	15.04	21.98	23.1
Ethnicity	0.10	15.82	9.48	2.44	3.39	7.17	.	4.39	2.77	11.69
Father Education	23.08	16.00	22.09	37.87	29.45	27.41	28.83	20.92	36.23	31.57
Father Occupation	18.82	17.09	19.23	.	.	19.85	.	18.23	.	.
Mother Education	21.72	16.65	21.14	37.14	37.28	27.53	27.8	18.03	37.52	31.69
Mother Occupation	.	17.53	14.06	.	.	13.81	.	8.63	.	.
Sex	2.53	1.90	1.18	7.98	3.33	2.34	3.01	14.76	1.51	1.94

Source: Data from ENES, EH, PNAD, CASEN, ECV, ENCOVI, EMOVI, ENV, ENAHO. See more details in Table 1 and Table 2. All values are relative (%) contributions to random forest IOp, see Table 3.

Education and Income IOp Trends



Education and Income IOp Levels

Wave	Relative Income IOp (Forest)	Relative Education IOp (GEOM)	Relative Education "IOp" (PISA)
Argentina (2014)	46	28.9	23.8
Bolivia (2008)	58.8	51.6	
Brazil (2014)	65.7	40.6	21.1
Chile (2006)	52.1	36	30.8
Chile (2011)	52.8	42.6	34.6
Chile (2013)	49	41.5	
Chile (2015)	50.3	40.9	28.6
Colombia (2010)	48	34.4	30.9
Ecuador (2006)	56.1	47.4	
Ecuador (2014)	50.3	40.6	
Guatemala (2000)	56.9	47.3	
Guatemala (2006)	62.2	44.1	
Guatemala (2011)	55.4	39.5	
Mexico (2017)	56		20
Panama (2003)	54.3	42.7	
Peru (2001)	60.8	42.6	
Peru (2006)	64.9	43.7	
Peru (2007)	65.9	42.7	
Peru (2008)	64.1	44.6	
Peru (2009)	62.5	44.4	42.2
Peru (2010)	60.7	44.3	
Peru (2011)	58.3	41.8	
Peru (2012)	59.2	41.1	32.8
Peru (2013)	60.2	41.6	
Peru (2014)	62.4	42.5	
Peru (2015)	63.3	41.2	29.9
Average	57.3	41.8	29.5

Source: Data for columns 2 and 3 comes from surveys listed in Table 2. Data for column 3 comes from Brunori et al. (2025).

Take-home ideas

- IGM, β most 0.35-0.70; ρ, most 0.20-0.30.
- Declining trend in education inherited inequalities (also in income)
- ρ of education seems stable, declining β associated with declining inequality (Kuznets effect?).
- Relative IOp $\frac{I(\hat{y}_c)}{I(y_c)}$ between 0.44-0.66.
- Education and Income IOp correlate well with two exceptions: Brazil and Bolivia.
- Larger shares than in other regions.*

**Comparisons with Africa are difficult to make (Consumption vs. Income)*

Q&A: Thanks so much!

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