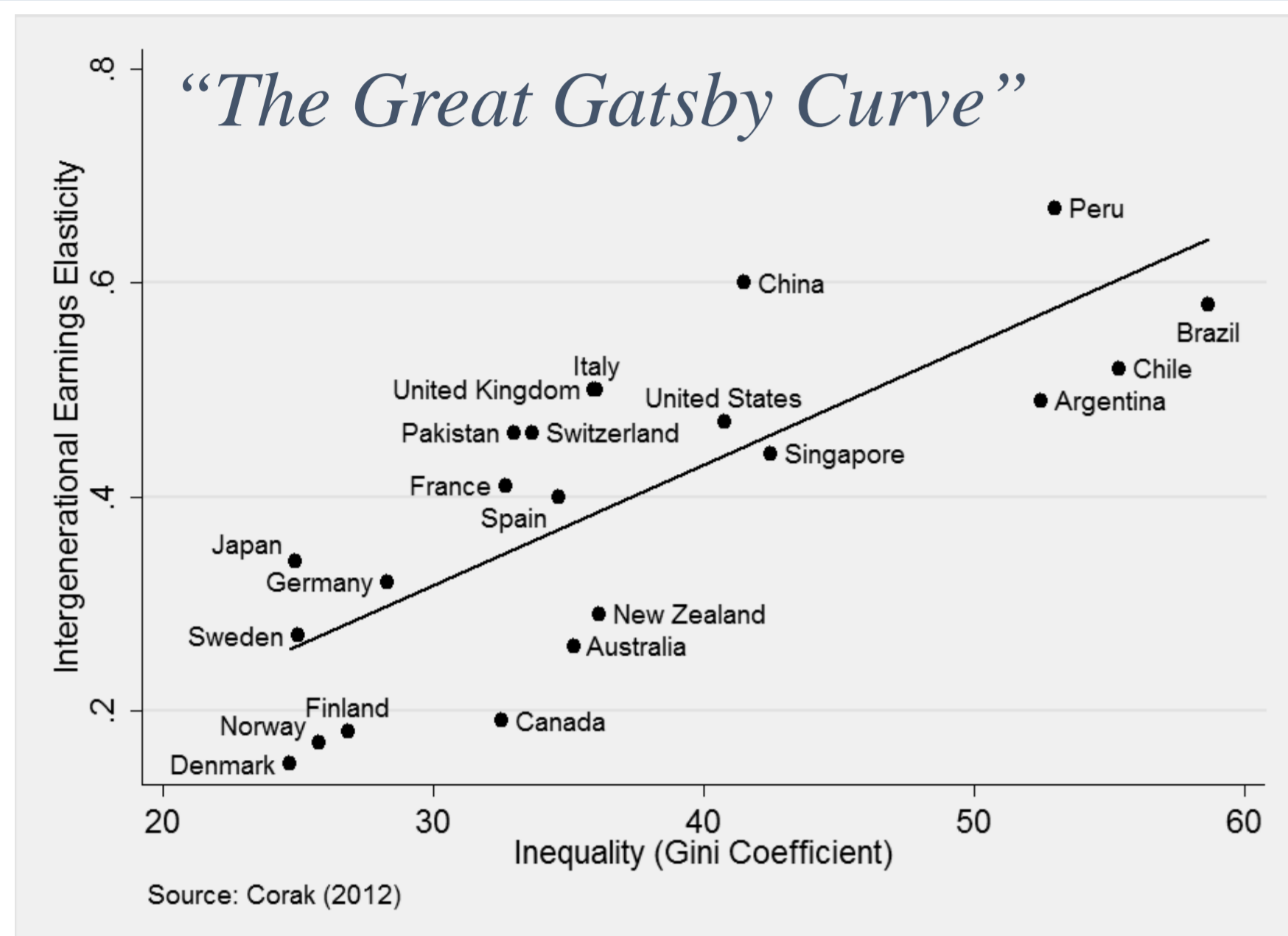


Intergenerational Mobility and the Rise and Fall of Inequality

Lessons from Latin America

Motivation



Countries with a high level of **inequality** also show a high association between parents' and children's economic well-being; i.e. low **intergenerational mobility**.

Contribution

- So far, the relationship between inequality and intergenerational mobility has been investigated in **cross-country comparisons** or **within one single country**.
- Using **harmonized micro data from 18 different countries and over various cohorts**, this study is the first to find evidence for a negative relationship between inequality and intergenerational mobility in a **between and within country analysis**.

Laboratory: Latin America

- LAC countries are rather homogeneous in their (high) levels of inequality and intergenerational persistence of socioeconomic status, but different in their institutional and political set up.

Data

Micro-Data

- *Latinobarómetro* survey (1998-2013)
- *Harmonized household surveys for 8 LAC countries* (1996-2013)

Macro-Data

- *Socio-Economic Database for Latin America and the Caribbean* (SEDLAC)
- *World Bank Data*

The data sources share the great advantage of **comparability** across countries and over time.

Inequality: Gini of disposable household per capita income
Growth: GDP per capita in USD at 2005 market prices
Public Investment in Human Capital: Public expenditures in education as percentage of GDP

Method

Intergenerational mobility

$$y_i = \alpha + \beta y_i^p + \delta X_i + \varepsilon_i$$

y_i and y_i^p are i 's own and her parents' socioeconomic status, respectively. X is a vector of controls for sex, age (polynomial), city size and urban or rural location.

Higher values of β display a higher association between parents' and children's well being, and therefore a lower intergenerational mobility, and vice versa. ①

Measurement and normalization of y and y^p

$$y_i = (Y_i - \bar{Y}_{(acj)}) / \bar{Y}_{(acj)}$$

$$y_i^p = (Y_i^p - \bar{Y}_{(acj)}^p) / \bar{Y}_{(acj)}^p$$

- Y_i completed years of education of individual i
- Y_i^p completed years of education of i 's parents
- $\bar{Y}_{(acj)}$ mean years of schooling of individuals aged a in country c born in year j
- $\bar{Y}_{(acj)}^p$ mean of parental years of schooling of individuals in country c born in year j

Interaction terms with macro-level characteristics

$$y_{ic} = \alpha + \beta y_{ic}^p + \delta X_{ic} + \gamma_1 \cdot Q_c + \tau_1 Q_c + \varepsilon_{ic} \quad (1)$$

$$y_{ic} = \alpha + \beta y_{ic}^p + \delta X_{ic} + \gamma_1 \cdot Q_c + \tau_1 Q_c + \vartheta_c + \varepsilon_{ic} \quad (2)$$

$$y_{ic} = \alpha + \beta y_{ic}^p + \delta X_{ic} + \gamma_1 \cdot Q_c + \tau_1 Q_c + \vartheta_c + \gamma_2 \cdot G_c + \tau_2 G_c + \varepsilon_{ic} \quad (3)$$

$$y_{ic} = \alpha + \beta y_{ic}^p + \delta X_{ic} + \gamma_1 \cdot Q_c + \tau_1 Q_c + \vartheta_c + \gamma_2 \cdot G_c + \tau_2 G_c + \gamma_3 \cdot Z_c + \tau_3 Z_c + \varepsilon_{ic} \quad (4)$$

(1) includes only **inequality** (Q_c), (2) also **country fixed effects** (ϑ_c), (3) additionally **economic growth** (G_c), and (4) **public investment in human capital** (Z_c). (see Data)

The γ -coefficients signal a positive or negative change in the slope of the association of parents' and children's socioeconomic status, while its standard errors (clustered by country and year of birth) the significance of this change. ②

Lifetime periods of measurement

Macro-level characteristics are measured when the individual was in a period of life, when (parental or public) investments in human capital are essential.

(A) **Early childhood**, defined as the age interval from 0 to 6,

(B) **Primary school age**, from age 6 to 12, and

(C) **Adolescence**, from age 12 to 18.

The mean of the relevant macro characteristics are matched to the individual according to the country where she lives and the mentioned age intervals.

(A very simple example taking inequality as macro level variable: For an individual born 1986 in Argentina, the mean of the Gini coefficient in Argentina from 1986 to 1992 is associated to *early childhood*, from 1992 to 1998 to *primary school age*, and from 1998 to 2004 to *adolescence*.)

Marginal effects

To measure the magnitude of the effect on intergenerational mobility at certain values of Q , G and Z , the marginal effects have to be computed

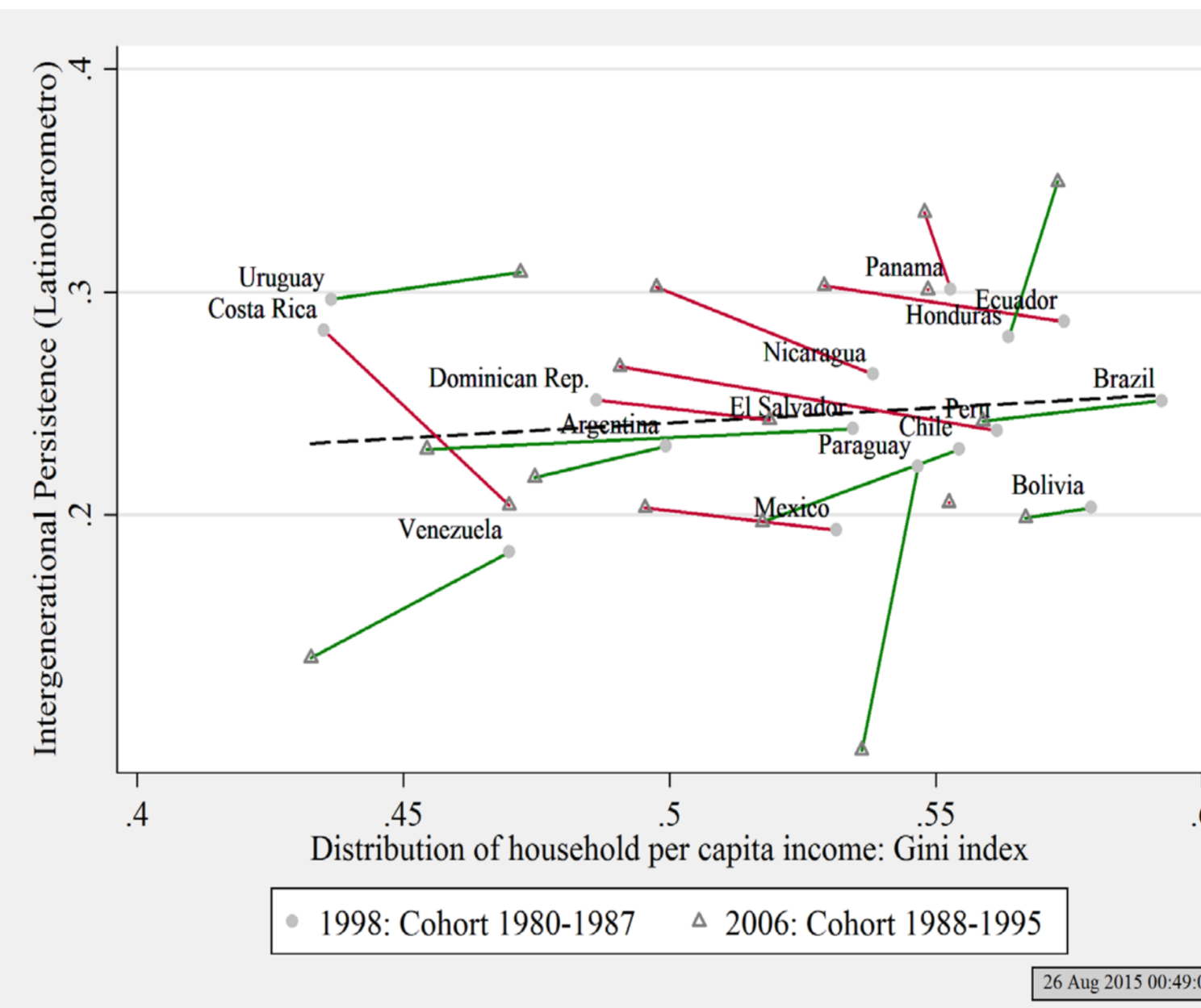
$$\frac{\partial y_{ic}^c}{\partial y_{ic}^p} = \beta + \gamma_1 Q_c \quad \frac{\partial y_{ic}^c}{\partial y_{ic}^p} = \beta + \gamma_2 G_c \quad \frac{\partial y_{ic}^c}{\partial y_{ic}^p} = \beta + \gamma_3 Z_c$$

The magnitude of the effects define the determinant factors of intergenerational mobility. ③

Empirical Evaluation

① Stylized Analysis

In 9 out of 16 countries, the **expected negative relationship between inequality and intergenerational mobility** can be observed over time.



Note: The graphs and table display the values of β , i.e. the intergenerational persistence (see Method on the left).

② Interaction effects

The following table shows specification (C) Adolescence. Specification (A) and (B) show the same pattern. (see *Lifetime periods of measurement* on the left)

	Latinobarómetro Data				Harmonized Household Survey Data			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
β	0.142*** (0.0334)	0.142*** (0.0334)	0.231*** (0.0308)	0.259*** (0.0333)	-0.249* (0.1330)	-0.252* (0.1338)	-0.153 (0.1425)	-0.436*** (0.1232)
γ_1	0.198*** (0.0647)	0.197*** (0.0647)	0.078 (0.0583)	0.082 (0.0632)	0.877*** (0.2352)	0.880*** (0.2367)	0.792*** (0.2403)	1.421*** (0.2040)
γ_2			-0.009*** (0.0016)	-0.006*** (0.0016)			-0.013*** (0.0034)	-0.007*** (0.0022)
γ_3				-0.014*** (0.0030)				-0.028*** (0.0070)
Country fixed effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes
N	88057	88057	88027	78631	205442	205442	205442	191942
R ²	0.197	0.197	0.198	0.188	0.278	0.280	0.281	0.279
N_clust	366	366	365	329	117	117	117	110

Controlling for sex, age (polynomial), city size and urban or rural location. Cluster adjusted s.e. by country and year of birth. Statistical significance level * 0.1 ** 0.05 *** 0.01.

γ_1 shows how **Inequality** affects intergenerational mobility

γ_2 shows how **Growth** affects intergenerational mobility

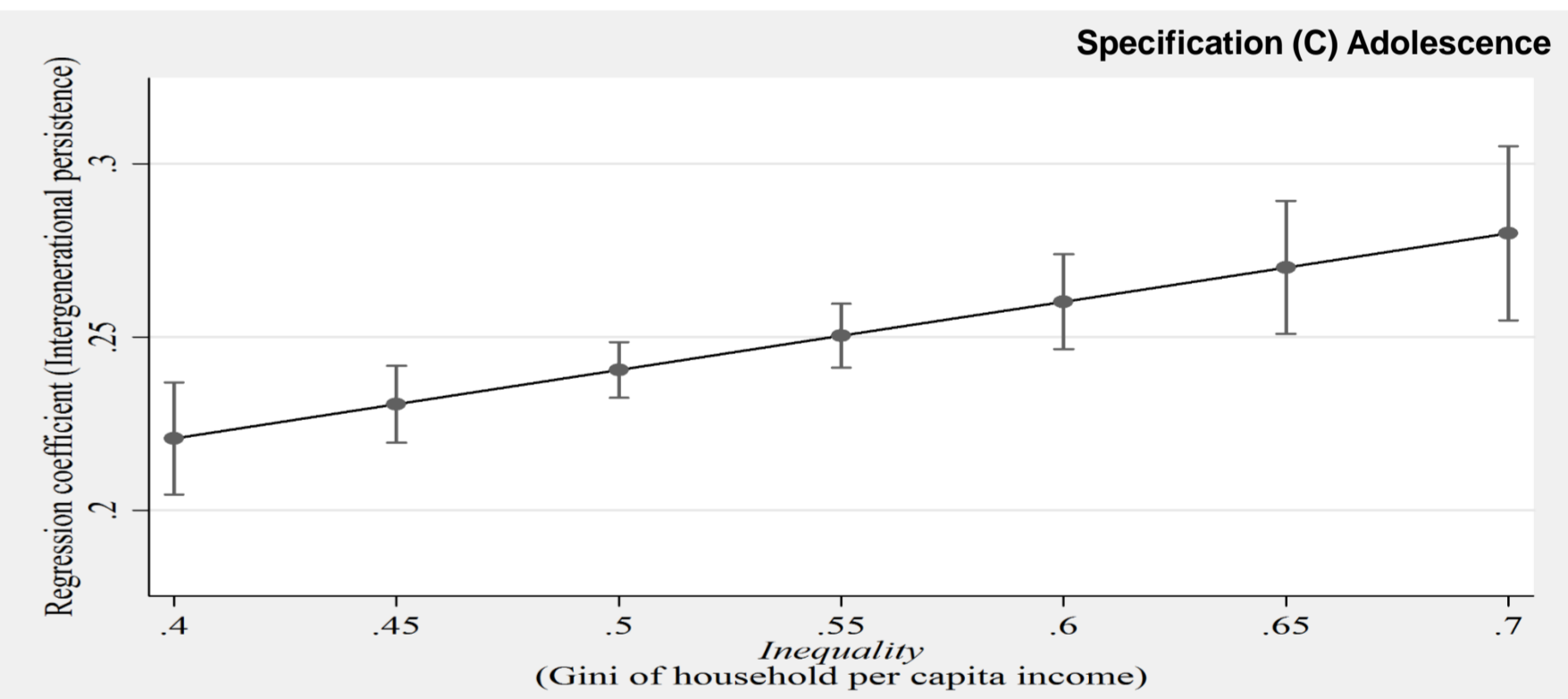
γ_3 shows how **Public investment in human capital** affects intergenerational mobility

The estimations with both data sets confirm that **experiencing lower (higher) inequality in childhood or adolescence** - i.e. when parental investment in human capital is crucial - has the expected **positive (negative) effect on future intergenerational mobility**. The results are robust to different specifications.

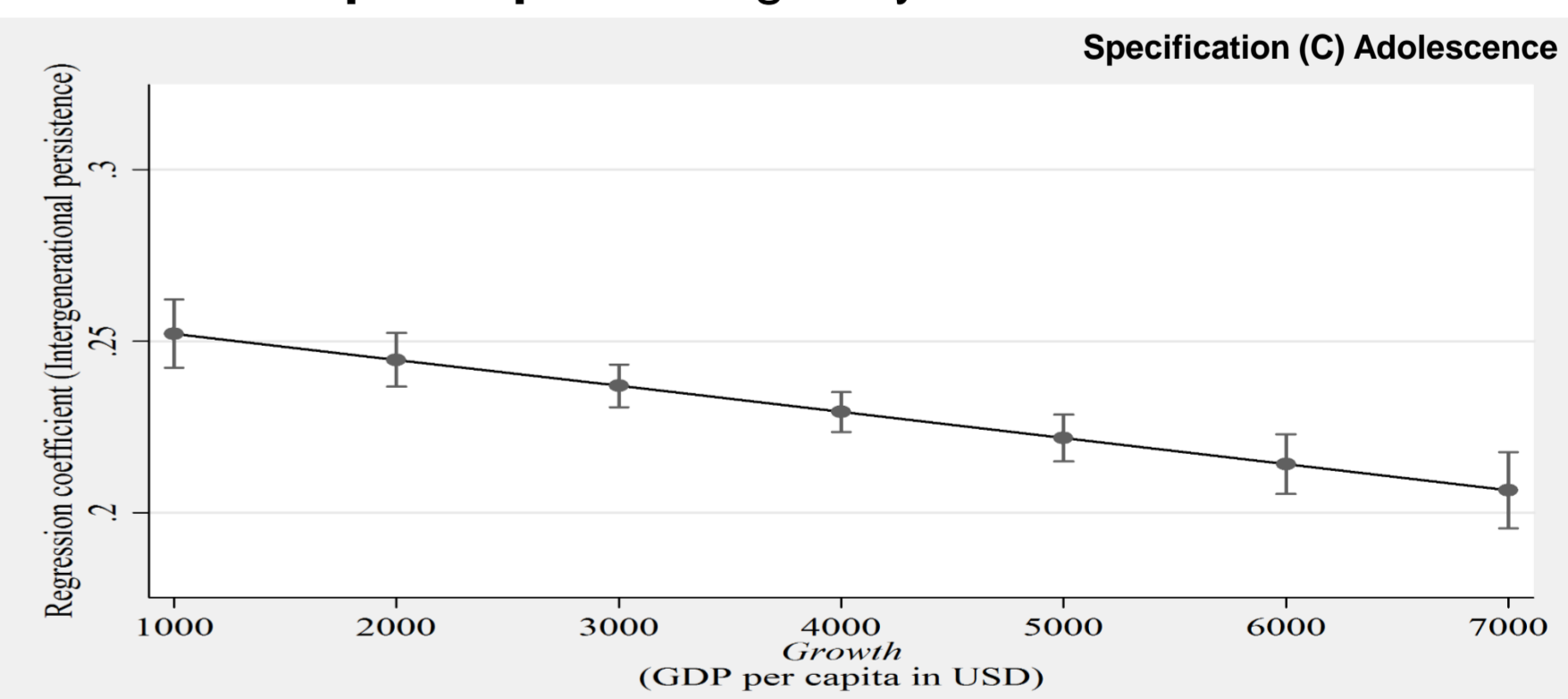
A driving force behind this relationship appears to be economic growth (measured by GDP per capita). Public investment in human capital (measured by public expenditures in education) shows the expected negative effect on persistence.

③ Determinants of intergenerational mobility

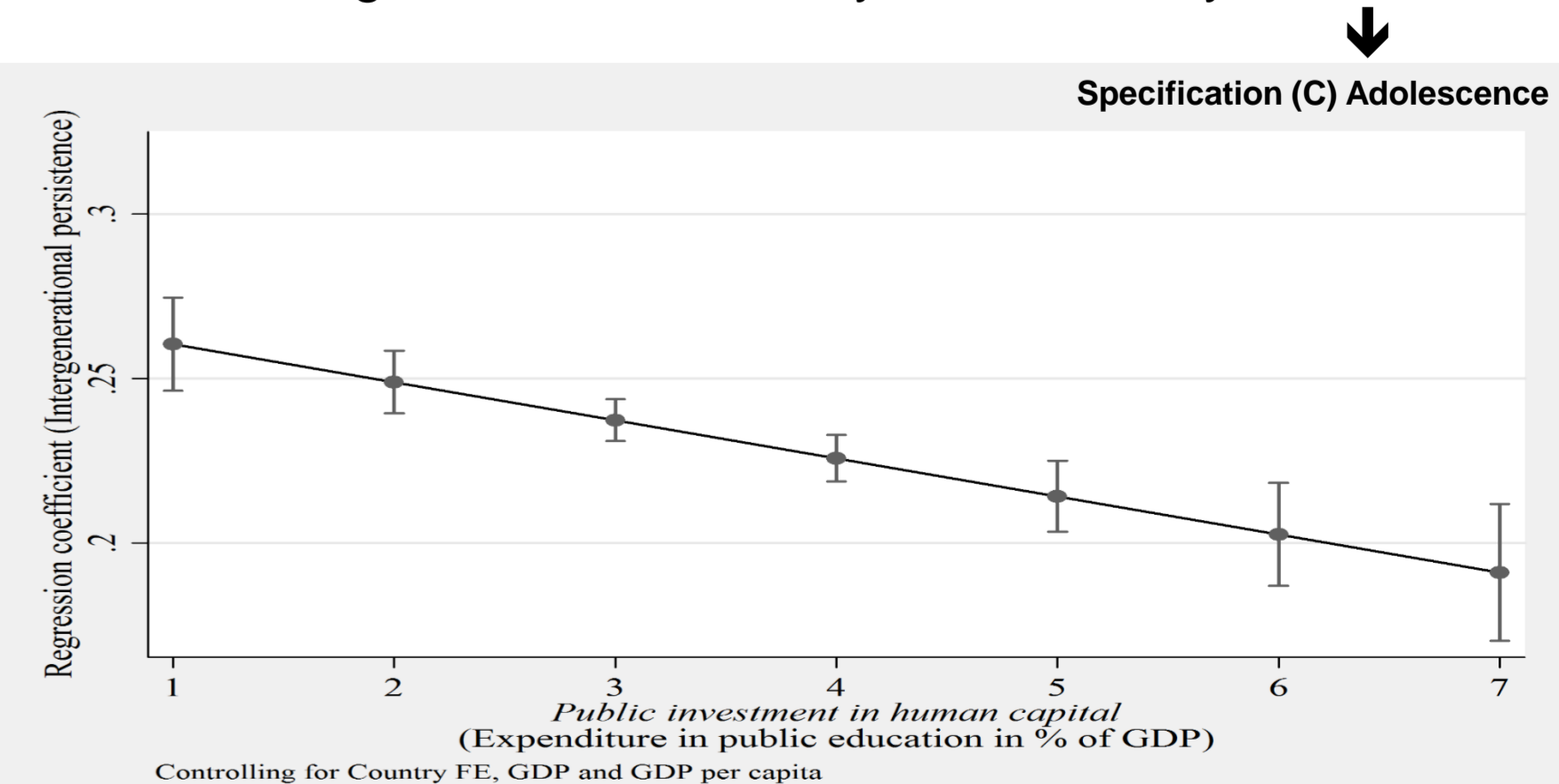
When the **Gini coefficient** changes by **0.15**, intergenerational mobility varies in a statistically significant manner from **9 to 14 %** depending on the specification of the lifetime period of evaluation. ④



Changes in economic growth affect intergenerational mobility significantly between **6 and 9 %** of the gradient when **GDP per capita** changes by **2000 USD**. ⑤



Holding GDP constant, a change of **public expenditures in education** by **two percentage points** significantly affects intergenerational mobility estimates by **8 to 9 %**. ⑥



Conclusions

A negative relationship between inequality and mobility could be found **across** as well as **within countries**. The crucial importance of private and public investment in children's human capital could be confirmed, the latter being a channel to rise intergenerational mobility.