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Unsustainable Inequality: is there a turning point?

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Unsustainable Inequality: is there a turning point?

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Abstract

A threshold estimation technique applied to a panel of 13 Latin American countries over the 1970-2011 time period, reveals the existence of a threshold level for the most popular index of income inequality (Gini's): below it past values of the index or per capita GDP appear to be unable to explain current variations in inequality, while beyond such a level the former may account for the decrease in current income inequality. So, there seems to be a turning point for income inequality though per capita GDP would have no effects on its dynamics. This result contributes further evidence on the dubious existence of the Kuznets Curve, and it links up with recent critical literature on the theme of increasing inequality and its shortcomings for growth.

JEL Classification: C23, D63, O40, O54

Keywords: Dynamics of Income Inequality; Kuznets Curve; Threshold Effects.

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1 Introduction

Seminal research papers study the relationship between inequality and economic growth. More than fifty years have passed since the early work of Lewis (1954) and Kuznets (1955) speculating about the causal link between them. As is well known, moreover, the earliest studies devoted to understanding the mechanisms through which inequality does influence economic growth can be traced to Kaldor (1956, 1957), Stiglitz (1969), and Lazear and Rosen (1981). In general terms, these contributions claim that inequality may favor economic growth by providing incentives for innovation and entrepreneurship (Lazear and Rosen, 1981) and by promoting both savings and investment because rich people save a higher fraction of their income (Lewis, 1954; Kaldor, 1957). In the same vein, years later, Barro (2000) claims that for poor countries inequality may favour growth by allowing at least a few individuals to accumulate the minimum needed to start businesses and get a good education. Not all scholars share the ~~same~~ opinion, however. Some claim that inequality may be harmful for growth because it deprives the poor of the ability to stay healthy and accumulate human capital (Perotti, 1996; Galor and Moav, 2004; Aghion, Caroli, and Garcia-Penalosa, 1999); it generates political and economic instability that cuts down investment (Alesina and Perotti, 1996); and it impedes the social consensus required to adjust to shocks and sustain growth (Rodrik, 1999). Benhabib (2003) finds the relationship between inequality and growth to be nonlinear, that is to say that increases in inequality from low levels generate growth-enhancing incentives, while past some point they encourage rent-seeking and slower growth.

Inequality matters for poverty, matters for growth, and matters in its own right.:greater inequality is a significant factor behind crime, social unrest and violent conflict. Hence, this paper revolves around some big questions (that can only be tangentially treated) such as: How much inequality is *too much*? And, most important, is there a “right” amount of inequality, at least from a growth point of view?

In this connection, several authors pointed out that in countries with high-income inequality, there is an equally great pressure for redistribution. We know that evidence on the relationship between inequality and redistributive policies is not clear-cut, only part of the ambiguity stemming from the fact that many studies are using imperfect proxies for redistribution, such as e.g. social spending or tax rates (see e.g. Perotti, 1996; and Bassett, Burkett, and Putterman, 1999)[4]. Still, this is a key concern that lies in the

[4] While we may think of some categories of spending as redistributive (such as education or social insurance spending), they need not be redistributive in practice: consider spending on post-secondary education in poor countries or on social protection for formal sector workers in many developing countries. Milanovic (2000) shows that when direct measures of

background of motivations for our work. We argue, e.g., that unequal incomes may result to an unstable sociopolitical environment, and so high levels of inequality would tend to be unsustainable.

The aim of this paper is to contribute to the ongoing lively debate. It will show that there exists a threshold level of income inequality with income inequality determining its own dynamics. This emerges from an analysis of a set of Latin American Countries (LAC). We believe our research is the first attempt in the literature to show that, beyond a certain threshold value, variations in income inequality are due" to past levels of income inequality itself[5].

The evidence that LAC have specific characteristics motivates the choice of our sample. As noted by Ferranti et al. (2004) and Perry et al. (2006), among others, a peculiarity of LAC is that they represent an area with the greastest unequal distribution of income, and they also are the "outliers"' responsible for the "inverted-U'" effects in cross-country regressions (Palma (2011)).

One LAC stylized fact is that the main inequality indicators have decreased over the last decade (CEPAL 2010-2011, Gasparini et al., 2009, 2011), while they had increased dramatically during the 1980s and '90s. Trying to understand the determinants of such a fact is interesting, as this change of route does not seem to be based on a change in fundamentals..

The paper is organised as follows. Section 2 introduces motivations for focusing on the LAC and points out that, probably, looking at some of their row statistics, the existence of the Kuznets hypothesis is hard to find. Section 3 presents our data and runs diagnostic unit roots tests. Estimation details and results are given in section 4[6], while section 5 offers some tentative conclusions against the backdrop of relevant literature and indicates directions for further investigation.

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redistribution are used, the evidence is supportive of the Meltzer and Richard (1981) hypothesis: more unequal societies do engage in more redistribution.

[5] Savvides and Stengos (2000) also apply a threshold regression (TR) model and find that there are different relationships between income inequality and per capita income in two groups of countries with different threshold income level. However, they do not consider the dynamics of income inequality. This is precisely our exercise.

[6] Meltzer and Richard (1981) claim that at least in democracies, political power is more evenly distributed than economic power, so that a majority of voters will have the power and incentive to vote for redistribution. However, Benabou (2000) and emphasized by Stiglitz (2012)), this need not be the case if the rich have more political influence than the poor.

2 LAC: descriptive history and econometric results

The high-income inequality that afflicted Latin America for centuries originated from the concentration of land, assets, and political power in the hands of a privileged few inherited from the colonial era. This led to the development of institutions that perpetuated the privileges of small agrarian, commercial and financial oligarchies well into the 1980s and 1990s.

For the last quarter of the twentieth century, Latin America suffered ~~from~~ low growth, rising inequality, and frequent financial crises (see CEPAL, 2010; Lopez-Calva and Lustig, 2010). Although poverty rates clearly decreased in the last decade, in most countries 15% of the population who got out of poverty has often an existence just above the minimum threshold and suffers the constant risk of a new social decline. Meanwhile, the richest tenth owns about 50% of national income (see CEPAL, 2011). Extreme inequality shows up not only in terms of income and wealth, but also in a disparate access to land and essential public services such as education, health and social security. Within this framework, women, children, the elderly and members of certain ethnic groups are particularly disadvantaged (Lopez and Perry, 2008; Milanovic and Muñoz de Bustillo, 2008). This impairment is a structural issue in Latin America, given that access to positions and social goods available or desirable provides constraints of a permanent nature that span generations and consolidated, since the late nineteenth century to the present, in more than the international average (Coatsworth, 2008; Frankema, 2009).

The persistence of extreme social inequality is striking, especially because throughout its changing history the region has implemented a variety of different development models, democratic different lived experiences and, at times, also elaborated instances associated to a welfare regime.

The "Latin American Paradox'" (Burchardt, 2010), characterized by persistent high convergence between democracy and social inequality even in periods of economic prosperity, by many analysts is attributed to deficits and political and institutional "defects", as well as to insufficient resourcing for the welfare state[7].

However, between 2002-10, inequality, at least as measured by e.g. the Gini coefficient, fell. As a result, by 2010 the region returned to the pre-liberalization level of inequality of the early 1980s. Such a drop appears to be permanent rather than cyclical, as inequality continued to fall during the crisis of 2009-12. An appreciation of the exceptionality of such an outcome is given by the fact that during the 2000s no other region experienced a generalized and sizeable inequality decline such as that enjoyed by

[7] None of these interpretations could be empirically confirmed in a consistent manner (Haggard and Kaufman, 2008).

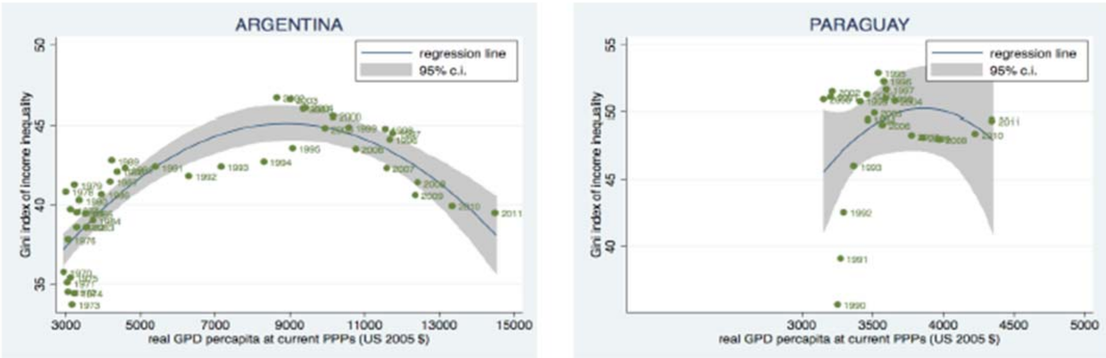
Latin America (Cornia, 2014). In the 2000s, Latin America seemed to enter a new stage of the political cycle. In several countries, new administrations came into power with the promise of promoting a more active role of the state in the economy, and more ambitious redistributive policies. Besides the rhetoric, some governments did engage in a more active role in the labor market, widened the scope and coverage of social policy, nationalized some enterprises, intervened in some markets, and subsidized certain bundles of goods and services. While it is likely that some of such measures had equalizing results, much more work is needed for a complete assessment of their effective impact on the income distribution, including the actual progressiveness of the subsidies established, and the long-term consequences of these policies. There are many plausible factors behind this fall in inequality in the LAC region. Among them, we can highlight (i) employment growth, (ii) a change in relative prices, (iii) realignments after reforms, (iv) realignments after macro shocks, (v) cash transfer programs, and (vi) increased concerns for inequality (Gasparini et als, 2009, 2011).

In cross-section analyses, the inverted-U relationship between income inequality and per capita gross domestic product (i.e. the Kuznets Curve, KC) seems to be recurrently appearing, one way or another. However, it has been often criticized with its very existence questioned (see e.g. Palma, 2011), despite none has done so with a rigorous estimation method. In ~~at~~ some row data we can observe that, for several of the LAC, income inequality has first increased at low levels of income, and then it has declined once it has reached a certain per capita GDP threshold. Such threshold varies largely across countries despite the fact that empirical literature on the KC assumes the existence and tries to estimate single and punctual switching values[8]. Thus, is it really per capita GDP that - beyond a certain level - induces income inequality to decrease after a often long increase?

We will argue that changes in income inequality are the outcome of several forces operating in different directions and that GDP has a little or no effect on them. In particular, we suggest that high levels of income inequality are socially and politically unsustainable. It is this hypothesis that we test for 13 Latin American countries. The following graphs (Figure 1) exemplify our hypothesis.

[8] Barro, 2000, for example, estimates the turning point at 3320 US 1985$.

Figure 1: Gini index of income inequality vs. real GDP percapita.



As said, our inequality measure is the Gini index, calculated on the per capita family income. Figure 1 shows its evolution for Argentina and Paraguay. Notice that the inequality path in these countries has been upwards but, once reached the first half of the 2000s, it turns to decrease. Hence, the current downward tendence in Gini values could be explained by the existence of a “turning point'” past which economies can no longer endure high levels of inequality. This is studied in the next sections.

3 Data, Descriptive Statistics and Diagnostic tests

As in any empirical analysis, it is desirable to have a database of acceptable quality that allows comparisons both between countries and over time. The data on income inequality has commonly been unevenly distributed among nations and over time. This has led to try to assess the time trend or effect on inequality to some other variable to use only a subset of the data or some form of interpolation between sparse observations.

Especially the effect of income inequality on long run economic growth has remained an open question mostly due to insufficient data on income distribution (see Knowles, 2005). Fortunately, Solt (2011) has gathered a Gini-index that has a consistent, long time series for several countries.

Hence, sources of data are:

1. GDP per capita (in constant 2005 U.S. dollars PPP) from The Penn World tables 8.0 (Feenstra et al., 2013), for years 1970 through 2011[9].
2. Income inequality, measured by the Gini index. From The Standardized World Income Inequality Database (Solt, 2014), http://myweb.uiowa.edu/fsolt/swiid/swiid.html. From this database we use the variable called gini_net, which is an estimate of Gini index of inequality in equalized (square root scale) household disposable income, using Luxembourg Income Study data as the standard. Years considered are, as before, 1970-2011.
3. Human capital index (HC), from the Penn World tables 8.0 (Feenstra et al., 2013), for years 1970 through 2011. This index is based on Barro and Lee (2010) human capital index.

Countries considered in our sample are: Argentina, Brazil, Chile, Colombia, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Paraguay, Peru and Trinidad and Tobago.

3.1 Descriptive statistics

Table 1 shows the summary statistics of the main explanatory variables used thereafter in our econometric model:

Table 1: Summary Statistics of the main explanatory variables

Variable	Mean	Std. Dev.	Min.	Max.	N
Year			1970	2011	546
GINI	47.463	5.185	33.708	64.348	413
GDP	5735.109	3779.882	706.526	21266.473	546
HC	2.156	0.399	1.266	2.968	546

The nature of the sample typically countries with a high concentration of wealth in the hands of few individuals[10] may lead us to draw some conclusions which are partial (but still challenging from an empirical point of view) because we cannot observe the effect of some important variables like GDP and past values of Gini over variations in income inequality for lower levels of inequality itself. The reason why we decided to include in our sample only Latin American countries (and not others, like the

[9] We opted for using (per capita) GDP instead of disposable income because our source of data for the latter (SEDLAC, developed by CEDLAS - Universidad Nacional de La Plata - and The World Bank's LAC poverty group - LCSPP), merged with our dataset, leads to a final dataset of 139 observations against our 546 with the former. This much smaller set of observations does not allow performing satisfactorily any regression, especially threshold estimations. We have decided to include in the regression model a variable denoting human capital, to counter the criticism of our choice of variables, as human capital is positively and consistently associated to higher personal (i.e., disposable) income levels.

[10] The average level of Gini index of income inequality is indeed 47, which is a very high level, considering that in the OECD countries alone, for the same period, the average index of wealth's concentration is about 30.

OECD, for instance), is because they represent the "outliers" (see Palma, 2011) which are responsible for the observation of the so-called Kuznets curve (Kuznets, 1955), meaning, the inverse-U relation between income inequality and GDP. OECD countries alone do not show, according to Palma (2011) such an effect, having all approximately the same level of income inequality, though having very different levels of per capita GDP.

The next subsection is preliminary to the choice of the econometric model and describes the nature of the data generating processes of our sample data.

3.2 Diagnostic tests

For the nature of the data generating process of our variables of interest, we performed tests to check for non-stationarity.

Table 2 reports the main unit root tests performed on levels and first difference of the logarithm of Gini index of income inequality (our dependent variable), levels of the logarithm of the human capital index, and finally on levels and first difference of logarithm of per capita GDP. As it is possible to observe, both levels and first differences of the Gini index of income inequality are stationary according to various tests, i.e. Levin, Lin and Chu (2002), Im, Pesaran and Shin (2003), and both ADF and PP - Fisher type unit root tests proposed by Maddala and Wu (1999), since the nulls of unit root (both individuals and common) are rejected at the standard 5% level.

The logarithm of the human capital index appears stationary according all the tests above, and per capita GDP has - as expected - unit root. Those tests performed on levels of the logarithm of per capita GDP indeed show that the null of unit root is widely accepted, while the same tests performed on first difference of log GDP reject the null of nonstationarity.

Since our dependent variable is stationary, it cannot be cointegrated with any other covariates, and spurious regression problems (occuring when regressing a non stationary variable over another non stationary one whenever a cointegrating relation between them does not exist) are avoided. This means that, whatever was the stochastic generating process of the other variables used as regressors, standard OLS models are appropriate and should generate stationary residual series.

Table 2: Panel Unit Root test summary

Series: LogGINI - LEVEL (INDIVIDUAL INTERCEPT)
Sample: 1970 2011
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 1 to 7
Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-1.89154	0.0293	13	353
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.64520	0.0041	13	353
ADF - Fisher Chi-square	44.8461	0.0122	13	353
PP - Fisher Chi-square	59.9907	0.0002	13	390

Series: ΔLogGINI - 1st DIFFERENCE (INDIVIDUAL INTERCEPT)
Sample: 1970 2011
Exogenous variables: Individual effects
Automatic selection of maximum lags
Automatic lag length selection based on SIC: 0 to 4
Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-2.24573	0.0124	13	359
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.15243	0.0008	13	359
ADF - Fisher Chi-square	55.8363	0.0006	13	359
PP - Fisher Chi-square	77.3003	0.0000	13	375

Series: LogHC LEVEL (INDIVIDUAL INTERCEPT)
Sample: 1970 2011

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Table 2 – continued from previous page

Exogenous variables: Individual effects Automatic selection of maximum lags Automatic lag length selection based on SIC: 0 to 6 Newey-West automatic bandwidth selection and Bartlett kernel				
Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-11.4573	0.0000	13	511
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-4.29320	0.0000	13	511
ADF - Fisher Chi-square	72.5596	0.0000	13	511
PP - Fisher Chi-square	141.614	0.0000	13	533
Series: LogGDP LEVEL (INDIVIDUAL INTERCEPT) Sample: 1970 2011 Exogenous variables: Individual effects Automatic selection of maximum lags Automatic lag length selection based on SIC: 0 to 6 Newey-West automatic bandwidth selection and Bartlett kernel				
Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	0.80214	0.7888	13	516
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	2.17454	0.9852	13	516
ADF - Fisher Chi-square	17.1275	0.9052	13	516
PP - Fisher Chi-square	14.3676	0.9678	13	533
Series: ΔLogGDP 1st DIFFERENCE (INDIVIDUAL INTERCEPT) Sample: 1970 2011 Exogenous variables: Individual effects Automatic selection of maximum lags Automatic lag length selection based on SIC: 0 to 1 Newey-West automatic bandwidth selection and Bartlett kernel				
Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-11.6831	0.0000	13	517
Null: Unit root (assumes individual unit root process)				

Continued on next page

Table 2 – continued from previous page

Im, Pesaran and Shin W-stat	-10.9283	0.0000	13	517
ADF - Fisher Chi-square	162.292	0.0000	13	517
PP - Fisher Chi-square	170.712	0.0000	13	520

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

4 Estimation techniques and results

We use a log transformation of the macroeconomic variables (following Khan and Senhadji , 2001), which provides a better fit in the class of nonlinear models. Then, with Hansen (1996, 1999, 2000), the following threshold model is estimated using a panel fixed effect, i.e.

$$\begin{aligned} \Delta \log GINI_{it} &= \beta_{0i} + \beta_1 \log GINI_{it-1} + \beta_2 \log GDP_{it} + \beta_3 (\log GDP_{it})^2 \\ &\quad + \beta_4 \log HC_{it} + \beta_5 d^*_{it} (\log GINI_{it-1} - \log GINI^*) + \epsilon_{it} \end{aligned} \tag{1}$$

$$d^*_{it} = \begin{cases} 1 & \text{if} \quad GINI_{it-1} > GINI^* \\ 0 & \text{otherwise} \end{cases}$$

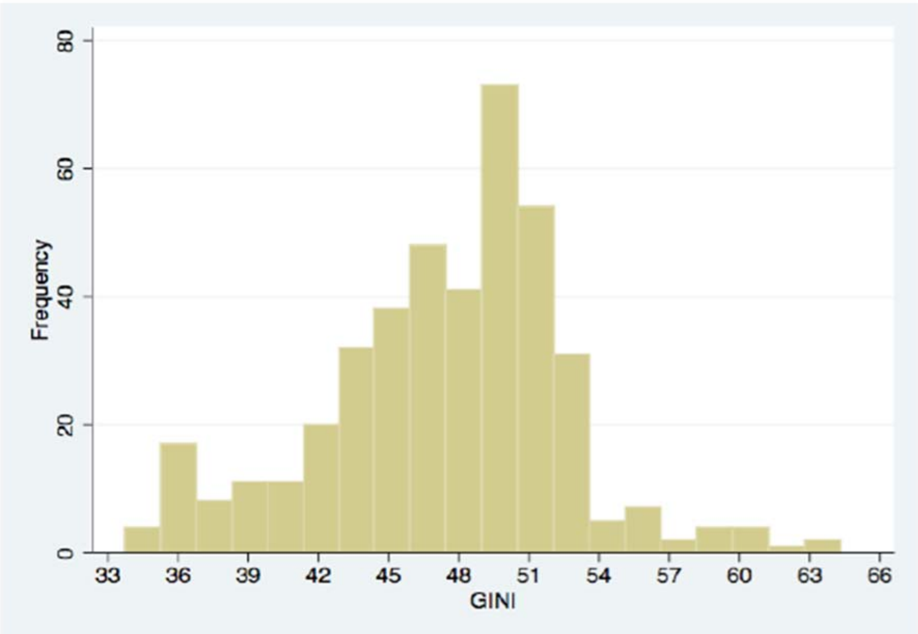
where $\Delta \log GINI_{it}$ is the difference between t and $t-1$ of the logarithm of GINI for country *i*, β_{0i} is the coefficient attached to a dummy variable for country *i* which is meant to catch time invariant heterogeneity between countries, $\log GINI_{it-1}$ is the log of the level of income inequality for country *i* at time $t-1$, $\log GDP_{it}$ is the logarithm of percapita GDP, $(\log GDP_{it})^2$ is the square of the level of percapita production for country *i* at time t in logarithmic scale, and $\log HC_{it}$ is the logarithm of the human capital index. Special attention must be paid to explaining the coefficient represented by $d^*_{it}(\log GINI_{it-1} - \log GINI^*)$: this indeed is the coefficient which allows us to understand whether there exists a threshold effect in the Gini index, which makes subsequent variations of the same index to switch. It is represented by the product of a dummy variable d^*_{it} , which is equal to 1 if the lagged income inequality value for country *i* is greater than an arbitrarily chosen threshold level $(GINI^*)$ times the difference between the lagged values of the Gini index and this latter. By estimating model (1) for different values of $GINI^*$, chosen in ascending order (i.e. 35, 36, 37 and so on), the optimal value of $GINI^*$ is obtained by finding that value that minimizes the residual sum of squares (RSS) of the regression.

Parameter $GINI^*$ represents the threshold level such that the relationship between the current variation of income inequality (i.e. today “) and past inequality is given by:

- At Low inequality: β_1; and
- At High inequality: $\beta_1 + \beta_5$.

In practical terms, we run this regression starting from an arbitrarily threshold level for GINI equal to 39, and then go up to 60. The initial value for Gini is set to 39 because we want at least 30 observations below that threshold (see Figure 2)

Figure 2: Frequency distribution of Gini index of income inequality in the dataset.



The following table 3 reports the main results of the threshold regression (1).

Table 3: Main results of the estimation of model 1 for different values of $GINI^*$

Threshold level	Variable	Coefficient	S.E.	t-stat	RSS
	$\log GINI_{it-1}$	-.0089951	.0580248	-0.16	
	$\log GDP_{it}$	-.1249411	.0638999	-1.96	
$GINI^* = 39$	$(\log GDP_{it})^2$	.006536	.0036082	1.81	.1012
	$\log HC_{it}$	.0044068	.0109027	0.40	
	Thr_{39}	-.1212732	.0648352	-1.87	
	$\log GINI_{it-1}$	-.0343066	.0464805	-0.74	
	$\log GDP_{it}$	-.1217908	.0641588	-1.90	
$GINI^* = 40$	$(\log GDP_{it})^2$	.0063458	.003626	1.75	.1012
	$\log HC_{it}$	.0040217	.010923	0.37	
	Thr_{40}	-.0978072	.0542409	-1.80	
	$\log GINI_{it-1}$	-.042502	.0386168	-1.10	
	$\log GDP_{it}$	-.1202996	.0640934	-1.88	
$GINI^* = 41$	$(\log GDP_{it})^2$	.0062341	.0036234	1.72	.1010
	$\log HC_{it}$	.0035194	.0109281	0.32	
	Thr_{41}	-.0938255*	.0472084	-1.99	
	$\log GINI_{it-1}$	-.0448425	.0330563	-1.36	
	$\log GDP_{it}$	-.1197789	.0638619	-1.88	
$GINI^* = 42$	$(\log GDP_{it})^2$	.006165	.0036102	1.71	.1007
	$\log HC_{it}$	.0027978	.0109266	0.26	
	Thr_{42}	-.0976693*	.0424598	-2.30	

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Table 3 – continued from previous page

Threshold level	Variable	Coefficient	S.E.	t-stat	RSS
	$\log GINI_{it-1}$	-.0510393	.0292428	-1.75	
	$\log GDP_{it}$	-.1197008	.0637654	-1.88	
$GINI^* = 43$	$(\log GDP_{it})^2$	.0061356	.0036051	1.70	.1005
	$\log HC_{it}$	.002026	.0109487	0.19	
	Thr_{43}	-.0963773*	.039631	-2.43	
	$\log GINI_{it-1}$	-.0594768*	.0263462	-2.26	
	$\log GDP_{it}$	-.1172008	.0639079	-1.83	
$GINI^* = 44$	$(\log GDP_{it})^2$	.0059873	.0036153	1.66	**.1005**
	$\log HC_{it}$	.0012395	.011001	0.11	
	Thr_{44}	-.0914877*	.0379366	-2.41	
	$\log GINI_{it-1}$	-.0678558**	.0237644	-2.86	
	$\log GDP_{it}$	-.1136083	.0641769	-1.77	
$GINI^* = 45$	$(\log GDP_{it})^2$	.0057982	.0036322	1.60	.1006
	$\log HC_{it}$	.000035	.0111094	0.00	
	Thr_{45}	-.0868065*	.0368293	-2.36	
	$\log GINI_{it-1}$	-.0734174**	.0215748	-3.40	
	$\log GDP_{it}$	-.1112316	.0642926	-1.73	
$GINI^* = 46$	$(\log GDP_{it})^2$	.0056746	.0036387	1.56	.1006
	$\log HC_{it}$	-.001483	.0112473	-0.13	
	Thr_{46}	-.0872683*	.0363672	-2.40	
	$\log GINI_{it-1}$	-.0802134***	.0199751	-4.02	
	$\log GDP_{it}$	-.1130687	.0643027	-1.76	
$GINI^* = 47$	$(\log GDP_{it})^2$	.0058035	.0036377	1.60	.1007
	$\log HC_{it}$	-.0020991	.0113758	-0.18	
	Thr_{47}	-.0832747*	.0365654	-2.28	
	$\log GINI_{it-1}$	-.0855458***	.0186501	-4.59	
	$\log GDP_{it}$	-.1150312	.0642641	-1.79	
$GINI^* = 48$	$(\log GDP_{it})^2$	.0059445	.0036331	1.64	.1008
	$\log HC_{it}$	-.0025802	.0114949	-0.22	
	Thr_{48}	-.0818788*	.0374704	-2.19	

$*p < 0.05$; $**p < 0.01$; $***p < 0.001$

Table 3 exhibits the main results:

1. Below Gini equal to 44, neither income nor the previous values of Gini index are able to explain variations in income inequality *today*.
2. Estimation finds a threshold around a Gini value equal to 44, beyond which an increment in past levels of Gini implies a negative variation of Gini today.
3. Beyond Gini = 44, per capita GDP and square per capita GDP remain not significant in the determination of $\Delta GINI$, and past values of Gini becomes significant in explaining negatively variations in actual levels of income inequality.

Then, it seems that the dynamics of economic inequality is explained by itself, with a turning point of inequality around a Gini level of 44, while per capita GDP seems to have no statistically significant effect on such dynamics.

5 Conclusion

Our findings are best to be read against established (Kuznets'own) and more recent research. The analysis developed by the former sees economic growth to affect income inequality and it links such relationship to the stage of economic development of a country. Kuznets's argument, recall is based on the idea that economic growth is a process strictly associated with the industrialization process of an essentially rural economy. The average incomes earned in the two sectors being different (those of the industrial sector higher than those in the rural one), the transfer of labor from the rural to the industrial sector would be sufficient to reduce inequality. Then, for the lesser-developed countries, the relationship between inequality and development is positive, though, with the level of per capita GDP increasing along with the industrialization process, the correlation would turn out to be negative. The shape of an inverted-U curve synthesizes the properties of such relationship binding income inequality and per capita GDP growth. One such result has been later confirmed by Barro's (2000) estimation of an *augmented* Kuznets curve. In fact, Barros regression includes further variables (like openness to trade, schooling, an index of democracy etc.,), confirming the existence of one such inverted-U relation. We have also extended this model with the inclusion of a human capital-related variable, to obtain a dual result of non-existence.

Rejecting the existence of the KC, in Palma (2011) more than 80% of the world countries have a Gini index not far from 40, despite huge differences in their development levels. Countries exhibiting the "inverted-U" behavior would be in Latin America and South Africa. The outlier nature of these countries is crucial for testing the "inverted-U" hypothesis: were both these regions excluded, or (more appropriately) were they controlled by a dummy variable, the "inverted-U" hypothesis would no longer appear. We look at LAC to obtain the confirmation of Palma's conclusions, though with an altogether different explanation.

Maybe, our results accommodate Piketty's (2014) view that capitalism would be geared to favor the wealthy ones, for the wealth of the latter increases faster that the incomes of the workers. However, history would also show how: "capitalism automatically generates arbitrary and unsustainable inequalities that radically undermine the meritocratic values on which democratic societies are based".

In fact, the turning point in income inequality we detected, exhibits the unsustainability of *levels of* inequality that are perceived to be excessive, one of the key questions mentioned above. It is beyond such a point that past inequality explains changes in current inequality, while economic growth would have no explanatory power.

More than anything else, our results show that future research should concentrate on understanding the different cultural, institutional, socio-political, factors that, together with economic factors, contribute to the inequality's turning point and its unsustainability.

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