# Life is Unfair in Latin America, But Does it Matter for Growth?

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**Summary.** — I analyze the effect of inequality on economic growth in Latin America, where inequality is measured as the area of family farms as a percentage of the total area of agricultural holdings. Using data from 18 Latin American countries during 1960–2004, I find that inequality has a nonlinear effect on economic growth. Overall, for the countries included in this analysis, the share of family farms has a positive significant effect on economic growth. These findings are robust to controlling for several factors, using a different indicator of inequality (land Gini), and addressing for endogeneity.
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## 1. INTRODUCTION

Many researchers have attempted to determine the effects of inequality on economic growth. While Kuznets (1955) stated that an increase in inequality in the early stages of development was a pattern in developed countries (DCs), others have argued that inequality is detrimental to growth (Easterly, 2007). Inequality in opportunities is relevant to economic development since the well-being of society is considered not only a function of income, but also a function of the access that individuals have to education, health, and other services (Sen, 2000). Therefore, the analysis of the persistence and the effects of inequality in less developed countries (LDCs) is important for policymakers.

Latin America is the second most unequal region of the world (World Bank, 2006) and income inequality increased during the 1990s (Sáinz, 2006). The average Gini coefficient in the region during 2000–05 was 54.2, which is considerably higher than the Gini coefficients of a sample of five DCs.[1] In Latin America, during 2000–05, the richest tenth of the population received on average more than 42% of the total income, while the poorest 10% received between 0.25 and 1.46 percent. On the other hand, in DCs, such as the United States, Canada, United Kingdom, France, and Italy, the richest 10th received on average between 22% and 30%, while the poorest received between 1.80% and 4% (Table 1).[2]

Engerman and Sokoloff (2002) argue that inequality in Latin America can be explained by initial factor endowments, such as soil, climate, and the density of native population. Because Latin American countries have soils and climates suitable for the production of crops that require economies of scale and are labor intensive, there was an agricultural organization based on concentrated ownership of land in the colonial period. This early inequality led to the establishment of institutions that were detrimental to growth. Hence, the unequal distribution of assets could be an important factor that keeps this region underdeveloped.

Recently, Easterly (2007) tested the Engerman and Sokoloff (ES) hypothesis by analyzing the effects of inequality on growth. He uses an instrument for income inequality that is related to initial factor endowments: the abundance of land suitable for growing wheat relative to that for growing sugarcane. He shows that this instrument is correlated with the share of family farms, where suitability to grow wheat is associated with a more equal distribution of resources. Easterly finds support for the ES hypothesis by showing that inequality has a negative effect on economic growth, schooling, and institutions.[3]

Most studies on the effect of inequality on growth are cross-sectional or use inconsistent measures of inequality, and it is easy to see why. To obtain a measure of inequality that is available over time for a large set of LDCs is difficult. For Latin American countries, The Gini coefficients on income and land distribution are not available consistently, and taking a panel approach to analyze the effects of inequality on growth in the region with these indicators would be impossible.[4] Nonetheless, to determine the effects of inequality on growth in a panel framework, the area of family farms as a percentage of total area of agricultural holdings can be used.

In this paper, I analyze the effects of inequality on economic growth in a panel of 18 Latin American countries from 1960 to 2004.[5] I test the ES hypothesis by using a measure of inequality that is related to resource distribution, the area of family farms as a percentage of the total area of agricultural holdings. The share of family farms is an important measure of inequality because access to land has been associated with the degree to which people participate in the economic and political systems. Even after rapid urbanization, access to land is an important determinant of wealth and social mobility in Latin America (Torche & Spilerman, 2006). Individuals who have access to land are also more likely to participate in the political process and receive education.[6]

I find that equality has a nonlinear effect on growth, where the effect of the share of family farms on growth increases up to a certain level, once this level is reached the effect of an increase in the family farms share on growth decreases. This finding is robust after controlling for different factors (urbanization, technology, and climate), and using an alternative measure of resource inequality (land Gini). Based on the family farm shares in 1998, all the countries in this analysis would benefit by increases in the share of family farms since they have family farm shares at which the effect of family farms

Table 1. *Average Gini coefficients and income share of lowest and highest deciles*[a] *(2000 – 2005)*

|  | Gini coefficient | Income share of lowest 10th | Income share of highest 10th |
|---|---|---|---|
| Bolivia | 61.69 | 0.25 | 48.01 |
| Brazil | 58.51 | 0.90 | 46.84 |
| Chile | 56.42 | 1.21 | 46.66 |
| Colombia | 56.95 | 0.75 | 45.36 |
| Costa Rica | 48.76 | 1.30 | 37.18 |
| Dom. Republic | 51.09 | 1.36 | 40.19 |
| Ecuador | 56.02 | 1.03 | 45.34 |
| El Salvador | 51.68 | 0.78 | 38.63 |
| Guatemala | 54.12 | 1.03 | 42.70 |
| Honduras | 54.35 | 0.96 | 41.82 |
| Mexico | 52.36 | 1.19 | 41.19 |
| Nicaragua | 54.42 | 1.22 | 44.10 |
| Panama | 56.32 | 0.73 | 43.16 |
| Paraguay | 56.86 | 0.77 | 44.76 |
| Peru | 51.69 | 1.17 | 40.61 |
| Venezuela | 45.91 | 1.46 | 34.22 |
| *Latin American sample average* | *54.20* | *1.01* | *42.55* |
| United States | 44.36 | 1.80 | 29.47 |
| Canada | 33.01 | 2.71 | 24.75 |
| United Kingdom | 27.6 | 4.0 | 22.0 |
| France | 34.1 | 2.4 | 25.2 |
| Italy | 33.6 | 2.9 | 26.5 |
| *Developed countries sample average* | *34.53* | *2.76* | *25.58* |

[a] Averages are obtained from available observations that meet the three criteria: coverage is the whole population and area, the income share unit of analysis is the household , and the definition is based on the income concept. Argentina and Uruguay are not included in this table since the Gini coefficients available did not meet these criteria. Gini calculated using the methods developed by Shorrocks and Hua Wan, which estimate the Gini coefficient from decile data almost as accurately as if unit record data were used. Source: World Income Inequality Database (WIDER, 2007).

on growth increases. The positive effect of equality on growth is robust to addressing for endogeneity of inequality.

This paper is organized as follows: Section 2 reviews the literature on the effects of inequality on growth and discusses the importance of analyzing the effects of resource distribution on economic growth in Latin America; Section 3 presents the methodology; Sections 4 and 5 discuss the results and the robustness tests; and Section 6 concludes.

## 2. LITERATURE REVIEW

### (a) *The effect of inequality on growth*

There are several theoretical models which explain why inequality negatively affects economic growth. First, the imperfect capital market model states that, with high inequality, it will be difficult for poor people to invest in physical and human capital. In a society where wealth is not equally distributed, the poor face credit constraints, and this leads to a vicious cycle of low productivity and economic growth (Banerjee & Newman, 1991; Galor & Zeira, 1993). Second, in the political economy framework, the model of redistribution states that as inequality increases the median voter will be more likely to vote for redistributive policies. These policies deter economic growth since they discourage investment (Benabou, 1996; Benabou, 2000). Third, in the social conflict model, high inequality is associated with lower economic growth because it precedes social unrest and political instability. Economic growth in this model is hampered by inequality because instability discourages investment (Benhabib & Rustichini, 1996). Fourth, inequality can have a negative effect on growth through its effect on institutions. Highly unequal societies may be unable to achieve democracy since the distribution of resources determines the distribution of political power (Acemoglu & Robinson, 2006; Vanhanen, 2003a). Furthermore, in highly unequal societies, there are institutions that promote the persistence of inequality and hamper economic growth in the long run (Engerman & Sokoloff, 2002).

There is empirical support for the idea that inequality negatively affects growth. In a sample of 64 countries, Deininger and Squire (1998) find evidence in favor of the imperfect capital model. Alesina and Rodrick (1994) and Persson and Tabellini (1994) find empirical support for the political economy model of redistribution, both in a broad sample of 46 countries and in one restricted to DCs. Alesina and Perotti (1996) and Rodrik (1999) show that inequality decreases growth through its effects on instability using cross-sectional samples. Vanhanen (2003a) presents empirical support for his resource distribution theory of democratization, where the distribution of resources determines the distribution of political power. He finds, in an analysis that includes 170 countries, that the distribution of resources determined the average level of democracy during 1999–2001. Keefer and Knack (2002) and Easterly, Ritzen, and Woolcock (2006) show empirically that high inequality leads to institutions that deter growth, such as weak property rights and low governance.[7]

On the other hand, there is also theoretical and empirical work showing that inequality is beneficial to growth and supporting the Kuznets' (1955) inverse U-shaped relationship between inequality and growth.[8] Barro (2000) argues that the imperfect capital market model can explain the positive effect of inequality on growth. In equally distributed societies, there are low levels of investment because firms tend to be small. Small firms have less incentive to invest since they face low returns on investment. Furthermore, since the rich will have less incentive to save in an environment with less redistribution,