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# Entorno Económico



# *It is distribution of wealth harmful for economic growth?*

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*It is the objective of this essay to analyse the relationship between income distribution and growth.*

*In the first section, the central arguments of the more influential economic growth theories will be discussed. Next, the historical discussion involving the relationship between income distribution and economic growth will be outlined. Further to this I will examine the basic characteristics of models linking inequality and growth. Finally, the more recent literature regarding income distribution, social instability and economic growth will be addressed.*

There has been much study relating to the explanation of economic inequality and its relationship with economic growth since Kuznets' (1955) pioneering work. This work has motivated several researches to evaluate whether a reduction in income inequality improves economic performance.

Inequality as an economic problem has significant effects upon political and social sectors in the modern society. Insights from studying economic inequality are mainly obtained from researching the structure of income distribution and its effect on economic growth and social stability.

It is the objective of this essay to analyse the relationship between income distribution and growth. In the first section, the central arguments of the more influential economic growth theories will be discussed. Next, the historical discussion involving the relationship between income distribution and economic growth will be outlined. Further to this I will examine the basic characteristics of models linking inequality and growth. Finally, the more recent literature regarding income distribution, social instability and economic growth will be addressed.

## **Economic Growth Theory: A Briefly Review**

Theoretical works in the economic growth area have been sustained on the Neoclassical Model developed by Solow (1956). In this model, the possibility of economic growth in the product per capita, in the steady state, depends on the exogenous variable; Total Factor Productivity. According to the classical model, there exists an inverse relationship between the level of product per capita in the beginning of a certain period, and the rate of growth of the same variable in the previous period. However, empirical studies could not show this negative relationship.

A "new theory of growth" emerged analogous to the classical model. This new theory assesses the conclusions of the classical framework resembling international convergence of the per-capita income and the effects of the

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saving rate over the growth of output in the long run. Former studies developed by Paul Romer (1986) and Lucas (1988) criticized the functionality of the neoclassical model applied to the analysis of economic growth. In 1986, Paul Romer postulated the existence of externalities in the process of accumulation of technology and knowledge. The hypothesis of his model was motivated by the experience of the “Asiatic tigers” countries. These countries exhibited a strong growth in their exports combined with a large degree of openness in their economy.

In their influential work Barro and Sala-i-Martin (1992) proposed the conditional convergence theory. Their results demonstrated favorable evidence of the hypothesis of convergence but conditional, due to the influence of the public policies on growth. In this context, the differences in the quality of economic policy strategies affect the process of development of the total productivity factor and hence the economic growth rate.

There exists another factor that tends to have a direct effect upon the economic growth rate. The model of technological diffusion developed by Lucas (2000) represents an additional and complementary approach to the economic growth theories. Lucas argues that via “learning by doing” process that goes from “leaders” economies to “followers” economies the technological diffusion is given. This knowledge acquired in the less developed economies can be used on its production function, resulting in a positive effect on economic growth.

Two main conclusions can be obtained from the economic literature of economic growth<sup>1</sup>:

- 1) Economic growth is mostly determined by the following factors; accumulation of capital, human capital, and knowledge usable in production.
- 2) The initial levels of capital, human capital and knowledge will determine the actual and subsequent economic growth.

However, countries almost in the initial period are endowed with different land size and dissimilar proportions of capital and human capital. These differences have an impact on the distribution of wealth. Consequently, countries present different patterns of wealth distributions.

As long as have been identified the main factors that affect almost directly economic growth the following question rising: What is the relationship between income distribution and economic growth? The next section will answer this question by exploring the historical discussion of the relationship between income distribution and economic growth.

### **Historical discussion of the relationship on Income Distribution and Economic Growth**

Since the beginning of 1950's there have been two approaches in trying to explain how income distribution affects economic performance. On the one hand, Kaldor (1956) argued that the causal effect goes from income distribution on capital accumulation to economic growth. Greater inequality with regard to the distribution of income favors greater capital accumulation. This is due to rich people being able to save more of their income than the poor people. Consequently, Kaldor argues that the higher the share of the top quintile (i.e. the more unequal is the distribution of income), then the higher the investment.

On the other hand, the research paper developed by Kuznets in 1955 focused its analysis mainly on the opposite causal link, from growth to income. Kuznets found that there is an inverted-U relation between level of income and measures of inequality in cross-section regressions. In particular, Kuznets developed the so called U-inverted curve, which must be linked to the hypothesis that income inequality first increases and then decreases with development. The Kuznets' curve remains a controversial concept both theoretically and empirically. His work deals with the question of how the level of income affects income distribution. (Persson and

Tabellini, 1994)

The majority of the subsequent studies on this hypothesis have found that income inequality has a negative relationship with economic growth. Clarke (1993), for example, utilizes different measures of income inequality<sup>2</sup> in order to test the correlation with some determinants of economic growth. In short, he uses the Barro regressors as determinants of the long run. Table 1 shows the simple correlations of inequality variables with the Barro regressors carried out by Clarke.

Inequality is significantly correlated with growth of per-capita GDP (LGDP7088), per capita GDP (SGDPPC70) and enrollment rates in secondary education (CSEC60), and a lesser extent primary education (CPRIM60). Private consumption (SCONIY) and investment (SINVIY) measured, for each country, in the same year, as the inequality measures are both insignificantly correlated with inequality. According to Clarke, the results obtained from the 'Barro-type' regression are robust across different inequality measures. His main conclusion states that inequality is negatively, and robustly, correlated with growth.

Nonetheless, in the real world where capital and income is inequality distributed across countries, the existence of the local governments play an essential and positive role in promoting economic growth. According to the endogenous theory of economy growth, the specific redistributive policies implemented by governments potentially have an effect upon the

performance economy.

From the review of endogenous theory, there are models which emphasized links between income distribution and growth that operate through nonpolitical channels<sup>3</sup>. According to Murphy, Shleifer and Vishny (1989) the industrialization in one sector can increase spending in other manufacturing sectors by altering the composition of demand. Hence, even if a firm is losing money, it can benefit firms in other sectors because it raises labor income and hence demand for their products. This is particularly true when considering the contribution of the industrialization of one sector, which can enlarge the size of the market in other sectors. Due to the income distribution influences, the size of home demand also affects the potential industrialization. Shleifer and Vishny's theoretical work emphasizes the importance of demand spillovers between sectors as they are strong to generate a big push in other sectors. In short, income distribution determines the size of home demand; this determines the industrialization in one sector and therefore the possibility of generating a big push. Hence, according to this model, the big push of one sector of the economy can generate a positive effect on economic growth.

Moreover, income inequality can affect the economic growth through human capital channels. Galor and Zeira (1993) show that in models with liquidity constraints, income distribution determines the share of the population that can invest in education. This means that the relationship between inequality

**TABLE 1. SIMPLE CORRELATIONS WITH BARRO REGRESSORS AND OTHER VARIABLES**

Variable	No. Obs.	Corr. w/GINI	T stat	No. Obs	Corr. w/RTP40	T stat
LGDP7088	70	-0.199	-1.79	87	-0.162	-1.53
SGDPPC70	75	-0.031	-0.26	83	-0.035	-0.31
CPRIM60	82	-0.166	-1.51	89	-0.095	-0.89
CSEC60	82	-0.373	-3.59	89	-0.317	-3.11
SCONIY	72	0.83	0.69	77	0.024	0.21
SINVIY	72	-0.12	-1.01	77	-0.039	-0.34

Source: Data from Clarke (1993)

and growth is positive at low levels of income, but negative otherwise. In other words, in an economy with non-perfect capital markets, those individuals whose after income tax is below the cost of acquiring education will be unable to invest in human capital. Therefore in the next period they will earn the same pre-tax income. By contrast, those who can afford the expenditure in education will obtain a higher income<sup>4</sup>. Consequently, individuals at high levels of income can afford education, which in turn positively affects the economic growth. Otherwise the relationship between inequality and growth is negative. The implication of the above two models is: endogenizing income inequality can influence the economic performance.

However, the literature on endogenous policy has made clear the importance of policy for growth - but it has not yet made the link between policy and growth (Persson and Tabellini 1994, p.601). As a result of this theoretical limitation, models with political equilibrium linking income distribution and economic growth emerged. In these models, the level of taxation is mainly used for redistributive purposes. Among the literature reviewed, two complementary approaches that have to be with the way of endogenize the redistributive policies can be identified<sup>5</sup>.

### **Political economics models**

The first approach is based on the effects of inequality on the demand for fiscal redistribution. According to Alesina and Rodrik (1991) and Persson and Tabellini (1991), income inequality is harmful for growth due to the fact that in more unequal societies, the demand for fiscal redistribution financed by distortionary taxation is higher, causing a lower rate of growth. In both research papers the main idea is that a higher rate reduces the private after-tax marginal product of capital and therefore acts as a disincentive to investment and growth.

In a complementary work, Persson and Tabellini

(1994) build a theoretical political-equilibrium model in which political decisions produce economic policies that tax investment and growth, promoting activities in order to redistribute income. The main conclusion obtained from his work is that income inequality is harmful for growth, because it leads to policies that do not protect property rights and do not allow full private appropriation of returns from investment.

The second approach is to endogenize the level of taxation through a voting process. The central argument consists that income inequality and the tax rate resulting from the voting process, are positively related through an extension of the standard median voter result. The median voter theorem establishes that the tax selected by the government is the one preferred by the median voter. According to this theorem, the more equitable the distribution in the economy, the better endowed is the median voter with capital. Consequently, if the level of taxation is low, higher is the economy's growth. (Alesina and Rodrik 1994, p. 466)

Following this line of research, Perotti (1993) developed a voting model inequality in which different patterns of income distribution are conducive to a high growth at different levels. He argues that when preferences are aggregated via a voting process, the initial pattern of income distribution plays a crucial role in the evolution of the economy. This is because it determines the degree of redistribution that prevails in the political equilibrium. In particular, if the economy has a poor median voter relative to the average voter, then the level of taxation and redistribution tends to be positively associated. Hence, as higher is the proportion of poor median voter relative to the average voter as higher is the level of taxation and redistribution in the economy. This level of taxation and redistribution negatively affects investment and thus economic growth.

To sum up, income distribution and economic

growth show a negative relationship. As has been mentioned, income inequality affects the level of industrialization and the level of education in the economy; consequently income redistributive policies have a direct effect on economic growth. Also, it was emphasized that endogenizing the redistributive policies could have an influence upon economic performance. Because governments face redistributive demands as a consequence of income inequality, this can deviate resources from investment and thus negatively affect economic growth.

### **Models of social instability and political regimes**

Several research papers have recently exposed different channels through income inequality that can affect growth. Alessina and Perotti (1993) identify a channel for an inverse relationship between income inequality and growth. As a consequence of income inequality, socio-political instability increases, which in turn fuels social discontent. As a result of this, the socio-political instability reduces investment. As argued in the past section, income inequality and investment are inversely related. Since investment is a primary engine of growth, income inequality reduces growth. Also, they emphasize that the greater the inequality within a society, the more politically unstable it is. In particular, political stability is enhanced by the presence of a wealthy middle class. Finally, Alessina and Perotti found a high correlation between secondary school enrollment and the proportion of the middle class. This suggests an additional channel through which income inequality may enhance growth and accumulation - a wealthy middle class can afford to invest in higher education, while an impoverished one cannot. Also, the later finding seems to confirm the evidence of Galor and Zeira (1993); that income inequality can affect the economic growth through human capital channels.

In his influential work, Perotti (1994) investigated the relationship between income distribution,

democratic institutions and growth. He found the specific channels through which income distribution affects growth. In his own words, he concludes that: 'More equal societies have lower fertility rates and higher rates of investment in education. Both are reflected in higher rates of growth. Also, very unequal societies tend to be politically and socially unstable, which is reflected in lower rates of investment and therefore growth....' Perotti (1996, p. 182)

As was discussed, governments have to consider income distribution demands' in order to maintain politic stability and thus promote investment and economic growth. It follows that the political regime plays an important role in moderating these political pressures. At this point it is essential to analyze the effects of income inequality on the degree of redistribution implemented in different political regimes.

According to Boix (1994) the redistributive consequences of each political regime are logically at odds with each other. For example, in democracies the public sector steadily, pushed by both redistributive demands and pressures to reduce the volatility of business cycle and economic risks. In turn, in revolutionary regimes, the nationalization of private assets leads first to the introduction of central planning and socialism, and then, devoid of transparent mechanisms of political accountability, very often to widespread corruption and economic stagnation.

The redistributive consequences of each political regime have been subject to a significant number of studies. On the one hand, some authors argue that democratic regimes generate an explosion for current consumption. The chain of reasoning for this is as follows: (1) Poor people want to consume immediately. (2.1) When workers can organize, they drive wages up, reduce profits, and reduce investment (either they tax and transfer or they undertake less public investment). (2.2.) When people can vote, governments distribute income away from investment (either they tax



and transfer or they undertake less public investment). (3) Finally, lowering investments slows down growth. (Przeworski and Limongi 1993, p. 55). Then, democracy is thus unfavorable to development. According to this point of view, dictatorships are therefore better able to force savings and launch economic growth. In other words, a superior economic performance is possible under an authoritarian political regime. Examples of successful economic development under authoritarian political regime are the Asian 'tigers' countries. They achieved higher economic growth in the 90's in comparison to the Latin American countries in the same period<sup>6</sup>.

On the other hand, the positive aspect of democratic governments is that they provide law and order, enforcing contracts as well as defending private parties from external threats. Additionally governments provide those inputs to private production that are not efficiently supplied by the market. As articulated by Lipset, the process of economic development results in both a reduction in the level of income inequality, which is a source of political conflict and fosters the adoption of authoritarian solutions, and the growth of a broad middle class, who then acts as a moderating political source. Lipset (1959, p.83-84). Hence, democratic regimes propitiate a climate of political stability. Rodrik (1997) argues that whatever the long run growth level of an economy, there is less instability in economic outcomes under a democratic regime than there would be under an authoritarian regime. The presence of civil liberties and political rights under democracies improve an economy's capacity to adjust to change in the external environment. Also in Rodrik another mechanism through which volatility may be dampened by democracy is proposed: democratic societies are more likely to respond to economic shock through burden-sharing compromises. In his words, '... the mechanism inducing stability is the propensity of democracy to moderate social conflict and induce compromise' (Rodrik, 1997, p.1)<sup>7</sup>.

From the point of view of political transition and regime choice theory, each political regime has different redistributive consequences because every individual supports the political arrangement that maximizes his income after tax. The political strategy of each individual with the amount and type of economic assets he controls is always constrained by the cost he has to bear to achieve his preferred outcome. (Boix 2004, p. 10). Those political costs are derived from either excluding part of the population from voting, or conversely, trying to overturn the restrictions imposed by an authoritarian regime.

Following this theoretical approach, Boix (2004) calculates the yearly probability of democratic transition and democratic breakdown as a function of income distribution in the period from 1950 to 1990. The idea is as follows; a more unequal distribution of wealth increases the redistributive demands of the population and the ultimate level of taxes in a democratic system. As the potential level of transfers become larger, the authoritarian inclinations of the wealthy increase and the probabilities of democratization decline steadily. Conversely, as income inequality declines, democracies are easier to establish. Table 2, simulates the annual probability of experiencing both democratic transitions and a democratic breakdown for different degrees of income inequality and human capital, in a sample of fifty countries.

In particular, Table 2.A shows that with a high Gini index, the yearly probability of a democratic transition is close to 0. By contrast, for a relatively equal society, the annual probability of a democratic transition climbs to a range from 0.3 (in a country with just one year of schooling) to 0.25 for a nation with high levels of human capital. In turn, as shown in Table 2.B, the probability of democratic breakdown approximates 90 percent in highly unequal societies (especially with high levels of assets specificity) and then very sharply as equality and human capital becomes more spread.

**TABLE 2. PREDICTED PROBABILITY OF REGIME TRANSITION BY EDUCATION LEVELS AND INCOME INEQUALITY, 1950-90**

**A. Predicted Probability of Transition from Autoritarianism to Democracy by Education and Income Inequality**

Gini Index	Average Years of Education				
	1	3	5	7	9
70	0.000	0.000	0.001	0.003	0.006
60	0.001	0.001	0.003	0.008	0.016
50	0.002	0.004	0.001	0.02	0.037
40	0.006	0.012	0.024	0.045	0.078
30	0.015	0.03	0.054	0.091	0.146
20	0.036	0.064	0.107	0.167	0.245

**B. Predicted Probability of Democratic Breakdown by Education Levels and Income Inequality**

Gini Index	Average Years of Education				
	1	3	5	7	9
70	0.948	0.832	0.618	0.359	0.153
60	0.905	0.742	0.495	0.25	0.09
50	0.84	0.632	0.371	0.161	0.049
40	0.752	0.507	0.26	0.196	0.025
30	0.643	0.383	0.169	0.053	0.011
20	0.52	0.27	0.101	0.026	0.005

Source: Boix (2004).

Whether or not democratic regimes help to achieve higher economic growth is an interesting question that should be analyzed rigorously. Until now it has been assumed that democratic institutions help achieve a superior economic growth than their counterparts<sup>8</sup>. However, the empirical evidence on democracy and economic growth is still not conclusive<sup>9</sup>. In particular, the principal questioning has to be with the causal relationship between these two variables<sup>10</sup>. In other words, it is not clear if democratic regimes propitiate better economic performance, or if it is the degree of economic development that 'generates' democratic regimes. Moreover, for purposes of this essay, this deal it is just mentioned for future study.

#### 4. Final remarks

The work of Forbes (2000) severely criticizes those reports that have found a negative

relationship between income distribution and economic growth. According to the author, it is suggested that in the short to medium term, an increase in the level of income inequality has a significant positive effect with subsequent economic growth. In addition to theoretical problems, Forbes (2000) considers most of the empirical works presented in the area as being subject to methodological problems. Firstly, they cannot be considered robust, considering that after the sensibility tests; the inequality coefficient becomes non-significant, particularly when regional dummies are included. Secondly, the problem of inequality measurement and the omission of variables can bias the estimation. Finally, and according to Forbes the main problem, is that these studies do not properly explain how changes in the level of a country's inequality relates to its economic growth.

However, as it was argued in later sections, there



exist channels through which inequality affects economic growth, Income inequality has a strong negative relationship with social and political instability, which in turn has a negative impact on domestic and foreign investment, and hence, on economic growth.

## Notes

1. The relationship of openness and economic growth has been subject to a considerable number of empirical studies. Levine and Renelt (1992), Edwards (1992, 1993, 1998) are among the authors to have developed empirical studies where the final result supports a strong link between openness and economic growth.
2. These measures are the coefficient of variation (COEFVAR), Theil's index (THEIL), and the Gini coefficient (GINI). In addition, the ratio of the share of total income earned by the poorest 40 percent of the population to the share of income earned by the richest 20 percent of the population is computed.
3. Alesina and Rodrik (1994) make the differentiation between models of income distribution and growth that operate through non-political channels from those models with political equilibrium.
4. For further reference see Bardhan and Udry (1999). This work establishes that a healthier, better-educated person is capable of producing more, and this improved productivity is rewarded in the labor market. The commitment of current resources to improving and individual's health or education, therefore, increases the person's future productivity and income.
5. In general, many authors do not make this distinction and just refers it as a fiscal policy redistribution.
6. See Fernandez and Rodrik (1990, 1991) for a broad discussion of reforms implemented under authoritarian regimes.
7. Quinn and Wolley (2001) confirm the hypothesis that democracies tend to propitiate less political and economic instability. They tested an empirical economic voting model and their results were quite interesting. Firstly, they found that voters severely penalized governments for increased economic volatility. Secondly, growth and volatility are positively correlated in efficient democracies. Thirdly, and of most importance, policies in democratic systems reflect their more highly developed mechanism for representing citizens' risk aversion.
8. In economic terms, democracy is defined as an institutional equilibrium, that is, a stable outcome that results from the strategy choices that different individual or parties in connection make to maximize their own welfare. For further references see Boix (2004) and Besley and Coate (1997).
9. For example, Perotti (1994) shows no evidence that democratic institutions increases economic growth. In turn, other authors found 'indirect' channels through which democratic regimes increases economic growth. See in particular Pzewroski and Limongi (1993), Alesina and Perotti (1993), Rodrik (1997), and Quinn and Wolley (2001).
10. Foweraker and Landman (2004) argue that there exists positive and linear relationship between economic development and democracy. This relationship suggests that those countries with high levels of economic development tend to be democratic, while less developed countries have never been democratic or have experienced democratic breakdowns.

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