Inequality and Economic Growth. Case Study: Emerging Countries

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Abstract:

This research detects the kind of relationship between income inequality and economic growth in the emerging countries. It is interested in different theoretical studies which have treated the relationship itself. In this way, we will deal with the current economic growth whether it is accompanied by a rise or a decline in inequality.

Key words: inequality, economic growth, emerging markets

Classification JEL: 010, 015

Introduction

In most of the countries of the world, the gap of income inequality is becoming more and higher between countries. The average income of the richest, which represents 5% of all countries, increased significantly from 1820 to 1992. In 1820, it was 27 times higher than the poorest countries, represent 20%, but in 1992 it rose by 2,4 times.

After the Second World War and till the mid-1970s, a strong economic growth has been accompanied by a decline in inequality. The welfare state and Fordism were the means of

regulation and they contributed to the improvement of living standards and the decline in inequality. With the crisis of the 1970 s, the fall in inequality has been altered noting the beginning of a major debate among economists.

This phenomenon of inequality countries, to aggravate poverty in some countries and wealth in others. The following figures reflect the size of the gap between the poorest and the richest in terms of average income per capita between 1965 and 1997.

Table 1: Average income per capita

	1965	1981	1997
The poorest countries	629	1095	1349
The richest countries	8983	12716	4618

Source: except of table quoted in Eyraud, L.(2002), p.8.

In fact, the income gap has widened in the same population in some countries. It appears that income inequality takes three forms: internally, within a country measured by the gap between the average incomes of 10% of the richest and 10% of the poorest. Internationally, between countries of North and South, these inequalities represent for many authors, the costs of the economic growth.

The review of literature and empirical studies reveal two schools of thought: the first one shows the existence of a positive relationship between inequality and growth and the second postulates the negative effect of inequality on economic growth.

I. Forms and measures of inequality:

Eyraud, L.(2002) distinguish three forms of inequality. Inequality "within" (internal or intra-countries) determined within the same country among its in habitants ; inequalities "between" (international or inter-country) between countries measured by differences in GDP per capita between countries

as well as inequalities "globale" or global" which include the first two concepts[1]. It determines three measures of inequalities that are the GDP per capita in purchasing power parity used as an indicator of international inequalities, which takes into account the demographic weight of countries and the differences in price levels, the gini coefficient including a value between 0 and 1 as well as the curve of Lorenz which highlights the interdeciles differences of income[2].

Several studies have used the GNP per capita in measuring the level of economic development such as Simpson (1990)[3], which others have used alternative measures namely the human development indicator and the index of life quality(Morris,1979), hicks and Streeten (1979).

J.M.Mbaku (1997) examined the relationship between income inequality and economic development using the human development index (HDI) and the life quality index. The believes that these two indicators are the best to explain the variation in income inequality regarding the GNP per capita[4].

II- Literature Review

The controversy between inequality and growth several theoretical and empirical studies have shown that the rise in inequalities prevents growth on the one hand and holds back poverty reduction on the other hand, while others have shown the opposite.

II-1- inequality promotes economic growth:

[1] Eyraud, L. (2002) « Mondialisation et inégalités », contribution au séminaire du G20, Sydney 27-28 mai, p12.
[2] Eyraud, L.(2002) op cit, p14
[3] Simpson, M.,(1990) "Political Rights and Income Inequality: A Cross-National Test," American Sociological Review, 55.
[4] Mbaku, J.M. (1997) « Inequality in Income Distribution and Economic Development: Evidence Using Alternative Measures of Development », Journal of Economic Development, Volume 22, Number 2, December

Bourguignon and Morrisson (1999), note that international inequalities represent between 60% and 80% of global inequalities[5]. They prove that inequalities of global income have really risen since the 19th century. The Gini coefficient has increased by 30%. In addition to the Theil index by 60% between 1820 and 1992. This was mainly due to a dramatic increase in inequality between countries on a global scale[6].

Chart 1 below proves the evolution of the three forms of inequalities since 1820. The striking feature is that global inequality is determined by international inequality between 1910 and 1950. The latter has witnessed at the beginning a significant increase between 1820 and 1910 and then stagnated between 1910 and 1950 due to a fall in internal inequalities. Finally, it slightly took back to rise from 1950 due to a slower growth of international inequality between 1820 and 1910;

Chart 1: inequalities between 1820 and 1990

Source: Bourguignon F. and Morrisson "the size distribution of income among world citizens: 1820-1990", World Bank, appearing in the American Economic Review.

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[5] Cité dans Eyraud L. (2002) « Mondialisation et inégalités », contribution au séminaire du G20, Sydney 27-28 mai, p12.
[6]Bourguignon et Morrisson (1999) « The size distribution of income among world citizens: 1820- 1990 », Revised draft, June, p 18.

Jean Gardy (2007) points out that the eight available expectations of the last thirty years don't lead to similar conclusions, although they reveal a very high level of global inequality with Gini coefficients between 0,62 and 0,68.
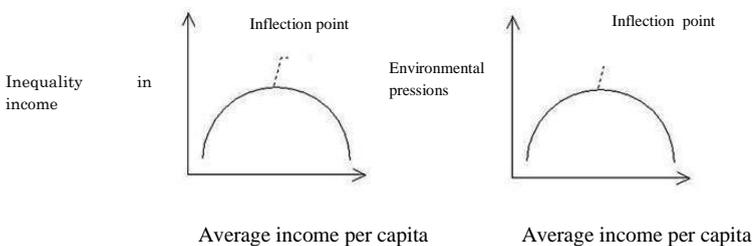
It appears that global imbalances are nowadays higher, given that inequality between countries which has increased significantly in addition to internal inequality.

Another landmark was formulated in the 1950s by the economist Kuznets through empirical works according to which the average income per capita and the degree of income inequality measured by the Gini coefficient world be connected with a curve ∩. The growth of the average income world be accompanied first of all by the rise in inequality and then by their resorption.

Subsequently, the study achieved by Kuznets (1955-1963) on several countries reaches a curve represented in ∩ connecting inequality and income per capita.

The mentioned curve has been developed to highlight the link between environment and economic development.

Chart 2: the curves of Kuznets "social "and "environmental"

Source: Boutland, A. ; Brodhag,C. and Gaudran, N. "When development loses the North! Kuznets environment curves: the contribution of alternative indexes with ecological fingerprint type to the reflexion on the sustainable development"p.28.

This curve shows that inequality first of all increases with growth levels and secondly it falls after a certain inflection point. According to Kuznets, the development is a consequent creation of a new sector (industry) more productive than the old one (agriculture). Thus, inequality in the first sector is higher than the second.

It appears that inequality decreases with the process of economic development achieved by the country. The same idea was developed by Hobinson(1976)[7]; Knight (1976), Cromwell(1977) and Nugent(1983).

Ahluwalia (1976a, 1976b), Papanek and kyn(1986) observe that the relationship of kuznets is statistically significant until the 1970s. likewise, Anand and Kanbur(1992), Li, Chatelain and Zou (1998) observe that this relationship weakens in time. Moreover, the rise in income inequality observed in the industrialized countries since the 1980s contradicts with the curve and the expectations of Kuznets.

Ray (1998) criticized the idea of Kaldor (1955)[8] which stipulates that the marginal propensity of savings is higher among the rich than the poor and that there is a positive correlation between national savings and the rate of GDP growth. Therefore, inequitable growth would be more accelerated. The same author proves that this relationship between the propensity of savings and the income levels can be non linear and takes the form of a curve represented as follow ∩.

Nébie[9] points out we should have a high level of resources to realize the initial investment for any production. Henceforth, we need a concentration of wealth in the hands of a few capitalists who could invest and hire others.

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[7] Robinson, S. (1976). "Sources of Growth in Less Developed Countries" Quarterly Journal of Economics , Vol. 85(3): 391-408

[8] Kaldor, N., 1955, Alternative Theories of Distribution," Review of Economic Studies, 23(2), 83-100.

[9] G.Nébié, op cit, p6.

Bourguignon (1993)[10] demonstrates the positive relationship between inequality and physical investment. Similarly, longitudinal analysis realized by Forbes (1999) showed that inequality fasters growth.

Galor and Tsiddon (1997) emphasize the positive link between inequality and economic growth via investment. Murphy and Tamura (1990) and Perotti (1996) demonstrated the positive link between inequality and fertility and consequently economic growth. Aghion and Bolton (1997) showed that income redistribution improves the efficiency of the economy because it increases the equality of chances which flows slowly from the rich to the poor.

Other economists demonstrated the affects of unequal property of productions factors on long term promotion of human capital consequently economic growth (Galor, Moay and Vollrath (2009) and Engerman and Sokoloff (2000).
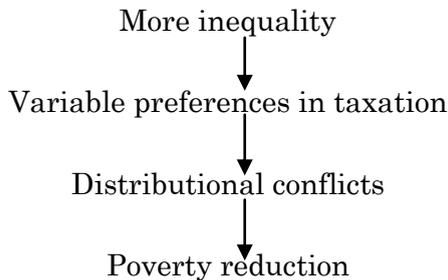
II-2- inequality holds back economic growth

Several authors demonstrated the existence of a negative relationship between inequality and economic growth namely Hibbs (1973), Venieris and Gupta (1983), Gupta (1990), Benhabib and Rustichini (1996) and Alesina and Perotti (1996)[11] who showed that inequality increases social and political instability and consequently leads to riots and coups (chart3).

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[10]Bourguignon F. (1993), «Croissance, distribution et ressources humaines: comparaison internationale et spécificités régionales », Revue d'économie du développement, 4, 3-35.

[11] Perotti R. (1996), "Growth, Income Distribution and Democracy: What the Data Say", Journal of Economic Growth, 1(1), 149-187.

Chart 3: politico- economic explanation of a reduced growth

More inequality

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Variable preferences in taxation

↓

Distributional conflicts

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Poverty reduction

Source: Weder, Oschinski (2002) "growth and inequality…An irreconcilable tandem?" The Economic life Seen again by economic policy 1,2002, p22.

In the same framework, Acemoglu and Robinson (2000), Bourguignon and Verdier (2000) and Gradstein (2007) proved in their studies the importance of inequality reduction to decrease socio-political instability, what makes it possible to stimulate investment and consequently economic growth.

The study made by Barro (1999)[12] in a panel of 152 countries in 1960, 1970, 1980 and 1990 highlight the real growth rate of the GDP per capita and the Gini coefficient shows that inequality tends to delay the growth of the poor countries but it makes it possible to encourage that of the rich countries. The growth tends to decrease with large inequalities when the GDP per capita is lower than 2000$ and tends to increase with inequality when the GDP per capita is higher than 2000$. He adds that inequality of richness and of income motivates the poor to commit crime, riots as well as other disruptive activities. So, in this case the stability of political institutions can be threatened by a revolution[13].

The study made by Birdsall and Londono on 43 countries of Latin America showed that the majority of these countries have a high inequality and a weak growth contrary to

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[12] Barro,R. (1999) «Inequality and Growth in a Panel of Countries», Harvard University, juin.
[13] Barro ,R. (1999), op cit , p5

Asian countries where a high growth is accompanied by inequality reduction. Their results indicate that the negative relationship between economic growth and income inequality reflect mainly the dynamics of accumulation and capital property in various countries. It appears that the differences of capital accumulation rates explain an important part of the difference in the growth rate between countries and that initial inequality of income is strongly related to the economic growth of various countries[14].

Eyrand (2002) stresses that:" the reduction of internal inequality to the countries is a condition of exit from under development and it is for this reason that we should fight them. A very strong internal inequality hinds the growth indeed …"[15]. However, De janvry and Sadoulet(1999) showed that economic growth decreases poverty. Also, Ravallion and Datt(1996), Ravallion and Chen(1997) expressed the same result. In the same vein, Cogneau and Guénard (2002) proved that it is the growth which influences inequality.

III – Econometric estimates:

We will try to estimate the impact of inequality on the economic growth for a number of emergent countries. Then we will carry out a cutting of these countries in two groups namely democratic countries and non democratic countries, on which we do over the same estimates through the method of data panel using the following model:

$$Growth_{it} = a_{it} + \beta Gini_{it} + \delta X_{it} + \varepsilon_{it}$$

Where Growth is the indicator of the economic growth: the growth rate of the real GDP per capita

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[14]Birdsall, N and Londoño, J.L. (1997) « Asset Inequality does Matter: Lessons from Latin America» OCE working paper, Inter American Development Bank, mars.

[15] Eyraud,L. (2002), op cit, p53

Gini: the index of gini: an indicator of inequality

X: a whole of variable of control namely the rate of secondary schooling, the black market and investment

III-1- Descriptive statistics and method of estimate

a- The Sample

The sample is made up of 37 emergent countries divided into 18 democratic countries and 14 non democratic countries with data over the period 1985-2009. The sample is limited by the availability of data on the equality indicator. The countries forming the sample are: Algeria, Argentina, Bangladesh, Bolivia, Brazil, Cameroun, Chile, Colombia, Costa Rica, Ivory Coast, Croatia, El Salvador, Ecuador, Egypt, Finland, Ghana, Guinea, India, Indonesia, Israel, Jamaica, Madagascar, Mali, Malaysia, Mexico, Morocco, Nigeria, Paraguay, Peru, Philippines, Poland, Romania, Thailand, Tunisia, Turkey, Uruguay and Zambia.

b- Classification of democratic and non democratic countries

Democracy is form of social organization in which the citizens have the power to decide political choices by electing political leaders. Democracy is not only defined as a political regime but it is also a kind of society whose central values are freedom and equality.

The data at the level of democracy of the countries forming the sample are extracted from polity IV Database. The index lies between 0 and 10, the more it approaches 10 the more the country is democratic, and the more its value tends towards 0 the more the country is non democratic. Our econometric investigation takes into account the political situation of each country over all the study period and as well as the changes which can appear from a year to another, which

means the passage from a non democratic country to a democratic country or the opposite.

c- Definition of variables

Variables	Definitions	Data sources
growth	The growth rate of the GDP per capita in $ constant (1995)	World bank
investment	The rise in capital stock	World development indicators 2009
Gini index	It's a measure of the degree of inequality in income distribution in such a society it varies from 0 to 1, or 0 means perfect inequality and 1 means total inequality	World bank
Cost of the black market	It's clandestine market resulting from the deficiency of offer. It varies between 0 and 1	Economic freedom of the world
The rate of secondary schooling (net)	It's the number of secondary school with age group officially having the school age at this level of schooling expressed in the percentage of population having the same age group	UNDP

III-2- Results of the estimate

In this part, we will estimate the growth rate of the real GDP per capita by proceeding to the regression in data of panel. Indeed, we will be based on the test of Hausman to choose between the specification with fixed effect or the random effect.

The results of the regression of the equation for the whole of the countries in the sample for the democratic

countries and the non democratic countries over the period 1985-2009 are given respectively in the following table.

Table 2: results of regressions

	Complete Sample (1)	Democratic Countries (2)	Non democratic Countries (3)
C	8.220 (3.086)	2.970 (1.030)	20.564 (1.286)
Black mark	-0.253 (-4.318)	-0.268 (-3.986)	-0.171*** (-1.968)
INV	1.917* (3.618)	0.639 (0.196)	0.057 (0.023)
Gini	-0.247*** (-2.731)	-0.192*** (-2.125)	0.118* (3.919)
EDU	0.577* (3.500)	1.753** (2.333)	0.648 (0.123)
Latin America	0.444 (0.789)		
Sub Africa	-0.792 (-0.946)		
Asia	0.573 (0.956)		
North Africa	0.601 (0.952)		
DW	2.23	1.99	2.14

1- Values between parenthesis are the t-Statistics
2- *, **,*** indicate the statistic significance respectively at the levels 1%;5%;10%

The Gini coefficient is statistically significant for the total sample. Indeed, the estimates reveal a negative relationship between the growth rate of the real GDP and the Gini Coefficient since a high Gini coefficient, consequently, reduces the economic growth. For the democratic countries any increase in a percentage point of inequality, the economic growth would reduce in term of average 0,19 points in the percentage.

Moreover, we notice the importance of education in the course of the economic development process. This is illustrated with a positive coefficient (0,577) statistically significant (3,5) for the variable secondary schooling rate. Increasing the economic growth requires capacities widening, such as

education which has powerful effects on the income, health and social cohesion.

It is clearly noted that the black contract price negatively contributes to the explanation of the dependent variable. This is explained with the characteristics of the black market which is an illegal market and allows a considerable rise in prices having negative effects on the purchase power of the households and therefore, a reduction in the living standard.

As for investment the statistical results show that this variable exerts a positive effect on the economic growth. This suggests that the increase in investment is favorable to the acceleration of the economic growth. Concerning the coefficients of the variables dummy, they are not statistically significant.

According to the third column of the table the coefficient of the Gini index has a positive sign; this means that it exerts a positive effect on the economic growth. Therefore, it asserts the idea of Kuznets. As for the non democratic countries, as for as variables of control are concerned; the rate of schooling and investment do not have a significant impact on the economic growth.

Our empirical study relating to the emergent countries (democratic and non democratic) highlighted the positive relationship between inequality and economic growth for these countries. For the non democratic countries the positive effect on the economic growth what confirms the first phase of the curve of Kuznets.

Conclusion

These results are explained by many reasons: firstly, the fact that the current growth rests on the dynamism of the sectors wich attracts with high salaries the highly competent people, the others are relegated towards sectors with modest salaries. Secondly, Globalization which is considered for a great number

of observers as a source of inequality because the exposed sectors to the competition of countries with low wages must contain the wage costs. Moreover, the liberalization of economy would have involved the rise in capital income and the precarisation of employment. Consequently, the characteristics of the current growth mainly drawn by certain extrovert branches would explain the rise in inequalities.

If the growth is a necessary condition to the drop in inequality, it remains nevertheless insufficient to reach that point. In this way, there is no automatic effect between the growth and the attenuation of inequality. Indeed, the equality between individuals and social groups grow if only the distribution of fruits of this growth is organized for this goal.

Moreover, the drop in inequalities supposes that the variations of richness are gradually moderated several measures among other things a limitation of heritage disparity, a reduction in the range of incomes, a solidarity between assets and liabilities and an intergenerational division. These various measures require a new redistribution which rests on a social consensus and an adequate public intervention.

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