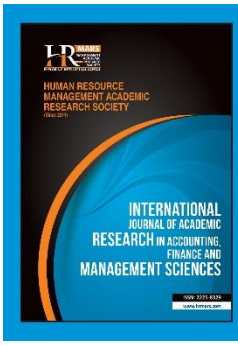

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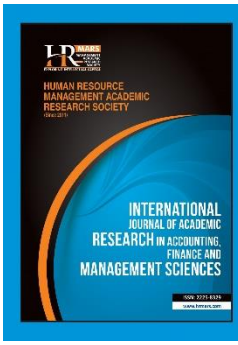
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Financial Development and Poverty: What Role for Growth and Inequality?

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Abstract
The paper assesses the effect of financial development on poverty reduction. To do this, we are going to build a model of simultaneous equations on a sample composed of 89 countries over the period 1990-2011. The model is based on a trilateral relationship connecting growth, inequalities and poverty. In order to do so, we suppose that financial development effects on poverty reduction can be decomposed into two opposite effects: a growth effect and a disparity one. Econometric analysis allowed us to highlight three things: first, findings support that while the indirect effect of financial development on poverty is not robust and ambiguous, the direct effect of financial development, through the channels of insurance, access to credit services and savings, is robust to reducing poverty. Second, we note that this effect depends on the magnitude and sign of the effects of financial development on inequality and growth. Third, institutional quality is an important determinant of the relationship between financial development and poverty.
Keywords: Financial Development, Growth, Inequality, Poverty, Simultaneous Equations

Introduction

Since the publication of "The General Theory", economies around the world have tried to take advantage of the potential that represents the financial sector, trying to pick the best frame to optimize its use in economic development efforts. In this sense, a whole section of the theoretical and empirical literature has developed to explore the relationship between financial development and social welfare. The debate on this issue mainly revolves around the relationship between financial development and economic growth (Bencivenga and Smith, 1991; King and Levine, 1993; Levine, 1997; Rajan and Zingales, 1998). The majority of these studies are unified almost on the existence of a significant positive effect of financial development on growth. Researchers in this subject suggest the idea that a high growth rate, induced by financial development contributes automatically to poverty reduction (trickle-down theory). In reviewing the economic literature specializing in this subject, it is clear that researchers are harnessed to study the effects of financial development on poverty reduction through the fruits of growth and neglect the direct effects that could affect poverty reduction through the channel of credit, savings, insurance services and income inequality.

We believe that the interest in development in recent decades is to integrate growth and inequality in the relationship finance-poverty. We also see that the treatment of the triangle "growth-inequality-poverty" can give to the question of financial development its full extent. Added to their effects on growth, the impact of financial development on inequality are fundamental in understanding their role in poverty reduction. As such, we see that the real challenge to design a development policy that reduces poverty is to understand these interactions. This is why the choice of this way of treating both of these effects is not a coincidence given that the total effect of financial development cannot be understood if we do not take into account simultaneously these direct and indirect effects.

This paper stains to study the direct and indirect effects of financial development on poverty reduction, taking into account the simultaneous effects on growth and on inequality. We therefore considered appropriate to conduct our study on this subject and try to answer this question. The rest of the paper will be organized as follow: the following section reviews the recent literature on financial development and poverty. Section 3 shows empirical model specification and describe data, while section 4 presents the results, and discusses the findings. Section 5 concludes.

Links between Financial Development and Poverty: Literature Review

The relationship between financial development and economic growth has-been examined extensively in the literature, but with conflicting results. There are exiting three views in the literature regarding the relationship between financial development and economic growth. The first view argues that financial development lead to economic growth. Recently this view has been widely supported by (McKinnon, 1973; Shaw, 1973; King and Levine, 1993). The second view maintains that it is economic growth that drives the development of the financial sector, while the third-view contends that there is a bi-directional causality between financial development and economic growth.

Although several attempts have been made to investigate the relationship between financial development and economic growth, few studies have gone the full distance to examine empirically the impact of financial development and economic growth on the ultimate policy goal, i.e. poverty reduction. It therefore seems essential to study this link to truly appreciate the benefits of financial development on the social welfare.

Theoretical predictions advocate that financial development contributes directly to poverty reduction: first, in a direct way through savings, insurance services and access to credits that can enhance the productivity of assets the poor by allowing them to invest in new technologies, or investing in education and health. Financial development can improve opportunities for the poor to have access to formal finance (Jalilian and Kirkpatrick, 2001).

Second, financial system enables the poor to access financial services, particularly credit and insurance risk, enhancing the productive assets of the poor, by improving productivity and increasing the potential to achieve sustainable gains (Jalilian and Kirkpatrick, 2001). Indeed, the direct relationship between financial development and poverty reduction depends on financial instruments, services and institutions available for poor (Holden and Prokopenko, 2001). However, the economic literature developed from this perspective shows that the poor are often constrained in their access to financial services and emphasizes that the central issue in finance is how to provide financial services to poor households on a sustainable basis (Robinson, 2001; Vega, 2003)

In addition to its direct effect on poverty reduction, financial development can also contribute indirectly to reducing poverty through its impact on economic growth (World

Bank, 2001). So far, the debate on the role of financial development has focused primarily on its relationship with economic growth. The assumption was that once economic growth has occurred, it would lead unequivocally to reducing poverty. Most work done in this perspective point out that the evolution of the formal financial system has no direct effect on income of the poor, that these have no access to financial services, other than that through growth. Bank credits may be hindered by high unit costs of small loans, (Greenwood and Jovanovic, 1990). So even these strategies focused on growth as a prerequisite to the reduction of poverty, the recent literature emphasizes the existence of situations in which a high rate of economic growth has coexisted with the maintenance of poverty (Holden and Prokopenko, 2001). At the same time, some countries worse off unlike succeeded in reducing it. It thus emerges from this analysis it is possible that for some economies, a high growth rate does not translate into poverty reduction.

However, although financial development has a significant beneficial effect on growth, there is no guarantee that this potential supplement of growth drained by financial development benefits the poor. Some explain this phenomenon by the fact that financial development generates increased inequality of income distribution that goes with the increased growth rate. The reason is that, for purely commercial reasons, the banks give loans to households with adequate safeguards. However, the poor, who constitute the most deprived quintile of the society, lack the necessary guarantees and are therefore excluded from the formal financial system, this implies that only the rich have adequate safeguards that can access credit and receive the improvements in financial systems, and such a scenario is exacerbating inequalities between the richest and poorest quintiles of the company.

Because of imperfections in the financial system, only the wealthiest households can borrow and grow. However, as the financial system develops, the credit constraint is cut down and the poor can borrow, thus reducing inequality (Kuznets, 1955). We looked then, the indirect effect through the channel of growth. Financial development can influence inequality through the channel of growth and technology transitions, which may favour certain categories of workers. Moreover all these mechanisms are dependent on economic structures.

Some empirical studies that have examined the relationship between financial development and the growth triangle-inequality-poverty (eg, Odhiambo, 2009; Honohan, 2004; Quartey, 2005; Akhter, 2010; Ho and Odhiambo, 2011; Azra et *al*., 2012; Gazi et *al.,* 2012) show a positive and robust link between financial development and poverty reduction. Other studies find that the positive effects of financial development are undermined by growing inequalities generated by a bed distribution of the fruits of growth (Galor and Zeira, 1993; Rajan and Zingales, 2003). These studies show that lack of access to finance can be the main cause of the persistent generation of income inequality and extreme poverty, insofar as it is possible that in some cases, the beneficial effects of financial development on the poor are offset by rising inequality that can accompany growth.

Empirical Model Specification, Estimation and Technical Data

Empirical Model Specification

To test the effect of financial development on poverty reduction, we will follow the work of Datt and Ravailon (1992) by decomposing the effects of financial development into two opposing effects: a growth effect and a disparity one. Then, we will test simultaneously the effect of financial development on inequality and growth. For this, we will operate in simultaneous equations regression (poverty equation (E_1), growth equation (E_2) and

inequality equation (E_3)). Introducing a variable measuring financial development takes the form of an exogenous shock outside. Based on Ravallion (1997), we model as a function of poverty a set of control variables that are commonly used as factoring explaining poverty: income inequality to capture the kind of distribution of income, GDP per capita growth to capture the economic development; number of subscriber phone lines per 100 inhabitants as an indicator to measure the quality of infrastructure and population growth.

We will include in the growth equation macroeconomic variables typically used in empirical work that determines growth rate: distribution of inequality, inflation to control for the macroeconomic environment, trade openness, government spending and human capital.

In the equation of inequality, we introduce the institutional variables that reflect how the distribution is made. We will add, also, in the same equation the growth rate and its square to test the hypothesis of Kuznets (inequalities reach a maximum level and then from a certain threshold, the curve becomes decreasing corresponding to the third phase of the development process). Moreover, the method by which it is customary to use when the endogenous variable in an equation becomes exogenous variable in another equation is the method of simultaneous equations models. This method allows us to correctly distinguish the effects of financial development passing through growth and rising inequality.

Furthermore, in order to answer the main problem, we assume that financial development is the only explanatory variable common to all three equations. It is likely to affect simultaneously, but in different ways, the three endogenous variables. The overall relationship of this model is explained in the following diagram:

$$P_{it} = \alpha_0 + \alpha_1 GDPG_{it} + \alpha_2 INQ_{it} + \alpha_3 FD_{it} + \alpha_4 POP_{it} + \alpha_5 TEL_{it} + \xi_{1it} \quad (E_1)$$

$$GDPG_{it} = \beta_0 + \beta_1 INQ_{it} + \beta_2 FD_{it} + \beta_3 OPEN_{it} + \beta_4 GS_{it} + \beta_5 \mathrm{SCH}_{it} + \beta_6 INF_{it} + \xi_{2it} \quad (E_2)$$

$$INQ_{it} = \lambda_0 + \lambda_1 GDPG_{it} + \lambda_2 (GDPG_{it})^2 + \lambda_3 FD_{it} + \lambda_4 INST_{it} + \xi_{3it} \quad (E_3)$$

Where P is the index of poverty, it is measured by household final consumption expenditure. GDPG represent growth of GDP per capita. INQ is income inequality measured by the Theil index. FD is an index measuring financial development. TEL is an indicator of infrastructure. POP is growth population. OPEN design trade openness. INF is an indicator of inflation. GS is government spending. SCH is the average years of secondary schooling in the total population which measures human capital, and finally INST is an index measuring the quality institutions.

Correlation Matrix

- **Test for colinearity of equation (1)**

	GDPG	*THEIL*	*POP*	*TEL*	*FD*
GDPG	1				
THEIL	-0.004	1			
POP	0.088**	0.147**	1		
TEL	0.19	0.106**	-0.055*	1	
FD	0.047*	0.034	-0.42	0.212**	1

- **Test for colinearity of equation (2)**

	THEIL	*INF*	*OPEN*	*GS*	*SCH*	*FD*
GDPG	1					
INF	-0.118**	1				
OPEN	-0.103**	0.098**	1			
GS	0.152**	-0.101**	-0.78**	1		
SCH	-0.364**	0.235**	0.356**	-0.364**	1	
FD	-0.034	-0.021	0.363**	0.048*	0.141**	1

- **Test for colinearity of equation (3)**

	GDPG	*GDPG²*	*INST*	*FD*
GDPG	1			
GDPG²	0.297**	1		
INST	0.087**	-0.090**	1	
FD	-0.047*	0.081**	0.010*	1

Data Source and Definitions of Variables

Data Source

Annual time series data, which covers the period 1990-2011, is utilized in this study. The data used in the study are obtained from different sources, including various series of the world Governance Indicators, World Bank and International Financial Statistics. The sample size and the period of our study are limited by the availability of data on poverty and finance indicators.

Definitions of Variables

Our model is supplemented by a series of variables typically used in these estimates. The variables of interest in our model are the rate of poverty, economic growth, income inequality and financial development. All variables are defined as follows:

Growth: We will choose to use the growth rate of GDP per capita as a proxy for economic growth. This indicator has the advantage of being available on CD-ROM World Bank for the majority of countries and for a long time.

Inequality: In the empirical literature the income inequality is usually measured by the Gini index. One of the unique aspects of this work is the use of a new indicator of inequality other than the Gini index, which is not available for a long period and for all countries in our sample. This indicator is the Theil index that is provided by the University of Texas Inequality Project. It has the advantage of being present for the majority of countries in our sample.

Poverty: In contrast to developed countries, time series data on poverty in many developing countries are very limited, and this, because many developing countries have started recording data on poverty only in the late 90's. Thus, a number of indicators for measuring poverty have been proposed in the literature. Some previous studies have used the database of Deininger and Squire (1996); Lundberg and Squire (1998) that provide income and headcount data for the poor, as well as the Gini coefficient. Others have used the annual per capita income as a measure of poverty. Others have chosen to use the rate of population living within 1 or 2 $ per day. Unfortunately, these series do not extend over the entire period from 1990 to 2010 so that they can be used as a proxy for poverty. However, these indicators are not without critics. For example, the annual per capita income that was used in some previous empirical studies does not take into account other dimensions of poverty. In addition, studies have shown that consumption expenditure for the poor is usually more stable than income (see Woolard and Leibbrandt, 1999; Ravallion, 1992). For this reason, we will use in our study, consumption per capita as a proxy measure of poverty (see also Quartey, 2005; Odhiambo, 2009). This is consistent with the definition proposed by the World Bank which defines poverty as "the inability to reach the subsistence level of life" measured in terms of basic consumption needs (World Bank, 1990).

Financial development: The empirical literature generally used the ratio of domestic credit to the private sector relative to GDP, the ratio of domestic credit provided by banking sector relative to GDP, the ratio of bank liquid reserves relative to bank assets, and the ratio market capitalization relative to GDP. The first three indicators measure the development of the banking sector, while the last variable is related to the development of capital markets. Financial development in this study is measured by aggregate constructing three measures of financial development using the Principal Component Factor method (PCF): the ratio of M2 to nominal GDP. Domestic Credit to Private Sector to GDP and domestic credit provided by Banking Sector to GDP. Note that due to lack of data on stock markets in some developing countries, we used in our study only a synthetic indicator on the banking system.

Note that a few superficial data on the stock markets of some countries in the sample published by international institutions (World Bank and IMF) are not sufficient to conduct empirical studies on this sector. The non-inclusion of this variable therefore can be explained by the fact that financial system in some countries in our sample are dominated banking and development banking system is at the expense of stock market development in most of these countries. In time when developed countries were developing their financial markets gradually in parallel with their development bank, several developing countries have failed to develop their scholarship. We expect a positive and significant relationship between the indicator of financial development and the level of expenditure per capita consumption. On the contrary, if the coefficient is negative it means that a high level of financial development indicator reduces the welfare of the poor. This is a novelty of our study, since it has never been dealt with this way, to our knowledge.

Institutional Quality: As we have done to construct an indicator of financial development, we will also use the PCF method to construct the indicator of institutional and legal development (INST). This indicator is constructed from the six governance indicators[1]. The choice of this institutional variable was made so that it should look synthetic, that is to say containing much information on the economic risk, political risk and social risk.

[1] The indicators from which is constructed the variable "INST" are: voice and accountability, political stability no violence, control of corruption, rule of law, government effectiveness and regulatory quality.

The interest of the decomposition of this variable is the inclusion of other institutional specific and appropriate to the study of financial development. The construction of this variable explains the interest of the institutional development in explaining inequality. It is logical therefore to study the effect of this synthetic variable on income inequality. The choice of this variable results in the fact that it can give how the distribution of income is made, and the extent of institutional distortions likely to increase inequalities.

Trade Openness: Defined as the sum of exports and imports as a share of GDP, it is introduced into the model to capture the degree of international openness.

Government Spending: The choice of this variable results in the fact that it may be as representative of the potential role of the state in the accumulation process of economic growth and reducing inequality.

Human Capital: Measured by average years of secondary schooling in the total population Studies by Barro (1991, 1997) emphasize that the level of education was an important determinant of future economic growth. It is expected that investment in human capital enhances the productivity of individuals and their welfare.

Inflation: This is the variable that represents macroeconomic policy. The choice of this variable is legitimized by the importance of adopting appropriate macroeconomic policy in the context of a policy of financial development. It is introduced into the model to capture the impact of macroeconomic stabilization on poverty. Inflation is a factor worsening poverty because it has a negative impact on the real value of assets and the purchasing power of household incomes, (Kpodar, 2006). It is measured by inflation consumer prices available in CD-ROM of World Bank.

Number of subscriber telephone lines per 100 inhabitants: This variable is introduced into the model to capture the role of infrastructure in reducing poverty. It represents the degree of development in the field of information technology and communication, which is a sector that could have a positive influence on the development of the financial sector by encouraging financial innovation and facilitating access to credit by the poor and the finalization of financial transactions.

Estimation Techniques

The study of several models such as financial development, growth, inequality and poverty requires consideration of the problem of endogeneity as the tested variables interact simultaneously. In our case, there are strong reciprocal causality between these factors, which we refer to problems of endogeneity and simultaneity. Estimation methods that can be used in the context of simultaneous equation models are functions of identification criteria for estimating the model and the endogeneity problem. In our case, the model presented is over-identified. On the other hand, our model is characterized by the presence of an endogeneity problem of order two, by definition, why the estimate by the method of least squares would be triple registered[2]. This estimation method is based on the principle of application of the method of least squares in three stages. A technique for solving endogeneity problems is to introduce the variables at the root of these problems as instrumental variables. However, treatment with the STATA 11 allows a resolution using the method "3 SLS". In order do so, a series of econometric tests will be conducted on the usual set of equations and variables in the model estimated. This is, first, the stationarity tests and bivariate collinearity.

[2] For details on the method used, it is recommended to refer to the work of Bourbonnais (2002).

Some works adopt the same methodology to study the growth-poverty relationships and growth-inequality, (Lundberg and Squire, 2003). But to our knowledge, no empirical work, unless error on our part, has treated simultaneously trilateral relationship between financial development and growth-inequality-poverty. In this respect, our study differs from previous empirical work by the addition of a specific equation of poverty to test the total effect of financial development and to detect interactions with the triangle "growth, inequality and poverty".

Results and Interpretations

To clarify the effects of financial development, we first analyze the direct effects on the endogenous variables (poverty growth and inequality), then we are focusing on understanding the variables specific to each equation.

The results of table 1 in the appendix 2 shows that there is a positive and highly significant relationship between the growth rate of GDP per capita and the level of household consumption expenditure per capita. Indeed, an increased growth rate of 1 percentage point results in an increased level of household consumption of 0.1 points. This positive relationship that associate economic growth to poverty rates is commonly identified in studies by Dollar and Kraay (2000), according to these authors the elasticity of poverty to growth is 1 on average.

Concerning the effect of inequality on the incidence of poverty, results shows that the coefficient of inequality measured by the Theil index is significantly negative, confirming its robustness. Thus, increases of this index by 1 percentage point decrease in household consumption expenditure by 0.12 point, thereby disadvantaging poverty. This result seems to reinforce those obtained by various studies on the relationship between increasing inequality and poverty. This suggests that the most effective method to reduce the poverty rate is certainly reducing inequalities by means of a better redistribution of wealth.

Table 1. Robustness analysis results of the regression model on the effects of financial development on growth, inequality and poverty

Variables	Poverty	Growth	Inequality
GDPG	0.123	--	-0.075
	(2.43)***		(-2. 8)***
THEIL	-0.225	-0.246	--
	(-3.69)***	(-4.04)**	
FD	0.015	0.007	-0.026
	(4.4)***	(1.92)**	-(4.4)***
POP	-1.38	--	--
	(-6.74)***		
TEL	0.010	--	--
	(0.58)		
INF	--	-0.006	--
		(-2.59)***	
SCH	--	0.010	--
		(0.45)	
GS	--	0.04	--
		(1.78)*	
OPEN	--	0.037	--
		(4.72)***	
INST	--	--	-0.001
			(-1.90)**
$GDPG^2$	--	--	-0.011
			(-2.03)**
Constant	0.025	0.042	0.026
	(9.81)***	(2.22)**	(22.44)***
Observations	1958	1958	1958
R^2	0,18	0,21	0,16

*Notes: * significant at 10% ** Significant at 5%; *** Significant at 1%. GDPG design the growth rate of GDP/t; Theil represent the index of income inequality; FD is the indicator of financial development, it is constructed by applying the PCF method on three variables: domestic credit to the private sector to GDP, the domestic credit provided by banking sector to GDP and M2 to GDP ratio. TEL is an indicator of infrastructure as measured by the number of subscriber telephone lines per 100 inhabitants, INF is the inflation rate; SCH is human capital, is measured by the average years of secondary schooling in the total population; GS is government spending; OPEN is an indicator of trade openness measured by the sum of imports and exports of goods and services to GDP; INST is an indicator of institutional quality, it is constructed by applying the PCF method on the six governance indicators presented above and finally, $GDPG^2$ that represent the square of the growth rate of GDP per capita.*

For the synthetic indicator of financial development, which interests us most in this estimate, it displays a positive and highly significant coefficient. Indeed, an increased level of financial development of a point increases the level of household consumption by 0,016 points. This result, which seems to have found no support especially in academic work, and which provides that financial services are expensive for the poor who cannot afford to repay debts, seems to be robust in our study. This means, that a high level of financial development

can be interpreted as a good signal of increased consumption and therefore reduce poverty. This confirms the theoretical predictions which provide that finance can facilitate and reduce transaction costs, and provide opportunities to accumulate assets and increase the income of the poor. This result is also consistent with the study of Kpodar (2006) which showed that the total effect of an increase of 20 percentage points of M3/GDP ratio for a country above the threshold would result in a decline in poverty incidence of 7.49 percentage points decreased by 0.42 points induced by financial instability.

Beyond these direct effects on poverty, financial development may also affect poverty through other channels and possible strategic variables. We will focus more specifically on the channel of growth and inequality.

On channel growth, our model results do not support the common perception that financial development has always been presented by its proponents as a catalyst for growth. Moreover, the coefficient that combines financial development for growth shows a negative and significant with the growth rate of GDP per capita. Thus, an increase of the indicator of financial development of one percentage point decreases the growth of real GDP per capita of about 0.005 points, which contradicts the theoretical literature. This result runs counter to theoretical predictions advanced by (Goldsmith, 1969; McKinnon, 1973). These authors showed that financial development has an indispensable role in the endogenous growth theory, by its positive impact on levels of capital accumulation, savings (Romer, 1986) or technological innovations. This result contradicts also an extensive empirical study that found a positive link between financial development and economic development, (King & Levine, 1993; Beck & Levine, 2004). In this regard, Jalilian and Kirkpatrick (2001) suggest that a change of financial development increases by 1% income growth in developing countries by almost 0.4 percentage points.

We note that studies have found positive effects of financial development on growth generally use heterogeneous samples containing both developed and developing countries that do not have the same economic structures and policies. On the other hand, economists have not reached a consensus regarding the direction of causality between these two phenomena, they do not provide solutions for endogenous variables used in analyzes. In addition, results may vary considerably due to different structural and institutional characteristics of each economy.

Altogether, our results show that financial development does not seem to be a provider of real economic growth in the sample studied. In our opinion, several reasons for this somewhat surprising: we suspect that this result, somewhat disturbing, may be due to the instability of the financial system that appears as a hidden product of financial development. We also believe that this may be due to the synthetic indicator of financial development used that takes into account only the banking sector development and neglects the stock market. On the other hand, we also believe that the impact of financial development on growth is conditioned by the level of economic development rather than development of the financial sector.

Reading the results for the indirect effects through the channel of inequality reveals that financial development has a negative effect on the rate of poverty through income inequality. Thus, an increase of the indicator of financial development of one unit increases the Theil index of inequality of 0.16 percentage point. Indeed, such an increase in this index only worsens the income gap between rich and poor. This result can be interpreted in accordance with our theoretical analysis that: the development of the financial system in an economy will likely benefit the proportion of the relatively privileged, those with physical and

human capital. The reason is, because, for purely commercial reasons, the banks give loans to households with adequate safeguards. However, the poor, who constitute the most deprived quintile of the society, lack the necessary guarantees and are therefore excluded from the formal financial system, this implies that only the rich have sufficient safeguards can access credit and benefit improvements financial systems. Such a scenario is exacerbating inequalities between the rich and the poorest quintile of society.

Kuznets curve (1955) was tested in our model through the effect of growth of GDP per capita and the quadratic effect through the introduction of its square $(GDPG)^2$. The estimation results show that the coefficient of the growth rate of GDP per capita is significantly positive, whereas the sign of the coefficient of its square is negative and significant. Therefore, the shape inverted "U" of Kuznets explaining the relationship between average income and inequality in the long term in our model is verified. This is consistent with dualistic theories where inequality and growth evolve in three phases: a phase transition where inequalities are associated with growth and a stabilization phase where inequality reach the peak corresponding to the turning point and a third redistribution phase known as the level of inequality decreases when the growth rate of average income increases.

Moreover, income growth affects inequality in the long run according to a non-linear curved or "U" inverted. Inequality should increase in the early stages of development to decrease after reaching the maximum threshold of turning the Kuznets curve. As such, the situation of a country depends on its institutional characteristics. Indeed, the results show that the institutional side accelerates the Kuznets. This is likely to enable countries to reach more quickly the rollover threshold of the curve of inequality. This relationship, which seems to have been verified in the years 1960-1970, is now checked at least for our study sample.

List of the Sample Countries

Sample	Countries
Low income	Bangladesh, Benin, Burkinafaso, Central African Republic, Congo Democratic Republic, Eriteria, Ethiopia, Gambia, Guinea, Haiti, Kenya, Liberia, Madagascar, Mozambique, Nepal, Rwanda, Sierraleone, Tanzania, Togo, Uganda, Zimbabwe.
Middle income	Albania, Algeria, Angola , Argentina, Armenia, Bolivia, Brazil, Bulgaria, Cameroun, Chile, Cote-d'Ivoire, Ecuador, Egypt, El Salvador, Ghana, Honduras, Indonesia, Jordon, Lebanon, Malaysia, Mexico, Morocco, Pakistan, Panama, Paraguay, Peru, Philippine, Romania, Senegal, Sri Lanka, Sudan, Syria, Thailand, Tunisia, Turkey, Ukraine, Uruguay.
High income	Australia, Austria, Belgium, Canada, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea Republic, Luxembourg, Netherlands, New Zeeland, Norway, Poland, Portugal, Singapore, Slovenia, Spain, Sweden, Switzerland, United Kingdom and USA.

An interesting variable in determining the relationship between inequality and poverty which is introduced in our model is institutional quality. As expected, the estimated coefficient on institutions shows that improving institutional quality by one standard deviation will decrease the inequality rate by 0.001 points, which confirms that institutions play a role in determining the relationship between inequality and poverty. This can be

explained by the fact that the institutional variables that reflect the quality of governance affect directly the interactions between economic agents such as property rights, administrative procedures and the operation of the public sector. This is the case for a fairer redistribution and may favorite reduce inequality and poverty.

Conclusion

The aim of the study as part of this paper was to test empirically and objectively the virtues of financial development in reducing poverty taking into account the simultaneous effects of growth and inequality. The pooled data regrouped on poverty and its determinants allowed us to construct a panel of 89 developed and developing countries. Econometric analysis on the period 1990-2011 allowed us to highlight three realities.

First, our results support the existence of a positive and significant effect of financial development on poverty reduction. In other terms, we found that countries with more developed financial systems are more likely to have lower poverty rates. Second, we note that this effect depends on the magnitude and sign of the effects of financial development on inequality and growth. Thus, we see that the direct positive effect of financial development on poverty reduction through savings, insurance services and access to credits outweighs the indirect negative effects through growth and inequality. Third, institutional quality plays a crucial role in the relationship between financial development and poverty. These findings indicate that the favorable effects of financial development are in actuality greater than what is usually thought, and therefore these additional benefits must be taken into account when evaluating the merits of the programs aiming to reduce poverty.

Finally, the results of the models developed in this paper provide several lessons about the role that the financial sector can play in poverty eradication and development policies on the country. So, it is certainly useful to encourage financial development and create microfinance institutions designed to provide microcredit to poor households since they do not directly benefit the financial services provided by the formal financial sector.

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