Introduction and Overview

Over the last two decades, research interest on the interaction between economic growth and poverty reduction has increased considerably, particularly after limited success of macroeconomic adjustment policies in the nineties as well as heterogeneous results of economic growth and poverty reduction across countries.

From the microeconomic perspective, three important questions were at the focus of attention. First, is economic growth always associated with poverty reduction? Second, does inequality hamper the scope of economic growth to reduce poverty? Third, does poverty and inequality limit subsequent growth? Similarly, in macroeconomics one of the most debated issues was if poor economies grow automatically faster than rich ones in such a way that over the long run disparities decrease. This topic has been extensively studied across countries but not that much within them, particularly in developing countries.

Answers to these questions are of extreme relevance for designing policy interventions. For instance, if policy makers assume that economic growth always trickles down to the poor, the central policy objective would be to achieve high and sustained growth, and abstain from implementing poverty alleviation programs. If inequality is not considered as an obstacle for economic growth, one would refrain of implementing redistributive policies, for example through the taxing system. Similarly, the assumption of automatic reduction of disparities among countries or regions over time would reduce the need of policies to foster growth in poor countries. Answers to these question affect not only the evolution of research in development economics, but also policy implementations that influence people’s daily life.

Usually, microeconomic empirical research on the link between poverty and growth is not linked to the macroeconomic one. Many reasons explain this lack of connection, which is observable not only in Colombia but elsewhere. One is that the most common used growth models, the neoclassical and endogenous, do not explicitly account for an explanation of the growth-poverty relation as they depart from aggregate production functions with output explained as a function of aggregate capital and labor. One further reason is the source and relevance of data. While poverty analysis is based on data from household surveys, the aggregate growth analysis uses national accounts. As it is well known, estimates of household
consumption obtained by these two sources have large discrepancies, and therefore attempts to combine them are risky. Furthermore household survey data is usually available for short periods of time, while growth models are conceived to explain growth in the long run.

More importantly, the focus of attention in each one of these fields goes in a different direction. Growth studies frequently concentrate on finding macroeconomic growth determinants or on testing the most important implication of the neoclassical model, namely the convergence hypothesis (Durlauf et al., 2005). Relevant policy implications in this field are those that foster growth. On the contrary, poverty analysis focuses on understanding the dynamics and determinants of poverty reduction, as well as on finding appropriate poverty measurement concepts and tools. In this literature, growth is relevant only if it is poverty reducing and economic policy implications are those that are poverty alleviating. Note that growth in this field of analysis refers to the percentage change of the mean income or mean expenditures of the households, while growth analysis at the macroeconomic level refers to aggregated growth in production of all sectors of the economy.

Even though the fields of growth theory and poverty analysis are difficult to link with each other empirically and theoretically, they have a common underlying question which goes frequently unnoticed. The poverty-growth-inequality analysis is concerned with how economic growth leads to poverty reduction, depending on changes in the distribution among households or individuals. The growth convergence literature looks at whether disparities between poor countries or regions disappear over time. Implicitly both are concerned with a reduction in poverty although using different instruments and levels of aggregation. Recent efforts have been done to link these two fields through the convergence hypothesis derived from the neoclassical growth model. For instance, Ravallion (2009) finds that a high poverty rate in the initial period makes it harder to achieve subsequent growth, explaining why countries with a large incidence of poverty do not grow faster than the richer.

As a contribution to understanding the dynamics of poverty and economic growth on a country case basis, this dissertation explores empirically in how far growth has been beneficial for the poor in Colombia and if regional disparities have diminished over time. The dissertation is composed of four essays. The first two essays use a micro-data based approach and different dimensions of poverty measurement. The third and fourth essays use macroeconomic aggregates to test for convergence among Colombian departments. As will be observed, a central characteristic of this dissertation is that it studies poverty and growth convergence multidimensionally, given the limitations of income alone to capture all aspects of well being, be it at the household or at an aggregated level.

Addressing the growth-poverty-inequality relation and the convergence hypothesis questions is of vital importance for a country like Colombia. The country has been immersed for
many years, and particularly in the last quarter of the twentieth century, in a cycle of low growth, elevated poverty rates and high inequality. There is a large contrast between living standards in densely populated industrialized areas and rural areas rich in diversity and natural resources, many of them dominated by violent groups involved in domestic conflict and illicit activities.

The domestic conflict, between the government, guerrillas and paramilitary groups, originated in the mid fifties in a context of political turbulence, but also high economic disparities. One possible way for reducing the burden of the ongoing domestic conflict, is to offer universal access to social services and human capital formation for expanding the capabilities of people and the freedom to chose among different alternatives of life beyond conflict and evolvement in illegal activities. For this purpose, it is necessary to understand how economic growth influences inequality and poverty, and if at least in the long run, disparities among regions are getting lower.

Chapter 1 offers an analysis of the evolution of income poverty and inequality at the household level and its sensitivity to short run economic fluctuations. It investigates if household income growth (per capita) contributed to poverty reduction between 1996 and 2005 and in how far its evolution was associated to the boom and bust cycle experienced by the country in that period. For this purpose this chapter uses annual Household Surveys for all years between 1996 and 2005 and applies for the first time in Colombia the methodology of “Pro-Poor Growth” suggested by Ravallion and Chen (2004). This methodology allows analyzing changes between two periods of time along the entire income distribution. It allows us to make judgements on changes in income for households ranked in percentiles below a selected poverty threshold, compared to those above it. Moreover, this essay presents standard ‘Foster Greer and Thorbecke’ poverty indicators (Foster et al., 1984) and several inequality indicators. It also reviews economic issues and policy reforms to contextualize reasons behind changes in poverty and how the distribution of household income was affected by the economic recession of 1999.

This study contributes to the discussion on the impact of economic crisis on the poor. Results show that poverty figures and household income in Colombia are highly sensitive to business cycle fluctuations and labor market conditions. It also confirms that variability is larger in low percentiles of the income distribution, particularly during economic recessions. While the speed of poverty reduction was very low in the years previous to the economic recession, the increase in poverty and inequality during the recession was extremely fast. The economic recession, which was rooted in the housing and financial sectors, did not affect rural areas as much as urban areas. However, the incidence of poverty and the severity of poverty remained larger in rural than in urban areas, and the gap between both was nearly
unchanged. This study raises attention on the importance of economic stability for avoiding large increases in poverty. It also calls on the importance of analyzing information as desegregated as possible, given that country averages hide important issues relevant for policy design. Desegregation is relevant among country divides, but also over time to capture the effects of economic cycles on households.

Chapter 2 investigates if multidimensional aspects of well being improved, particularly for the households below the poverty line. This chapter, based on joint work with Melanie Grosse, studies multidimensional “Pro-Poor Growth” between 1997 and 2003. One important reason for including non-income based indicators in this paper is to analyze in how far short run economic imbalances affect dimensions of well being that can have a long run impact (i.e. children’s education) and see if they move parallel to fluctuations in income. The investigation uses the Living Standard Measurement Survey of 1997 and 2003, due to the richness of the questionnaire, in order to construct four indices: one on asset ownership (including access to public services), one on health, another on education, and one on subjective welfare. In contrast to existing literature, the weights assigned to selected variables composing each index, (excepting those related to education) were assigned using polychoric principal components analysis as suggested by Kolenikov and Angeles (2009) instead of traditional principal component analysis, since the latter is not appropriate for categorical variables and yields misleading results.

The paper contributes to the literature by discussing the importance of selection of weights when creating indices of well being and compares statistical based procedures with normative weights selected by the researchers. It also discusses limitations for analysis of multidimensional poverty over time using variables that have an upper bound or that are based on subjective perceptions.

The selected non-income indicators showed minor changes between 1997 and 2003. In general, income poor households were not performing better or worst than non poor in a multidimensional setting. Education and health had no major drawbacks, which might be related to the effect of recent reforms directed to strengthen those sectors, but also because these dimensions need longer periods of time to change. Growth incidence curves and pro-poor growth rates show that mean income and mean expenditures by percentile decreased from 1997 to 2003.

To summarize results based on micro-data, the Colombian experience shows that the economic contraction lead to a drastic increase in income poverty and inequality. On the contrary, once the recession was over, economic growth periods had a marginal impact on poverty and inequality. Education, health and asset ownership had low variation and did not move in the same direction as income and expenditures.
Chapter 3 and 4 offer a macro-data perspective of disparities in Colombia, and are based on joint work with Boris Branis Caballero. The macroeconomic essays are concerned with the fact that regional disparities are large and that the stable country averages hide important distributive problems. These essays ask if those disparities persisted over time, or on the contrary if they diminished. Two issues motivated research undertaken in these chapters. First, international literature found frequently ambiguous results on convergence in output, particularly when using cross country data, but suggested that convergence inside a country is more plausible. Existent research in this area in Colombia is not conclusive. Some authors argue for convergence and other for persistence or even for an increase in regional disparities. Second, cross country literature shows that even when there is no convergence of output, there is convergence in living standards, due partly to redistributive policies but also to dissemination of sanitation and health practices worldwide. While convergence studies in Colombia using production by department are contradictory and depend on the method of analysis used as well as on the data source, convergence analysis of social indicators is almost inexistent.

Analysis of convergence in production by department and in disposable income by department between 1975 and 2000 is presented in Chapter 3. The data used reflects differences in convergence on the production by department, and convergence in what households (aggregated by department) receive after discounting for net payments and adding up transfers.

The paper presents two of the most known approaches to test for convergence: the regression approach and the distributional approach. It compares both methods as a robustness check and to discuss whether they yield different results. This paper contributes to the literature by revising data issues leading to contradiction in research on convergence in Colombia, and by testing empirically convergence using time series cross sectional data. For this purpose, we used different degrees of pooling the information in order to test if there is homogeneity in the parameters of the regression for all departments, or if there is convergence among certain groups.

Results of this essay show that Colombia had no convergence in gross departmental product, and slight improvements in the distribution of gross disposable income. Basically departments remained in the same position relative to the national average in 2000 compared to the position they had in 1975. Concerning the division of the production sectors along the country, they did not change, except for some departments that discovered important mineral resources. We did not find solid evidence of convergence among groups of departments, nor evidence of parameter heterogeneity.

In spite of lack of convergence in production and mild convergence in income, we want to test if there is convergence in living standards. We investigate in Chapter 4 changes in non-income indicators across Colombian departments from 1973 to 2005. The contribution of this
paper is to present the first complete and detailed analysis of convergence in social indicators in Colombia and discuss the importance of reducing disparities in health and education related indicators. The variables of analysis are literacy rate, infant survival rate, life expectancy at birth and nourishment. Convergence analysis of these variables is done using the classical regression approach to convergence, and also the distributional approach through bivariate Kernels. Using literacy rate as a proxy for education, we find regional convergence between 1973 and 2005. We find persistence in the distribution between 1975 and 2000 when we use infant survival rate and life expectancy at birth as proxies for health. Additionally, we find convergence between 1995 and 2005 in the rate of children that are well-nourished.

The central conclusion of the macroeconomic analysis, is that in the last quarter of the twentieth century, Colombia did not manage to reduce regional disparities in either gross departmental product or social indicators, except for literacy rate. Although the levels increased, particularly in social indicators, the relative outcomes of departments to the national average remained almost unchanged. It is important to emphasize that these disparities did not increase, and that there was some mobility in gross personal disposable income.

Many policy implications can be derived from these results. First, there it is necessary to revise economic linkages and spillovers between lagging departments with leading ones for achieving higher growth at the national level. Second, if poverty reduction is a key development priority in the country, it is necessary to create poverty alleviating programs focused at the departmental level, not only considering the urban and rural divide. Third, if inequality is also a goal, regional disparities need to be explicitly addressed by public policies.

Other policy implications of this collection of studies is the relevance of macroeconomic stability for poverty. Even if growth is slow and inequality anchored at different country divides, it is necessary to avoid economic crises because they lead to large increase in deprivation and disparities. For the same reason, it is necessary to enforce mechanisms to reduce high disparities in Colombia. One important mechanism to achieve this goal is to foster universal quality education, as it is the most powerful way to influence returns to labor over long periods and allows people to move from lagging to leading regions. It is also necessary to revise and enforce decentralization reforms to achieve fiscal equalization and foster regional convergence. Particular attention is needed concerning infant survival rate, in which which regional disparities are quite large and improvements very low in lagging departments relative to the national average.

Economic growth alone was clearly not sufficient in Colombia to achieve convergence and poverty reduction, on the contrary it was just enough to maintain the same distribution over time. Colombia appears like a country where reforms have not been successful to reduce
disparities and foster growth. On the contrary, it is a country where disparities seem to be anchored and immobile over time.

Concerning the data, lack of consistent time series at the departmental level and absence of panel data at the household level represent major constraints for empirical research on poverty and growth, limiting the extent to which researchers can suggest policy interventions. It is urgent for the statistical office to undertake projects in this direction and, particularly, to design methodologies consistent over time.