Finance: Pro-Growth and Pro-Poor
Cross-Country Study Finds Strong Link between Financial System Development and Reductions in Income Inequality and Poverty

By Thorsten Beck and Asli Demirguc-Kunt (DECRG)

Although there is considerable evidence now that better developed financial systems lead to faster economic development, there is little, if any, evidence of the distributional implications of financial development. So, while finance has been shown to be pro-growth, its impact on income distribution and poverty reduction was unknown. If financial development benefits mostly the rich, then the pro-growth nature of finance could be more than offset by an adverse impact on income distribution.

A recent cross-country study published by the World Bank answers this important question about the linkage between financial flows and poverty reduction. It finds robust evidence that countries with better-developed financial systems experience faster reductions in income inequality and faster rates of poverty alleviation. The authors conclude that the development of an efficient financial system should thus be at the center of a pro-poor development strategy. This article summarizes these findings and highlights the main policy implications that can be derived from them.

Data on income growth and credit to the financial sector were collected from the 1960-99 period for a sample of 52 developed and developing countries. Regressions of the average annual growth rate of income for the poorest quintile were run on Private Credit (the value of credit by financial intermediaries to the private sector, divided by GDP). The data show a positive relationship between finance and growth of the poorest income quintile. Further, when controlling for average GDP per capita growth, the positive relationship is confirmed, suggesting that the poorest quintile experiences higher rates of income growth than the average person in countries with higher levels of financial development (Figure 1). Even when eliminating outliers from the regressions, the pro-poor nature of finance is confirmed. So, it is the poorest income quintile that stands to gain the most from financial system development. Similarly, regressions of the average annual growth rate of the Gini coefficient run on Private Credit, average GDP per capita growth, and other country characteristics, show that countries with higher levels of financial development experience faster reductions in income inequality.

The relationship between financial development and reductions in income inequality is not only a correlation, but is a causal relationship. The positive relationship between Private Credit and faster growth for the poor might be driven by higher demand for financial services as the poor gain a larger share in national income. Similarly, reductions in income inequality might lead to political pressures to create more efficient financial systems that fund projects based on market criteria, not political connections. Finally, there might be a third factor that drives both financial development and reductions in income distribution.

To control for these possible explanations, the study extracts the exogenous, historically pre-determined component of Private Credit. Since a large body of literature has shown that financial development varies across different legal traditions and with the initial endowments of an economy, these exogenous components are extracted from Private Credit and its relationship to the income growth of the poor and
growth in income distribution is then tested again. The previous finding of a pro-poor nature of finance is confirmed when controlling for reverse causation and the possibility of a third factor.

Not surprisingly, differences in formal financial flows as a portion of GDP have had an important bearing upon poverty outcomes. Consider the case of Brazil. Data show that the average income of the poor in Brazil would have grown at more than 1.5% instead of 0% annually over the 1960-99 period if Brazil (where the ratio of private credit to GDP is 28%) had had the same level of financial intermediary development as Korea (Private Credit = 74%). This suggests an economically large impact of financial development on income growth of the poor given that Brazil’s GDP per capita grew at 2% over the same period.

**Finance and Poverty**

In accounting for changes in poverty, poverty alleviation can be decomposed into two parts: Faster economic growth and changes in the distribution of income. Indeed, depending on the precise definition of poverty, an arithmetic identity links poverty alleviation, growth, and changes in income distribution. By showing that finance helps both to boost economic growth and to reduce income inequality, the pro-poor characteristic of financial development has been established. However, the study goes one step further and assesses directly the link between financial development and poverty alleviation. It uses two measures of poverty intensification-- using growth of the headcount ratio (which equals the growth rate in the percentage of the population living below $1 or $2 dollar per day, using Purchasing Power Parity exchange rates), and the growth of poverty gap, where the poverty gap is computed as a weighted measure of (i) the fraction of the population living on less than one dollar per day and (ii) how far below one dollar per day incomes lie. Specifically, the Poverty Gap is the mean shortfall from the poverty line, expressed as a percentage of the poverty line.

Regressions of the average annual growth rates in headcount and poverty gap on Private Credit, GDP per capita growth and other country characteristics over the 1980-2000 period for 58 developing and transition economies show a strong and robust negative relationship; countries with higher levels of financial development experience faster rates of poverty alleviation (Figure 2). This relationship holds when using either $1 or $2 as poverty line, when eliminating outliers, and when controlling for the possibilities of reverse causation and a third factor driving the results.

The distributional and poverty reduction effects of Private Credit have thus been shown statistically to be very robust. The implications of this relationship between financial sector development and poverty alleviation are striking-- compare Chile (Private Credit = 54%) with Peru (Private Credit = 13%). In Chile, the percentage of the population living on less than $1 a day (headcount) decreased at an annual growth rate of 14% between 1987 and 2000. In Peru, the Headcount increased at an annual growth rate of 19% over the 1985 to 2000 period. These results indicate that if Peru had developed Chile’s level of financial intermediation, headcount would have increased at a much lower annual rate of 5% per year and resulted in a share of the population living on less than one dollar of about 2% in 2000, rather than the actual value of 15%. Thus, the economic impact of financial development on poverty reduction is huge.

**Policy implications**

Economists and policy makers often refer to growth-equity trade-offs; that is, policies that might boost economic growth might have adverse consequences for income distribution. This most recent research suggests that there is no such trade-off for financial sector reforms. The cross-country comparisons presented in the study thus show that financial development does not only help boost economic growth, but leads to pro-poor growth. The poorest quintile experiences income growth faster than average GDP per capita growth in countries with higher levels of financial development. Countries with higher levels of financial development also experience faster reductions in income inequality and faster rates of poverty alleviation. These are not simply correlations. Even when controlling for the possibilities that lower income inequality and reductions in poverty might lead to a larger demand for financial services, or that a third factor might drive both financial development and reductions in income inequality and poverty levels, the pro-poor nature of financial system development is confirmed.
Not only does a well-developed financial system boost economic growth, therefore, it is the poor who stand to benefit most from increased flow of financial through formal intermediaries.


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**Figure 1: Income Growth of the Poor and Private Credit**

Based on a regression of Income Growth of the Poor against GDP per capita Growth, log of Initial Income of the Poor and Private Credit, this figure represents the two-dimensional representation of the regression plane in Income Growth of the Poor – Private Credit space. To obtain this figure, we regress Income Growth of the Poor on GDP per capita Growth and log of Initial Income of the Poor, collect the residuals, and call them \(e(\text{Income Growth of the Poor} \mid X)\). Next, we regress Private Credit against GDP per capita Growth and log of Initial Income of the Poor, collect the residuals, and call them \(e(\text{Private Credit} \mid X)\). Then, we plot \(e(\text{Income Growth of the Poor} \mid X)\) against \(e(\text{Private Credit} \mid X)\).
Based on a regression of Growth of Headcount against log of initial Headcount, GDP per capita Growth and Private Credit, this figure represents the two-dimensional representation of the regression plane in Growth in Headcount – Private Credit space. To obtain this figure, we regress Growth in Headcount on log of initial Headcount and GDP per capita Growth, collect the residuals, and call them (Growth in Headcount | X). Next, we regress Private Credit against log of initial Headcount and GDP per capita Growth, collect the residuals, and call them e(Private Credit | X). Then, we plot e(Growth in Headcount | X) against e(Private Credit | X).