The Links Between Macroeconomic Growth and Access to Opportunity

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Introduction

Latin America has for a long time been one of the poorest and most unequal regions in the world, especially in the aftermath of Latin America's debt crisis. However, a commodity price boom in the mid to early 2000s gave this region some hope in terms of developing and converging with the industrialized West. GDP grew substantially during this time, especially in Peru, which was pointed out by many analysts as a prime example of how the commodity boom was crucial for Latin American development. However, apart from questions of increasing dependency on primary exports, many other analysts pointed out that much of the gain and many of the new *opportunities* created by this period of macroeconomic growth were experienced by the higher end of the income distribution.

Research Question

The goal of this project is to find out the effects of GDP growth on access to opportunity (which is represented by the variable of school enrollment) during the period of 2009-2018 in Peru. This is in order to better understand the implications of macroeconomic growth at a multidimensional level.

Role of the Research Assistant

My role as a research assistant I conducted literature review; gathering and organizing data; created tables on Excel; built a regression model and ran it on Stata.

Data and Methods

I gathered data on various variables used in my regression analysis from the Peruvian government's data collecting organism on the economy - the National Institute of Statistics and Information. This data covers the time period of 2009-2018 and is disaggregated by the 25 departments (the Peruvian equivalent to state) in Peru. To represent access to opportunity in my regression analysis, I chose the enrollment rate in secondary education in the population from 12 to 16 years of age as a representative variable. However, because the effects of GDP on school enrollment rates may not be instant, I put in place lags. My main regression is a cross-sectional regression where the dependent variable is the total change in enrollment rates in secondary education in the population from 12 to 16 years of age from 2014-2018 (total_lag_enroll) and the independent variable is total GDP per capita growth rates from 2009-2013 (total_lag_grwth). The control variables are high urban population in 2009 (urb_initial), GINI coefficient in 2009 (GINI_initial), poverty rate in 2009 (pov_initial) and average public expenditure on secondary education per secondary education student from 2009-2013 (avg_lag_pubexp). These statistics are all disaggregated by the 25 departments in Peru.
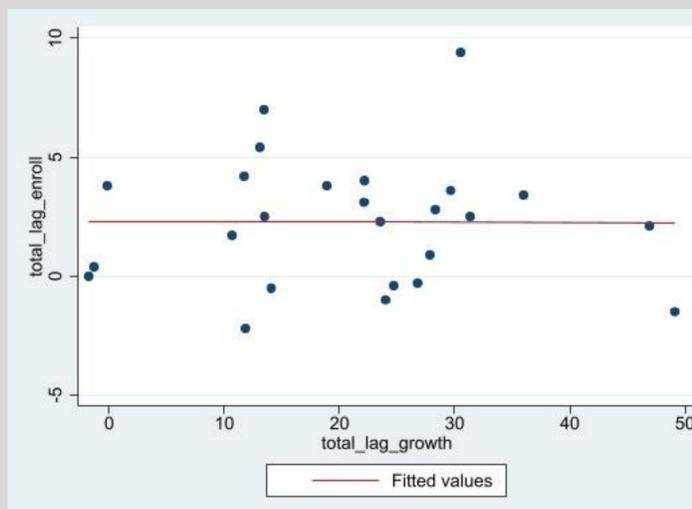
The regression equation is as follows:
$$total\_lag\_enroll = B0 + B1*total\_lag\_grwth + B2*urb\_initial + B3*GINI\_initial + B4*pov\_initial + B5*avg\_lag\_pubexp$$

Results & Discussion

The results of this project show that the regressor that has the largest effect on secondary education enrollment rates was initial poverty rate, which was 11. Both public expenditure and GDP growth had slightly negative coefficients, while whether the department was on average more urban than rural in 2009 had a coefficient of 2 and the GINI coefficient had one of -5. Going forward with this project I think it'd be necessary to have a focus regressor that would be of a smaller scale instead of GDP, because GDP is too broad of an indicator and it's hard to establish a causal relationship between such a macro regressor and such a micro regressand. I'd also like to have a measure of access to opportunity that captures a wide range of its multidimensional nature - education is only one part of one's *access to opportunity*. The Human Opportunity Index comes to mind, however, there currently is no data disaggregated on the department-level in Peru for this indicator.

Conclusion

Our conclusion is that the greatest determining factors of school enrollment (and therefore, access to opportunity) are the more static indicators. This means that access to opportunity is a variable that's easily reproduced, because it's main determinants are initial conditions that tend to suffer from inertia, like poverty rates, GINI coefficients and the proportion of people living in urban areas. These usually aren't easy to change through policy and many would describe them as path-dependent.