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## Institutions: Key variable for economic development in Latin America

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ABSTRACT

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#### 1. Introduction

Institutions have been much discussed in the economic literature and are frequently associated with studies on economic development. Rodrik, Subramanian, and Trebbi (2004) observe that, together with geography and international trade, institutions are a key determinant of economic development and are part of one of the three main lines of thoughts in the large literature on the wealth of nations. This article examines the effect of institutions on economic development in Latin America, taking into account trade openness, government size, population growth, investment rate, infrastructure, inflation and human capital, which are key factors in economic development studies. We are also interested in establishing how significant the role of institutions is in the empirical model when controlling for domestic credit to the private sector, a measure that is more commonly associated with financial development.

The research design is as follows. First, we run system generalized method of moments (SGMM) dynamic panel data regressions with 192 countries from 1996 to 2015, adopting a model based on Mankiw, Romer and Weil (1992) with domestic

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This article examines economic development from 1996 to 2015 for 192 countries and

specifically Latin America. Evidence shows that each 0.1-point increase in institutions

impacts a 3.9% improvement in Latin American per capita output versus a 2.6% effect on

world development. This new evidence from Latin America shows a missing opportunity

to develop at higher annual pace than the 2.14% average, mainly due to the deterioration

in rule of law. We conjecture the efficiency of monetary/fiscal policies will improve if policymakers emphasize projects that foster improvements to institutional quality, such as

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investment and population growth rates, focusing on institutions as our variable of interest.<sup>2</sup> Our model includes government size, which involves an important question dealt with by Lizardo and Mollick (2009) about government size and Latin American prosperity. It also controls for openness, which is assumed to be another key variable to development (Rodrik et al., 2004) that has been implemented by Cabral and Mollick's (2012) globalization model with flows of international capital. Next, we adopt infrastructure, proxied by the number of fixed telephone subscriptions per 100 people, a variable that measures the cost reduction in the production of intermediate inputs, fostering specialization (Bougheas, Demetriades, & Mamuneas, 2000). Furthermore, our model controls for inflation, a variable that captures the economic instability of an economy and is negatively associated with economic growth (Fischer, 1993). Human capital is another fundamental variable adopted in our equation, since its growth raises labor productivity and other inputs in production, generating a positive impact on economic development (Becker, 1994). We also include financial depth, proxied by domestic credit to the private sector, inspired by Levine's (1997) empirical evidence of financial development as a good predictor of economic growth, to check whether institutions remain statistically relevant in our empirical model. We then adopt a dummy variable for Latin America and check whether the effect of institutions on economic development is stronger in the region than in the rest of the world.

Latin America is a relatively homogeneous group of countries, where Spanish is the main language<sup>3</sup> and Catholicism is the main religion in most of the region, which supports the panel data methodology of providing a single coefficient for the interaction of the panel of countries with the institutions measure. We perform SGMM dynamic panel data regressions to analyze the effect of changes in institutions on the region's economic development in the last twenty years.

Table 1 ranks the nineteen Latin American countries in this study based on the difference between values of institutions measures in the years 1996 and 2015. While those indicators have contrasting performances among countries, the per capita economic growth in the region follows a robust path until 2013. According to the World Development Indicators (WDI) database, displayed in more details in the data section of this paper, the region's per capita GDP grew at an average rate of 2.14% per annum from 1996 to 2015, showing a smaller growth of 0.21% in 2014 and a decline (-1.21%) in 2015. The Worldwide Governance Indicators (WGI) database, in Table 1, shows that countries that have experienced a higher growth in political stability (PV) such as Peru (+0.59), Nicaragua (+0.58), Colombia (+0.54) and Uruguay (+0.46) have better average per capita growth rates (3.4%, 2.6%, 2.3% and 2.7%, respectively).<sup>4</sup> Other institutions measures such as rule of law have deteriorated in countries such as Venezuela (-1.11), Argentina (-0.83) and Ecuador (-0.52), for which the corresponding per capita growth rate shows lower averages in the period (1.2%, 1.6% and 1.8%, respectively).

The slowest growing countries in per capita terms in our sample (Haiti at -0.2%, Venezuela at 1.2\%, Mexico at 1.3\%, Guatemala at 1.4\%, Honduras at 1.4% and Paraguay at 1.5%) have declined in the equally-weighted average institutions measure over the period, suggesting the positive relationship between institutions and economic development that this paper reports more formally with dynamic panel data models.

This research therefore complements a recent body of empirical work comparing emerging/developing countries to developed countries, which incorporates institutional variables interacting with business cycles (the output gap) into both policy equations of deviations of either nominal interest rates from trend or real government spending, such as Calderón, Duncan, and Schmidt-Hebbel (2016). There is indeed a vast literature on institutions and economic policies, including Acemoglu, Johnson, Robinson, and Thaicharoen (2003), Dollar and Kraay (2003), Bravo-Ortega and De Gregorio (2005), Loayza, Fajnzylber, and Calderon (2005), Zettelmeyer (2006), and Calderón and Fuentes (2012).

Focusing on long term growth, our study reports results for the role of institutions in Latin America economic development which are consistent with this story. In the last two decades, the academic literature on Latin American growth has put much of its attention on the 2000 s commodity boom (e.g., Barbier 2004, Bacha & Fishlow 2011), the impact of the global financial crisis on the region (e.g., Ocampo 2009) and public indebtedness (e.g., Reinhard and Rogoff, 2010), leaving a gap in regard to the direct impact of institutional quality on the region's (lack of) development. This paper contributes to the economic development literature by providing new evidence that, for a class of models of economic growth, institutions remain a key variable for economic development in Latin America in the last twenty years: ceteris paribus, each 3.9% improvement in per capita output is associated with a 0.1-point increase in institutions, an impact that is 46% stronger than in the rest of the world. While the average per capita economic growth rate in Latin America was around 2.14% per annum, institutions evolved sluggishly across countries, with improvements in some indicators and declines in others. In fact, since institutions did not usually move towards better governance over time, our results suggest that per capita economic growth would have been higher in the region with improvements in governance! Evidence from regressions on rule of law indicates that this missed opportunity is due to the deterioration in the quality of contract enforcement, property rights, police and courts.

<sup>&</sup>lt;sup>2</sup> Islam (1995) advocates for the use of the panel data approach to the Mankiw et al., 1992 model in order to allow for differences in the aggregate production function across economies.

<sup>&</sup>lt;sup>3</sup> An exception is the large economy of Brazil, where Portuguese is the official language.

<sup>&</sup>lt;sup>4</sup> Although Ecuador has the highest gains in political stability in the period (PV change of +0.77), the per capita growth rate is below the other four listed countries, which may be associated with an overall negative change in the remaining WGI measures for Ecuador, such as: rule of law (-0.52) and regulatory quality (-0.96).

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