The Role of Institutional Quality Factors on Inequality in Upper-Middle Income Countries in Latin America

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Abstract

This paper investigates the influence that institutional quality factors have on the power or spread of inequality across low-income countries, as opposed to high income countries. As such, an empirical study and analysis will be conducted to measure the impact of the following institutional quality factors: control of corruption, government effectiveness, political stability and absence of violence/terrorism, regulatory quality, rule of law, and voice and accountability. Specifically, cross-sectional or panel data from the World Bank will be utilized to look at upper-middle income nations in Latin America. The factors will be simultaneously measured against the Gini Coefficient. These countries include Brazil, Argentina, the Dominican Republic and Peru from 2008 – 2022. Results from the panel data will show that a variety of institutional quality factors have significant influence over inequality factors and many variables contribute to this disparity, including Foreign Direct Investment and Global Competitiveness.

JEL Classification: I3, N4, O2, O4

Keywords: Institutional Quality Index, Foreign Direct Investment, Political Stability, Global Competitiveness, Gini Index

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1.0 INTRODUCTION

For a multitudinous array of reasons, lower-income nations face several disadvantages that hinder their overall development. Factors, such as limited resources, poor infrastructure, limited access to capital, health, education challenges, and so many more contribute heavily to the ever-growing constraints that are placed on the stimulation of economic growth, as well as improvement in living standards. In examining these variables, a question comes forth specifically in lower-income nations as to what is causing inequality, and if there are any ways to make change. With that being said, many nations are utilizing the Institutional Quality Index (IQI) and its indicators to reflect the strength of institutions that underpin social and economic development. By definition, this index is a composite indicator that measures the impact of aggregate and individual governance. It is composed of the World Governance Indicators and places importance on institutional control, with an emphasis on governance systems, procedures, and activities. As such, the factors that make up the index include the following: control of corruption, government effectiveness, political stability and absence of violence/terrorism, regulatory quality, rule of law, and voice and accountability. In addressing these concerns, impoverished nations can address specific weaknesses in their institutions to promote an environment of sustainable development and growth. Several studies have since uncovered that "local policies could be better targeted to reduce gaps and increase expenditure efficiency, foremost among which are anti-corruption actions… especially in regions which are lagging behind" (Ferrara & Nistico, 2019).

As such, this study will investigate the impact of the institutional quality index in a series of upper-middle income countries in Latin America, including Argentina, Brazil, the Dominican Republic, and Peru from 2008-2023. The study will aim to enhance the understanding of institutional quality factors, as well as the impact that the Gini coefficient plays within the policy implementation throughout these nations. The Gini Coefficient, which is an economic measure that analyzes the depth of inequality, is the most significant measure and variable within this study. Specifically, its value ranges from 0 to 1, with 0 representing perfect equality and 1 representing perfect inequality. In terms of economic policy, a higher Gini indicates greater inequality within a population, and vice versa. From a policy perspective, this analysis is significant toward the

comprehension of inequalities, as well as the make-up of policy structures. In taking a closer look at the failure of the institutional quality factors in lower income nations, this study will showcase the regional multidimensional inequalities within these six lower income nations.

This paper was guided by various research objectives that differ from other studies. First, it will investigate the possibility of interdependence between Institutional Quality Factors to the Gini Coefficient with the utilization of panel data. Secondly, it examines the influence of investment inflow and multidimensional well-being indicators on institutional quality. Lastly, this paper analyzes the difference between high-income countries (HICs) and low-income countries (LICs) in terms of inequality through an in-depth comparative analysis between the two. As such, there is not a wide variety of existing literature that highlights the significance of institutional quality factors when in relation to LICs, but this paper successfully responds to many unanswered questions.

The remainder of the paper is outlined as follows: Section 2 outlines the trend of the given topic. Section 3 consists of a brief literature review. Section 4 dives into the data and empirical methodology, while section 5 reveals the empirical results of the research. Lastly, this is followed by a conclusion in section 6.

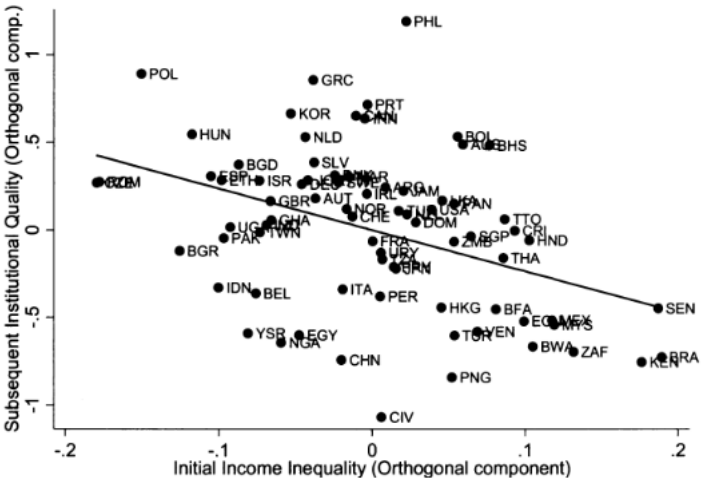
2.0 TREND

In order to measure the levels of inequality properly and effectively in relation to the institutional quality index, trends in the Gini Coefficient must be identified. As previously mentioned, the Gini index measures the extent in which distribution among individuals and households within an economy deviates from perfectly equal distribution. The utilization of the Gini index is essential in this study, as it aims to address levels of inequality across lower-income nations globally. Specifically, the index is useful in providing a standardized measure of income distribution, policy implications, and the respective countries relationship with development. Understanding this is imperative, and the coefficient successfully allows for comparisons over time across a multitudinous array of countries.

Figure 1 shows income inequality as captured by the Gini coefficient between 1981-1985 for a range of countries. This figure reinforces the correlation between income

inequality and institutional quality factors, as well as considering a range of economic conditions that also impact institutional quality as a whole.

Figure 1: Initial Income Inequality and Subsequent Institutional Quality



Source: The Review of Economics and Statistics

Per exploring a relationship between these two variables, it is easy to consider the impact that this will have on the following institutional quality factors: control of corruption, government effectiveness, political stability, absence of violence/terrorism, regulatory quality, rule of law, and voice and accountability. In many instances, as per depiction in Figure 1, poor institutional quality renders a higher degree of inequality. On the other hand, it is common that the opposite trend is seen within high-income nations, like the United States, China, and Singapore.

These variables can also be measured through the utilization of World Governance Indicators (WGI), which measure the quality of public governance at national and international levels. These indices are useful in understanding the different aspects of governance that have an overarching impact on governance quality, policy implications, social outcomes, and the overall growth and development of a country. Figure 2 shows the descriptive statistics of World Governance Indicators aggregate data on a 10-year basis, which highlights the mean, standard deviation, minimum, and maximum for each indicator. In addition to this, these statistics provide a quantitative foundation for various policy implications within the latter half of this study.

Figure 2: Descriptive Statistics of WGI Aggregate Data (2012-2022)

Statistics	Worldwide Governance Indicators (WGI)					
	Voice and Accountability	Political Stability and absence of violence	Government Effectiveness	Regulatory Quality	Rule of Law	Control of Corruption
N	1980	1980	1980	1980	1980	1980
Mean	46.3	44.7	47.5	48.0	46.6	46.6
Std. Deviation	28.6	27.2	28.9	29.0	29.0	29.3
Minimum	0.0	0.0	0.0	0.0	0.0	0.0
Maximum	100.0	99.5	100.0	100.0	100.0	100.0

Source: The Worldwide Governance Indicators

3.0 LITERATURE REVIEW

To shed light on the importance of the institutional quality index, various studies have been conducted in previous years. When examining institutional quality as a whole, a clear distinction must be made between low-income countries (LICs) and high-income countries (HICs). Simply put, this is due to the fact that the quality of institutions and their impact on economic growth varies significantly between countries. While low-income countries are taxed with limited resources and higher levels of corruption, higher-income countries are oftentimes resource rich and have stronger structures. In a study conducted between high and middle-income countries, it is revealed that "An average MIC gains relatively more from improving its quality of legal system and property rights, whereas an average HIC benefits relatively more from each unit of improvement in its regulatory environment" (Parsa & Datta, 2023). In addition to this, researchers also dive into the difference between HICs and MICs when examining business start-ups. To understand why institutional quality plays a significant role, it is important to understand that governance, as well as size and strength of HICs, is truly a determinant of

entrepreneurial success. Furthermore, several policy implications in HICs outweigh those of MICs and LICs (Ben Ali, 2023).

On an international level, the same issues persist. Through looking at the Middle East and North African (MENA) regions, political regimes and governance play a significant factor that cannot be ignored when considering institutional quality. Similarly to analysis conducted in high, middle, and low-income nations, the MENA region provides insight on political stability and governance. Through a series of natural resource rents, socioeconomic status, and institutional quality factors shape the future of fiscal and monetary policies in order to reduce inequalities (Agheli, 2017). Evidence found from the Granger non-causality test uncovers unidirectional causation, meaning that "x" causes "y", but "y" does not necessarily cause "x" to occur. This causation was, for the most part, found within MICs and LICs, where nations are impacted more so by improvements to regulatory environments. Since these nations are more commonly expected to be lackluster in terms of resources as compared to higher income nations, this trend is expected to occur.

Since the institutional quality index uncovers lots in terms of inequality, it is imperative to understand regional multidimensional factors. One case study focused on Italy uncovered that "disparities in multidimensional well-being go beyond the historical GDP divide between the Centre-North and the South of Italy… institutional quality matters in affecting regional multidimensional well-being inequalities and the effect varies heterogeneously according to the level of public expenditure, institutional dimensions, and spatial spillovers" (Ferrara & Nistico, 2019). Similar findings registered throughout Africa, where a holistic approach was utilized to look at environmental and housing factors. Once again, findings uncovered that governance and longevity of the regime / term of power have the power to exacerbate inequalities in all forms (Ongo Nkoa & Song, 2022). This is important to consider for the following: Foreign Direct Investment, Healthcare, Education, and Economic Development. In order to facilitate sustainable and effective development initiatives, these nations must be provided with the proper trajectory that will impact social, economic, and political outcomes.

A multitudinous array of research and development in relation to Foreign Direct Investment (FDI) inflows also lays within the institutional quality channel, per the

reasons listed above. Within reason, evidence outlines the potential role of institutional quality in terms of absorption in FDI spillovers. Due to the fact that quality of institutions is essential in the enhancement of market growth, literature shows that greater macroeconomic and financial stability indicate a positive relationship (Aziz, 2022). This can further be outlined in the understanding that institutional operations outline a certain level of attractiveness, which contributes to overall gross domestic product (GDP), as well as the Global Competitiveness Index (GCI). Within Central and Eastern Europe (CEECs), it is evident that "CEECs differ with respect to institutional quality (IQ)" (Dorozynski et al., 2020). Because sound governance is likely to attract aid, as opposed to corruption factors, it is evident that there are several forms of discrepancy in terms of institutional quality between low-income, middle-income, and high-income nations.

4.0 DATA AND EMPIRICAL METHODOLOGY

4.1 Data

The study uses panel data from 2008 to 2023. Data was obtained from the World Bank websites Worldwide Governance Indictors. As per the World Bank, it has been found that the WGI help researchers and analysts assess broad patterns in perceptions of governance across countries over time. Publicly available WGI data comes from across the world with these three criteria in mind: produced by credible organizations, provide comparable cross-country data, and are regularly updated.

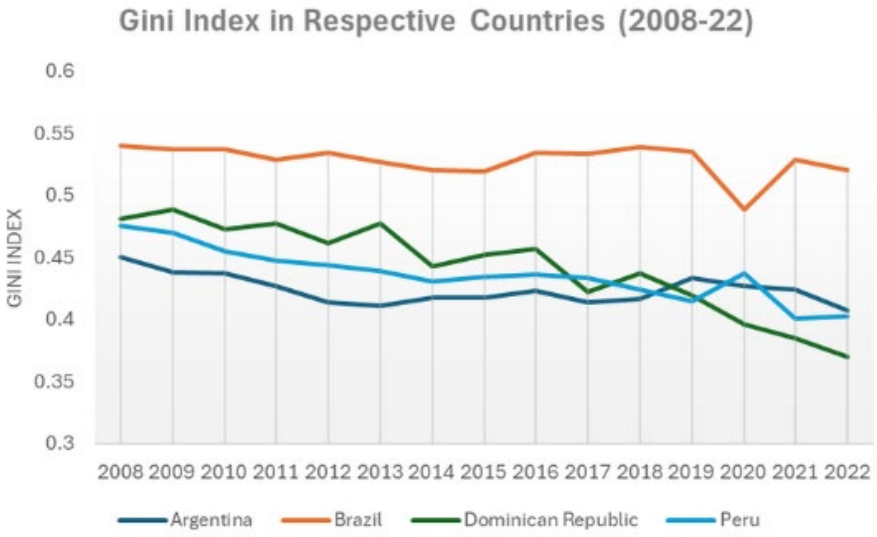
4.2 Empirical Model

Following a study done by Lambert and Aronson in 1993, this study aims to look at the impact of institutional quality factors on inequality in upper-middle income countries in Latin America. Within Lambert and Aronson's study, they observe an inequality decomposition analysis with the utilization of the Gini coefficient and Lorenz curve, but this model adds to the study by adding in the institutional quality index.
The model could be written as follows:

$$GINI = \beta_0 + \beta_1 VA + \beta_2 PSNV + \beta_3 GE + \beta_4 RQ + \beta_5 ROL + \beta_6 CC + \varepsilon$$

Within this model, the following variables are considered: Gini Coefficient, Voice and Accountability (VA), Political Stability No Violence (PSNV), Government Effectiveness (GE), Regulatory Quality (RQ), Rule of Law (ROL), and Control of Corruption (CC). Figure 3 below shows the Gini Index in the respective countries from 2008-2022, which provided great insight prior to the actual running of the regression analysis. This variable analysis looks at the difference in aggregate flows, as well as impact on WGI and Institutional Quality.

Figure 3: Gini Coefficient in Respective Countries (2008-2022)



Furthermore, the study has a series of independent variables that were obtained from various sources and research conducted. As such, the observation is looking at four countries in Latin America with similar populations and economic growth, but they are all tested against the independent variable. In simple terms, the independent variable is manipulated or controlled and is hypothesized to have a causal effect on the dependent variable(s). In this instance, inequality has an impact on all of the institutional quality factors: control of corruption, government effectiveness, political stability and absence of violence/terrorism, regulatory quality, rule of law, and voice and accountability. By looking at the Gini coefficient in this case, the research will be able to show a clear distinction between each country as per the provided data set.

5.0 EMPIRICAL RESULTS

The empirical results of the regression are presented below and are displayed individually in relation to each country.

Table 1: Argentina Regression Analysis

ARGENTINA	
Voice and Accountability	-0.0446
	(0.0325)
Political Stability, No Violence	-0.0178
	(0.0353)
Government Effectiveness	-0.0242
	(0.0286)
Regulatory Quality	0.112**
	(0.0485)
Rule of Law	-0.136**
	(0.0583)
Control of Corruption	0.00746
	(0.0299)
Constant (GINI)	0.443***
	(0.0228)
Observations	15
R-squared	0.687
Standard errors in parentheses	
*** p<0.01, ** p<0.05, * p<0.1	

Table 2: Brazil Regression Analysis

BRAZIL	
Voice and Accountability	0.0249
	(0.0813)
Political Stability, No Violence	0.00688
	(0.0302)
Government Effectiveness	0.0313
	(0.0606)
Regulatory Quality	-0.0366
	(0.0843)
Rule of Law	-0.0495
	(0.0593)
Control of Corruption	0.0317
	(0.0531)
Constant (GINI)	0.528***
	(0.0580)
Observations	15
R-squared	0.326
Standard errors in parentheses	
*** p<0.01, ** p<0.05, * p<0.1	

Table 3: Dominican Republic Regression Analysis

DOMINICAN REPUBLIC	
Voice and Accountability	-0.0139
	(0.245)
Political Stability, No Violence	0.0588
	(0.0738)
Government Effectiveness	-0.0407
	(0.0915)
Regulatory Quality	-0.153
	(0.191)
Rule of Law	-0.0451
	(0.0820)
Control of Corruption	-0.0893
	(0.0941)
Constant (GINI)	0.322**
	(0.112)
Observations	15
R-squared	0.888

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4: Peru Regression Analysis

PERU	
Voice and Accountability	0.110*
	(0.0588)
Political Stability, No Violence	-0.0432**
	(0.0172)
Government Effectiveness	-0.0538**
	(0.0203)
Regulatory Quality	0.0340
	(0.0190)
Rule of Law	-0.0184
	(0.0357)
Control of Corruption	0.0526*
	(0.0230)
Constant (GINI)	0.379***
	(0.0381)
Observations	15
R-squared	0.947

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

From these results, a few things can be stated in conclusion. First and foremost, when looking at Peru, it is evident that the Political Stability No Violence (PSNV) variable has a positive impact on income equality with a Gini of 0.379. In addition to this, Government Effectiveness (GE) in Peru essentially lowers the Gini Index, which in turn effectively lowers income inequality. Lastly, it is evident that Voice and Accountability (VA) for Peru has a positive coefficient, with its value being 0.110. With that being said, this can be interpreted in a variety of ways. For the purposes of this study, this means that even when people feel like they have a voice, there is still more income inequality within the respective country. Additionally, this implies that less fortunate people are more likely to speak up in contractionary or recessionary periods.

In addition to this, there were many significant variables found in the analysis of Argentina. First and foremost, when there is greater regulatory quality in Argentina, there is still an increase in the Gini index, which increases income inequality. In Argentina, this value came out to be 0.443. Additionally, when there is less rule of law, which equated to a value of -0.136, there is more income equality, not inequality. Based on what we can predict for the Gini Index, there is a strong likelihood that the role that the government plays in the economy and overall life in Argentina has a negative impact on income equality.

The analysis of the Dominican Republic and Brazil did not yield many results, which leads to the overall limitations of this research. First and foremost, the total number of observations was limited, especially since only four countries were considered for the study. In addition to this, there is a strong possibility that the reported data could be misreported, especially in countries that have high levels of corruption – which is evident in multiple nations across Latin America. This likely leads to the concept that the results could be insignificant due to possibilities of skewed data. Lastly, the size of governments, economies, and roles of the government likely play a factor in the inconsistency of results across the four observed countries.

5.0 CONCLUSION

In summary, this study was able to find that Argentina's government likely has a negative impact on income inequality. This conclusion is based on the impact of regulatory quality and rule of law on the Gini Index. In addition to this, the study found

that overall, across various observed countries, when the government works in a way to help its citizens, it effectively lowers the Gini Index, or lowers income inequality. In addition to these findings, further research can be done to look at data on a more frequent basis and expand the topic to more countries of observation.

Appendix A: Variable Name and Data Source

Acronym	Description	Data source
FDI	Foreign Direct Investment flows by country in millions of dollars	US Bureau of Economic Analysis
VA	Voice & Accountability	World Governance Indicators (World Bank)
PSNV	Political Stability, No Violence	World Governance Indicators (World Bank)
GE	Government Effectiveness	World Governance Indicators (World Bank)
RQ	Regulatory Quality	World Governance Indicators (World Bank)
ROL	Rule of Law	World Governance Indicators (World Bank)
CC	Control of Corruption	World Governance Indicators (World Bank)
GI or GC	Gini Index or Gini Coefficient	US Bureau of Economic Analysis

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