Institutions and economic development: A Granger causality analysis of panel data evidence

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ABSTRACT

This study examines the causal relationship between institutions and economic development using a panel Granger causality test. The study incorporates two institutional datasets, the International Country Risk Guide (ICRG) and World Governance Indicators (WGI). The empirical results based on 60 countries show that there is a bi-directional causality between institutions and economic development. The findings also suggest that causality patterns between institutions and economic performance vary at different stages of income level. Better institutional quality fosters economic development in higher income countries, whereas economic development tends to enhance institutional quality in lower income countries.

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1. Introduction

Recently, the role of institutions in influencing economic development has become one of the more dynamic areas of empirical work in economics. North (1981) conceptualizes institutions as "a set of rules, compliance procedures, and moral and ethical behavioral norms designed to constrain the behavior of individuals in the interests of maximizing the wealth or utility of principals". He further stated that institutional change shapes the way societies evolve through time and, hence, the direction

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of economic performance. Numerous empirical studies have provided convincing evidence to support the view that differences in institutions can have a major effect on economic development. For example, in a seminal study, Knack and Keefer (1995) highlight that the quality of bureaucracy, property rights, and the political stability of a country all contribute to positive economic growth.[1]

Even though there has been increasing interest in the link between institutions and economic growth, far too little attention has been paid to the causality relationships between the two variables. An exception is the study by Chong and Calderon (2000), who argue that the direction of causality could also go the other way. They collected similar institutional measures to those used by Knack and Keefer (1995) and analyzed the causality patterns found between these two variables. The time series Granger causality reveals that there is a causal effect running from institutions to economic growth. Nevertheless, it does seem to be the case that economic growth contributes to institutions. The sample used by Chong and Calderon (2000) was dictated by limited data availability and based on five- and ten-year averages. The sources of their institution datasets were the Business Environmental Risk Intelligence (BERI) and the International Country Risk Guide (ICRG), where the sample period covers 1972–1995 and 1982–1995, respectively. In addition, as these datasets are based on ratings by experts, there might be subjective assessments.[2] Since new global standards of institutions are emerging, where the developing countries are increasingly aware of the important role of institutional quality, and longer time series datasets are now available, it is crucial to validate the causality patterns between institutions and economic development using a more advanced panel Granger causality approach.

This study re-examines the causal effect between institutions and economic development with a sample of annual panel data from 60 countries. The study contributes to the literature in three important ways. First, given the diverse country sample used in the analysis, the causality patterns between institutions and growth may differ across countries with varying levels of economic development. Hence, the sample countries were further sub-divided into four groups, namely, high income, upper middle income, lower middle income and low income. Second, this study employs Hurlin and Venet (2001) and Hurlin's (2004) panel causality approach to deal with the homogeneity assumption in a time series, cross-section Granger framework. This approach takes into account the heterogeneity that has been ignored in the literature when analyzing the causal relationships between institutions and economic development. Third, the study not only utilizes the longer sample period dataset of ICRG, but also employs the datasets on institutions for examining the causal effects between institutions and economic development, namely the World Governance Indicators (WGI) datasets, to capture the aspects of institutions.

The key finding reveals a bi-directional causality between institutions and economic development in the full sample countries. The causality relationships between these two variables are highly heterogeneous; thus, panel heterogeneity needs to be tested when searching for causality between institutions and economic development. The results are robust for two measurements of institutions, namely ICRG and WGI. However, the causality patterns between both variables do vary at different stages of economic development. Institutions are found to cause economic development in higher income countries, but economic development causes institutions in lower income countries.

This study is organized as follows: Section 2 is a brief literature review, while Section 3 explains the econometric methodology employed and the data sources. Section 4 discusses the empirical results. Finally, Section 5 presents the conclusions.

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[1] Other empirical studies include, among others, Mauro (1995), Olson (1996), Keefer and Knack (1997), Hall and Jones (1999), Chong and Calderon (2000), Acemoglu et al. (2001), Raiser (2001), Easterly and Levine (2003), Dollar and Kraay (2003), Rodrik et al. (2004), Butkiewicz and Yanikkaya (2006), Aixala and Fabro (2007, 2008), Lee and Kim (2009), Huynh and Jacho-Chavez (2009), Pääkkönen (2010), Haggard and Tiede (2011), Efendic et al. (2011), Peyton and Belasen (2012) and Neyapti (2012).

[2] For example, it is possible that these ratings are influenced by knowledge of recent economic performance, where an "expert" who is asked to rate a country about which he/she knows very little might surmise that corruption must not be too severe in country X because it has been growing so rapidly and attracting so much investment. Mauro (1995) also points out that evaluators may be influenced by a country's economic performance when they evaluate its institutional efficiency.