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Growth effects of institutions: A disaggregated analysis

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ABSTRACT

This study attempts to examine the impact of various institutions on economic growth using panel data for 56 countries over the period 1981–2010. These impacts have been examined at aggregated level for world representative sample as well as for the sample disaggregated by the development level of the countries. We have estimated static panel using fixed effects model and dynamic panel using system GMM. The empirical analysis confirms a positive relationship between institutions and economic growth. The positive impact of control over corruption, qualitative and effective bureaucracy and desirable law and order situation on economic growth is greater in high income countries as compared to low income countries. The impact of investment profile is more growth enhancing in developing countries in contrast to developed economies. The crux of the analysis is that the institutions are indeed important in determining the long-run economic growth. It is also established that institutions play a greater role in determining growth in developed economies relative to developing economies. The implication of this finding is that different countries require different sets of institutions for ensuring long-term economic growth.

1. Introduction

High and sustained economic growth is the primary objective of all nations. Various economic and non-economic factors determine the nature and rate of economic growth. Recent debate over the determinants of long term economic growth has brought to fore the role of institutional framework in explaining the cross country differences in per capita output. Institutions – generally defined as the "constraints that human beings impose on themselves"[1] – have been known to influence growth as early as the 18th century or may be since time immemorial. Adam Smith wrote in 1755: "*little else is requisite to carry a state to the highest degree of opulence from the lowest barbarism but peace, easy taxes, and a tolerable administration of justice: all the rest being brought about by the natural course of things*"[2]. The role of institutions as a determinant of growth, however, has remained overshadowed for long owing to focus on other determinants, such as physical and human capital and the technological advancement.

Over the last three decades, institutions have received an increasing attention from researchers, policymakers and development practitioners. The body of literature – evolved over time – concludes that institutional framework of a country play a crucial role in determining a country's growth performance (Acemoglu and Robinson, 2010; Jones, 1987; North, 1981; North and Thomas, 1973). The available literature establishes a positive relationship between institutions and the economic growth (Acemoglu and Robinson, 2010; Iqbal and Daly, 2014; Mauro, 1995; Rodrik et al., 2004). The findings of these studies, however, vary substantially in terms of magnitude. The findings in the literature are very limited towards explaining the influence of institutions on economic growth at different stages of development.

The literature suggests that the impact of various institutions may vary across countries depending on domestic economic environments. For example, the Latin American countries adopted institutions more or less in the similar manner to that of the United States of America but the outcomes (i.e. economic development) remained markedly different (Yifu Lin and Nugent, 1995). Pakistan and India share similar culture and geographic characteristics but the apparent performance of the democratic institutions in the two countries is quite dissimilar to each other. On the other hand, many developed countries such as Germany, United Kingdom, Taiwan and Hong Kong have posted high growth despite notable differences among the characteristics of the institutions established and operationalized by those countries (Valeriani and Peluso, 2011). China and Singapore have also achieved high growth having non-democratic institutions. Various studies have shown that the impact of institutions on the economic growth is varies across different sets of countries. A study of the transitional economies shows that the control over corruption is growth enhancing if complemented by strong democratic institutions. Institutional measures promote economic growth in strongly democratic economies and fail to boost growth in democratically weak countries (Iqbal and Daly, 2014).

A limited literature has examined the impact of institution on the economic growth at various stages of development. A further analysis

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[1] (North, 1990).

[2] This quotation is drawn from the Adam Smith's Lecture in 1755 available at the Adam Smith Institute's website.

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is required to understand the effects of institutions such as government stability, control over corruption and the rule of law on economic growth and whether or not these effects vary with the level of development. For example, whether a government's stability is more important than control over corruption in promoting growth. Whether or not institutions that determine the level of administrative quality perform equally at all stages of development. To this end, we analyze the impact of the different types of institutions on the economic growth in this paper. The institutions whose separate effects are examined include: government stability; investment profile; control over corruption; rule of law; democratic accountability and bureaucratic quality. These indicators capture three different dimensions of institutions i.e. i) political stability; ii) administrative quality and iii) democratic accountability. Further, we empirically estimated the cross-country impact of institutions on the economic growth at various stages of development (i.e. the level of income: high income countries and low income countries).

The empirical investigation uses the panel data pertaining to 56 countries over the period of 1981–2010. We used the fixed effects model and a dynamic panel based on the System Generalized Method of Moments (SYS-GMM). The fixed effects model tackles the cross-sectional heterogeneity and the SYS-GMM methodology takes into account the time series dimension of the data, non-observable country specific effects, inclusion of lagged dependent variables among the explanatory variables and the possibility that all explanatory variables could be endogenous.

There is an active research literature concerning the interaction between institutions and the economic growth. Our own contribution is to show: (i) different institutions perform differently in terms of enhancing economic growth; (ii) the impact of these institutions varies across different sets of countries i.e. across developed and developing economies; (iii) results can be improved by adequately controlling endogeneity among variables. The rest of the paper is structured as follows: Section 2 provides a brief literature review on growth effects of institutions; Section 3 elaborates the data and methodological issues; Section 4 explains the empirical results and the last section concludes the discussion.

2. Literature review

The economic theory recognizes that the per capita output in a country is determined by the amount of physical capital, human capital and technological advancement. Acemoglu and Robinson (2010) argue that human capital, physical capital and technology are the only determinants of growth. They further state that to find out why some countries grow faster than others, we need to look for more fundamental causes which may underlie the proximate differences across countries. Over the last three decades, the focus of thinking has shifted away from the so called 'proximate causes' to the more 'fundamental causes' of economic growth. In this context, the role of institutions in explaining the cross-country differences in the economic growth has received more attention.

The path breaking studies by North and Thomas (1973), North (1981), Olson (1982) and Jones (1987) inspired the researchers to explore the role of institutions in explaining the persistent differences in the economic development across countries. The relevant literature suggests that institutions play a significant role in determining the growth performance of nations. The quality of institutions in any given country plays an important role in determining the growth process by influencing the incentive structure for investment in human and physical capital as well as technological advancement and innovations. It is generally believed that institutions, particularly the security of property rights play a key role in determining the long-run economic growth (Knack and Keefer, 1995; Rodrik et al., 2004). North (1990) argues that secure property rights and better contract enforcement determine growth. He states that the failure of the developing countries to design institutional framework based on secure property rights and enforced contracts is the major reason for their underdevelopment.

An enormous amount of empirical work examining the relationship between institutions and growth has developed over the last three decades. Knack and Keefer (1995) using data for 97 countries over 1974–89, show that the quality of institutions is important for growth and investment. They used two institutional variables in growth regressions capturing the security of property rights and enforcement of contract using five indicators: i) rule of law; ii) corruption; iii) bureaucratic quality; iv) protection against risk of expropriation and v) repudiation of contracts. These indicators were from the International Country Risk Guide (ICRG) dataset. They also used four indicators: i) contract enforceability; ii) infrastructure quality; iii) nationalization potentials and iv) bureaucratic delays. These indicators were obtained from the Business Environmental Risk Intelligence (BERI) dataset. They found that the relationship between institutional variables and the economic growth is positive. Mauro (1995), using cross section data for 67 countries over 1980–1983, shows that corruption is negatively linked with investment which lowers the economic growth. On the other hand, he finds that bureaucracy has a positive impact on the investment. Barro (1998), in a panel of 100 countries over the sample period 1960–90, finds that 'rule of law' has a positive impact on growth. Rodrik, et al. (2004), using the index of 'rule of law' as proxy for institutions, estimated the contribution of institutions, geography, and trade in determining income levels of the countries. They found that institutions have a strong impact on income. They also found that variables like geography and trade are insignificant once the institutions play their role effectively.

Hall and Jones (1999), following Knack and Keefer (1995), used a weighted average measure of institutions from the ICRG dataset for 127 countries. They show that differences in social infrastructure across countries are caused by large differences in capital accumulation, educational attainment, and productivity. This accounts for cross-country income differences. Acemoglu et al. (2001), using differences in European mortality rates as an instrument for contemporary institutions, found large effects of institutions on the income per capita. Acemoglu et al. (2006) estimate the role of institutions on economic growth. They use 'constraint on executive' from Polity IV as a proxy for private property institutions. The authors show that private property institutions exercise a major influence on long-run growth, investment and financial development.

Valeriani and Peluso (2011) analyze the impact of institutional quality on the economic growth at different stages of development by employing a panel over 1950–2009 for 181 countries using a pooled regression and fixed effects. They found a positive impact of institutions, measured by civil liberties, quality of government and number of veto players, on economic growth. They also show that institutions are more effective in developed countries as compared to developing countries. Chauffour (2011), using data for more than 100 countries over 1975–2007, found that institutions, measured by economic freedom and civil and political liberties determine why some countries achieve and sustain better economic outcomes. This study shows that a one unit differential in the initial level of economic freedom between two countries (on a scale of 1 to 10) is associated with an almost 1 percentage point differential in their average long-run economic growth rates. For civil and political liberties, the long-term effect is also positive with a differential of 0.3 percentage point.

The empirical literature discussed above, for the most part, establish a positive and direct relationship between institutions and economic growth. However, the findings of these studies vary substantially in terms of magnitude. The empirical literature on institutions-growth nexus also differs in the ways of measuring the quality of institutions and the estimation methodology employed. However, literature failed to adequately address the issue of endogeneity and omitted variable bias which may generate biased and inconsistent parameters. Further investigation, therefore, is required to tackle these problems.