

## Does Institutions Matter for Economic Development? Evidence for ASEAN Selected Countries

Mohammad Sharif Karimi\*<sup>1</sup>, Elham Heshmati Daiari<sup>2</sup>

Received: October 25, 2016

Accepted: January 2, 2017

### **Abstract**

The theoretical and applied issues of the relationship between institutions and economic growth have thoroughly been examined in ASEAN countries. This study revisits the issue and tests the role of institutions in the economic growth using the World Governance Indicators (WGI) and uses a new method to examine the impact of the various institutions on the economic growth. We used dynamic panel using GMM panel data for 10 ASEAN countries over the period 1996–2014. The empirical analysis confirms a positive relationship between a composite WGI and the economic growth in the selected ASEAN countries. So, there is a positive impact of Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption on economic growth in the selected countries. Other control variables showed that human capital, and physical capital have a significant influence on the growth as the theory predicts. This study also found that there is a bidirectional causality effect between the both variables.

**Keywords:** Institutions, Economic Development, ASEAN Countries, GMM, OLS, Granger Causality.

**JEL Classification:** O43, C33, C14.

### **1. Introduction**

Economic development is the primary objective of all nations, and some important non-economic factors that determine the nature and the rate of economic development are institutions, which are generally defined as the ‘constraints that human beings impose on themselves’ (North, 1990). The relationship between institutions and economic

---

1. Department of Economics, Faculty of Social Sciences, Razi University, Kermanshah, Iran (Corresponding Author: s.karimi@razi.ac.ir).

2. Department of Economics, Faculty of Social Sciences, Razi University, Kermanshah, Iran (el.heshmati@yahoo.com).

## **2/ Does Institutions Matter for Economic Development?: ...**

---

growth have been an important issue for both developed and developing countries. The debate over the role of institutions in economic growth has resulted in conducting many researches, and has become one of the most dynamic areas of the empirical work in economics. Over the last three decades, institutions have received an increasing attention from the scholars, policymakers, and development practitioners. Both theoretical and empirical studies have shown that institutions have an effect on the economic development (see Hall and Jones, 1999; North, 1981; Mauro, 1995; Rodrik et al., 2004; Acemoglu and Robinson, 2010; Iqbal and Daly, 2014). Such studies have corroborated Douglass North (1990) hypothesis that institutions are the underlying determinants of the long-run economic performance of nations. Therefore, countries with better institutions, not only invest more in physical and human capital, but also use these factors more efficiently. Empirical literature has identified numerous institutions that influence the economic growth, including assessments of the quality of the government bureaucracy, absence of corruption, and constraints on powers of the executive branch, law enforcement, justice, regulations, tax administration, and institutions that manage monetary and fiscal Policies<sup>1</sup>. Conventional narrative review establishes that this literature typically reports statistically significant and positive effects of the institutional improvement on the economic performance. Since new global standards of institutions are emerging, 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.

In recent decades, ASEAN<sup>2</sup> countries have had a faster economic growth in the world and ASEAN is the second-fastest growing economy in Asia, so that after China it has expanded 300% since 2001 (WDI,

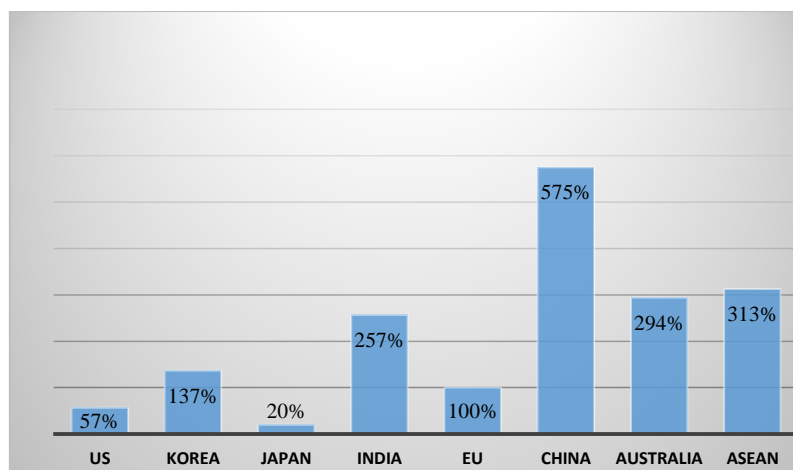
---

1. See Barro (1997, 2000), Schleifer and Vishney (1994), Knack and Keefer (1995), Mauro (1995), Sachs and Warner (1995), Frye and Shleifer (1997), Johnson et al. (1998), Easterly and Levine (2002), Kauffman and Kraay (2002), Rodrik et al. (2004), Rodrik and Subramanian (2003), Meon and Sekkat (2004), Kauffman et al. (2005).

2. Association of Southeast Asian Nations (Including Malaysia, Indonesia, Singapore, Thailand, Philippine, Cambodia, Laos, Myanmar, Vietnam and Brunei)

2015). A limited literature has examined the impact of the institution on the economic growth at various stages of development in these countries. So, a further analysis is required to show the effects of new institutions indicators, such as government stability, control over corruption and the rule of law on the economic growth, and also to indicate that 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. Also this paper indicates that whether or not institutions which determine the level of administrative quality, perform equally at all stages of development, as well as the causal effect between the institutions and the economic development with this new approach. Therefore, this study revisits the issue and tests the role of institutions in economic development, using a new method and newly constructed sets of institutions for the ASEAN selected countries. Within this framework, this paper will discuss two major Points. The first point is to analyze the impact of institutions on economic growth, and the second concerns the causality patterns between the institutions and the growth.

The paper is structured as follows: Section2 provides a review of the literature, while Section3 describes the modeling strategy for the empirical analysis and the data sources. Section4 discusses the empirical results. Finally, Section5 presents the conclusions.



**Figure 1: GDP Growth over the Period 2001-2014 in Selected Countries and Region**

Source: WDI, 2015

## 2. Institutions and Economic Development

The most crucial question in the field of economic growth and development is that why some countries are much poorer than others. Traditional neoclassical growth models, following Solow (1956), Cass (1965) and Koopmans (1965), explain differences in income per capita in terms of different paths of factor accumulation, since Romer (1986) and Lucas (1988) differed in the sense that they emphasized that externalities from physical and human capital accumulation could induce sustained steady-state growth. Though this theoretical tradition is still vibrant in economics and has provided many insights about the mechanics of economic growth, it has for a long time seemed unable to provide a fundamental explanation for economic growth. As North and Thomas (1973: 2) put it: “the factors we have listed (innovation, economies of scale, education, capital accumulation, etc.) are not causes of growth; they are growth”. Factor accumulation and innovation are only proximate causes of growth. In North and Thomas's view, the fundamental explanation of comparative growth is differences in institutions.

According to North (1990: 4): “Institutions are the rules of the game in a society, the humanly devised constraints that shape human interaction. They structure incentives in human exchange, whether political, social or economic”. Three important features of institutions are apparent in this definition: (1) that they are “humanly devised”, which contrasts with other potential fundamental causes, like geographic factors, which are outside human control; (2) that they are “the rules of the game” setting “constraints” on human behavior; (3) that their major effect will be through incentives. Institutions comprise for example contracts and contract enforcement, protection of property rights, the rule of law, government bureaucracies, and financial markets. They also, however, include habits and beliefs, norms, social cleavages and traditions in education (so-called informal institutions). Formal institutions typically tend to be the crystallization of informal institutions (North, 1990), as social norms in the realms of gender, class and caste, for example, determine rules of political participation and representation, methods of economic exchange, and inclusion of different groups in society (Pateman, 1988).

Institutions conducive to economic development reduce the costs of economic activity. The costs include transaction costs such as search

and information costs, bargaining and decision costs, policing and enforcement costs (Coase, 1992: 197; Dahlman, 1979: 149). On the other hand, such institutions increase the security that the risk of incurring in an economic transaction is matched by the full appropriation of its eventual benefits. This includes the presence of individual private property rights. If property is protected, individuals will be more willing to invest and incur sunk costs. Recounting the land-ownership system in Ghana, Pande and Udry (2005) showed that where individual perception of security of land tenure is low, investment in the land is significantly reduced, and output consequently drops. In fact, in the few cases in which land is obtained through commercial transactions (as opposed to the traditional informal system of land redistribution), there ceases to be any difference in levels of investment because security of tenure is assured. This increases output and thus is conducive to economic development. Therefore, Institutions determine the costs of economic transactions: they spur development in the form of contracts and contract enforcement, common commercial codes, and increased availability of information, all of which reduce the costs of transactions, risk, and uncertainty. Institutions determine the degree of being appropriate of return to investment: protection of property rights and the rule of law spur investment and thus increase incomes. Institutions also determine the scope for oppression and expropriation of resources by elites: unequal institutions which allow the dominance of powerful elites over economic, exchange strongly limit development, as can be seen in the case of many ex-colonial countries. Lastly, institutions determine the degree to which the environment is conducive to cooperation and increased social capital. Also, inclusive and participatory institutions increase the flow of information and the extent to which resources can be pooled to reduce risk and ensure sustained levels of wealth.

### **3. Literature Review**

In the literature on the economic growth, in contrast, institutions are often accorded with considerable importance. Studies by North and Thomas (1973), North (1981) and Olson (1982) inspired scholars to explore the role of institutions in explaining the persistent differences in the economic development across the countries. The main

## **6/ Does Institutions Matter for Economic Development?: ...**

---

conclusion is that good institutions help the growth of per capita incomes. The relevant literature suggests that institutions play a significant role in the GDP per capita. It is generally believed that institutions play a key role in determining the long-run economic growth (Knack and Keefer, 1997; Mauro, 1995; Acemoglu et al., 2002; Alcalà and Ciccone, 2004; Glaeser et al., 2004; Chauffour, 2011, Valeriani and Peluso, 2011). Scholars identified numerous institutions that influence the economic growth, including governance, law enforcement, justice, regulations, tax administration, and institutions that manage monetary and fiscal policies. But the quality of the institutions in any given country, plays an important role in determining the growth process by influencing the incentive structure for the investment in human and physical capital as well as technological advancement and innovations.

In the recent studies, World Governance Indicators (WGI) (Kaufmann et al., 2008) was a widely used indicator to measure the quality of institutions across countries. It attempted to cover a wide range of institutions by categorizing six 'governance Indicators'.

Knack and Keefer (1995) used two institutional variables in growth regressions, capturing the security of property rights and enforcement of contract, using five indicators: (1) rule of law; (2) corruption; (3) bureaucratic quality; (4) protection against risk of expropriation, and (5) repudiation of contracts. For 97 countries from 1974 to 1989, it was shown that the quality of institutions was important for the growth and investment. Meon and Weill (2006), and Olson et al. (1998) found evidences that institutional factors influenced total factor productivity, and also, those countries with better institutions exhibited higher productivity. Hall and Jones (1999), following Knack and Keefer (1995), used a weighted average measure of institutions from the ICRG dataset for 127 countries. They showed that differences in the social infrastructure across the countries are caused by large differences in capital accumulation, educational attainment. 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) found that private property institutions exercise a major influence on the long-run growth, investment and

financial development. They estimated the role of the institutions on the economic growth by the used 'constraint on executive' from Polity IV as a proxy for the private property institutions. Chauffour (2011), found that institutions, measured by the economic freedom, and the civil and political liberties, determine why some countries achieve and sustain better economic outcomes. Valeriani and Peluso (2011) found a positive impact of the institutions, measured by the civil liberties, quality of government and the number of the veto players on the economic growth. They also showed that institutions were more effective in the developed countries as compared to the developing countries.

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). They utilized the BERI and ICRG institutions datasets, and found that the poorer the country was, the longer was the wait for the institutional development, and consequently the higher was the influence of the institutions on the economic growth. Lee and Kim (2009) revealed that there was a bidirectional causation between institutions and economic growth in 63 countries for the sample period 1965–2002, as more variables were added to their model specification. Utilizing panel data analysis, Dawson (2003) also analyzed the causality effect for various freedom indices from the Fraser Institute, such as political and economic freedom, as contrasted with the long-run economic growth using panel data analysis. He showed that the overall level of the economic freedom appears to cause growth. Specifically, the study showed that the levels of freedom were related to the free markets and the protection of property rights. Justesen (2008) conducted a series of Granger causality tests, using panel data analysis, and discovered that some aspects of the economic freedom affect the economic growth and the investment. However, there is certain weak evidence that growth affects economic freedom. In conclusion, Justesen reported that the economic freedom matters for the economic growth, but certain sub freedom indicators play a greater role than other sub-indicators in fostering the economic growth in a causal sense.

Law et al. (2013) by using two institutional datasets, the International Country Risk Guide (ICRG) and World Governance

Indicators (WGI), found that there was a bidirectional causality between the institutions and the economic development. They also suggested that causality patterns between the institutions and the economic performance vary at different stages of the income level. Better institutional quality fosters the economic development in the higher income countries, whereas the economic development tends to enhance the institutional quality in the lower income countries.

#### **4. Methodology and Data**

##### **4.1 Econometric Model**

As we assessed the influence of the institutions on the growth in a formal extended growth model, we followed the earlier empirical works of Barro (1991), Mankiw et al. (1992), and Levine and Renelt (1992), and use the following empirical model:

$$y_{it} = \beta_0 + \beta_1 I_{it} + \beta_2 X_{it} + \varepsilon_{it} \quad (1)$$

Where  $y_{it}$  represents the GDP growth rate of the country  $i$  at time  $t$ ,  $I_{it}$  is the quality of the institutions for the country  $i$  at time  $t$ , and  $X_{it}$  represents the matrix of the control variables, while  $\varepsilon_{it}$  is the disturbance term. Also the panel Granger causality VECM investigates the causal linkages among the growth and the institutions. Our panel data comprised 10 countries over the period 1996-2014.

For equation 1, the most common problem with the institutional variables is that they are endogenous in the growth models; the growth models contain endogenously determined variables.

For instance, if the higher investment leads to growth, then the higher growth might prompt the investment. Glaeser et al. (2004) also doubted the exogeneity of the institutions, as these subjective measures are strongly correlated and rise sharply with the level of the economic development. Chong and Calderon (2000) found an evidence for the significant causation in both directions. This leads to a simultaneous problem in OLS, so that we have implemented the GMM method. GMM based estimation is a technique for the instrumental variable estimation, and has several advantages over the conventional IV estimators (2SLS). Conventional IV estimator is inefficient in the presence of heteroscedasticity.



GMM makes use of the orthogonality conditions to allow the efficient estimation in the presence of the heteroscedasticity of the unknown form (Arellano and Bond, 1991; Arellano and Bover, 1995). This analysis also uses the lagged values of the dependent and the independent variables in the level form as the instruments in equation of the first-difference form. However, this method can only control the weak forms of the endogeneity, since it assumes these variables are weakly exogenous, which means that they could be affected by the dependent variables, but are not correlated with the error term. The validity of this assumption can be tested using the Sargan test of over identifying restrictions, which tests the overall validity of the instruments and the second-order serial correlation test that hypothesizing the error term is not serially correlated (Arellano and Bond, 1991; Arellano and Bover, 1995; Blundell and Bond, 1998). Also we used the fixed effects OLS panel model, the fixed effects model tackles the cross sectional heterogeneity:

#### **4.2 Data**

We have employed a panel data set of 10 countries starting from 1996 to 2014. The real GDP per capita was obtained from the World Development Indicators (World Bank, 2015) and based on 2000 constant prices (US\$ million). To measure the quality of the institutions, we used Worldwide Governance Indicators (WGI), because this dataset is widely used in the previous empirical studies. The WGI dataset was constructed based on the information gathered through a wide variety of the cross-country surveys as well as the expert polls by Kaufmann et al. (2008), and the sample period covers the years 1996–2014. WGI indicators as the predictor variables for the Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. The unit or the measurement of WGI indicators in terms of the percentage of the rank is based on the units ranging from 1 to 100, with higher values corresponding to better governance and institution outcomes.

There are statistical limitations to the use of the diverse indicators in a single regression framework as the strong correlation among the indicators creates a risk of multicollinearity (Moers, 1999). This might

be the reason why various studies have attempted to aggregate the different indicators by the means of the simple averages. Al-Marhubi (2004), Bjornksov (2006), Easterly (2002), and Easterly and Levine (2002) averaged all the six WGI indices in their analysis. This research was conducted by averaging these six indicators. For the control variables, we have used two main indicators, which have important roles for the economic growth: (1) Physical capital is measured using Gross Fixed Capital Formation; (2) human capital is measured by the average years of schooling were obtained from WDI. Physical capital is measured using Gross Fixed Capital Formation. We used average years of schooling which has been generally employed as a standard indicator of the human capital (Chi, 2008).

## **5. Results and Findings**

### **5.1 Panel Unit Root Analysis**

Determining the order of integration of the variables is a crucial step in an empirical analysis, since using the conventional OLS estimator with non-stationary variables results in spurious regressions. So that prior to the panel Granger causality tests, determining the order of integration of the variables, is a crucial step in an empirical analysis, since using the conventional OLS estimator with non-stationary variables results in spurious regressions. Many recent studies relied on the panel unit root tests in order to increase the statistical power of their empirical findings. In this respect, the panel unit root tests developed by Levin et al. (2002, hence forth LLC) and Im et al. (2003, hence forth IPS) are widely utilized in the panel cointegration studies. The panel unit root test of LLC (2002) entails estimating the following panel model:

$$\Delta y_{it} = \mu_i + \rho y_{it-1} + \sum_{j=1}^k \alpha_j \Delta y_{it-1} + \delta_i t + \theta_t + \varepsilon_{it} \quad (2)$$

Where  $\Delta$  is the first difference operator,  $k$  is the lag length,  $\gamma_i$  and  $\theta_t$  are the unit-specific fixed and time effects, respectively. The null hypothesis of  $\rho=0$  for all  $i$  is tested against the alternative hypothesis of  $\rho < 0$  for all  $i$ . The rejection of the null hypothesis indicates a panel stationary process. The strong assumption of the homogenous  $\rho$  in the LLC test is difficult to satisfy due to the fact that the cross-sectional

units may have a different speed of adjustment process towards the long-run equilibrium. By relaxing this assumption, IPS (2003) proposed a panel unit root test which allows  $\rho$  to vary across all  $i$ . Therefore, in the IPS (2003) testing procedure, Eq. (2) is re-written as follows:

$$\Delta y_{it} = \mu_i + \rho_i y_{it-1} + \sum_{j=1}^k \alpha_j \Delta y_{it-1} + \delta_i t + \theta_t + \varepsilon_{it} \quad (3)$$

The panel unit root test results are reported in Table 1. The results do not show a uniform conclusion that the null of unit root can be rejected for the levels of the variables. However, the test statistics for the first-differences strongly reject the null hypotheses, which imply that the variables are stationary in the first-difference form. From the unit root analysis, we can therefore conclude that the variables are integrated of order one.

**Table 1: Results for Panel Unit Root Tests**

Variable	LLC		IPS	
	Constant	Constant trend	Constant	Constant trend
<i>lGDPPC Growth</i>	0.55 (0.2260)	2.55 (0.0002)	2.99 (0.0070)	6.39 (0.0000)
<i>lInstitutions (WGI)</i>	-0.805(0.7263)	-2.05 (0.0000)	-6.01 (0.1041)	-2.12 (0.0143)
<i>lHuman capital</i>	-1.24 (0.0004)	-8.55 (0.0000)	-1.35 (0.0000)	-0.69 (0.0042)
<i>lPhysical capital</i>	0.90 (0.8161)	-4.26 (0.0000)	-4.65 (0.0000)	-1.69 (0.0447)
$\Delta lGDPPC Growth$	-55.22 (0.0000)	-77.61 (0.0000)	-19.75 (0.0000)	-63.19 (0.0000)
$\Delta lInstitutions (WGI)$	-19.47 (0.0000)	-98.92 (0.0000)	-59.46 (0.0000)	-42.49 (0.0000)
$\Delta lHuman capital$	-51.88 (0.0000)	-123.99 (0.0000)	-77.22 (0.0000)	-82.22 (0.0000)
$\Delta lPhysical capital$	-75.88 (0.0000)	-107.94 (0.0000)	-69.24 (0.0000)	-72.89 (0.0000)

**Note:**  $\Delta$  is the first difference operator. Numbers in parentheses are p-values. Newey–Westbandwidth selection with Bartlett kernel was used for the LLC test. The maximum lag lengths were set to 12 and the Schwarz Bayesian Criterion was used to determine the optimal lag length.

## 12/ Does Institutions Matter for Economic Development?: ...

Table 2 shows the impact of various institutions on the economic growth for the full sample of the selected ASEAN countries based on equation 1 from GMM first differences and the panel OLS methods. To assess the validity of the instruments, we have performed the Sargan test as well as the test for second-order serial correlation. Results show that the null hypothesis is rejected. So, the instruments are appropriate and the results are credible.

**Table 2: Institutions and Economic Growth: panel OLS and First Difference GMM, Dependent Variable (GDP per capita growth)**

Variables	OLS Fixed effect	GMM first difference
<i>lGDPPC Growth (-1)</i>	3.276 (0.0216)**	1.95 (0.0412)**
<i>lInstitutions (WGI)</i>	0.076 (0.002)***	(0.08) (0.0493)**
<i>lHuman capital</i>	0.167 (0.085)*	0.199 (0.031)**
<i>lPhysical capital</i>	1.095 (0.015)**	1.673 (0.029)**
<i>No of instruments</i>		23
<i>Serial correlation test AR(1)</i>		0.351
<i>Serial correlation test AR(2)</i>		0.552
<i>Sargan test (p-value)</i>		0.897
<i>Adjusted R-squared</i>	0.564	
<i>DW statistics</i>	2.807	

**Note:** p-values of t-statistics are in parentheses.

\*Denotes significance at the 10% level.

\*\*Denotes significance at the 5% level.

\*\*\* Denotes significance at the 1% level.

The results obtained from the Panel OLS fixed effect method, and the GMM techniques are almost the same in terms of the signs and significance, but the coefficients are higher in GMM compared to the OLS methods. The empirical estimation of the effects of institutions on the economic growth, shows that the improvement in the institutional quality leads to an acceleration in growth. So, we found that why the ASEAN countries achieve and sustain better economic outcomes. Overall, the results suggest that the ASEAN countries gain

more from the further improvement in the institutional quality. Our results also show that the economic growth is positively linked with the good quality of the administration across the institutions. The measures used to assess the impact of the administrative quality showed that a good quality of the Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law and the Control of Corruption order influenced the development process. The coefficient of human capital measured by education was positive and highly significant, which indicates that the investment in human capital influences the growth positively, as it increases the workers' quality and productivity (Barro, 1991).

### 5.2 Panel Causality Analysis

As Engle and Granger (1987) demonstrated, the inferences from a causality test based on a vector auto regression (VAR) model in the first differences would be misleading, when the variables were cointegrated. To overcome this problem, one way is to estimate a vector error correction model (VECM) by augmenting the VAR model with the one-lagged error correction term. The panel VECM can be written as follows to investigate causal linkages in a panel data (Apergis and Payne, 2009):

$$\Delta LGdppcg = \delta_{1i} + \sum_{p=1}^k \delta_{11ip} \Delta Ldppcg_{it-p} + \sum_{p=1}^k \delta_{12ip} \Delta LInst_{t-p} + \varphi_{1i} ECT_{t-1} + v_{1it} \quad (4)$$

$$\Delta LIns = \delta_{2i} + \sum_{p=1}^k \delta_{21ip} \Delta LIns_{it-p} + \sum_{p=1}^k \delta_{22ip} \Delta LGdppcg_{t-p} + \varphi_{2i} ECT_{t-1} + v_{2it} \quad (5)$$

Here all the variables are as previously defined.  $\Delta$  denotes the first difference of the variable, and  $p$  denotes the lag length. The significance of the first differenced variables provides evidence on the direction of the short-run causation, while the t-statistics on the one period error correction term denotes the long-run causation. The results from the panel Granger causality analysis are presented in Table 3.

#### 14/ Does Institutions Matter for Economic Development?: ...

**Table 3: Results for Panel Granger Causality**

Short-run causality		Long-run causality	
$\Delta$ IGdppcg	$\Delta$ IInst	ECT	
$\Delta$ CGdppcg	52.78 (0.000)***	0.073	(17.26)***
$\Delta$ IInst	27.68 (0.0005)***	0.002	(16.34)***

**Note:** The optimal lag length was selected using the Schwarz information criteria. Figures in parentheses are p-values and absolute t-ratios, respectively. \*\*\* indicate the statistical significance at 1 percent level of significance.

The short-run causality analysis indicates the uni-directional causal linkages among the Gdppcg, and the Institutions. The short-run causality analysis thereby implies that the institution can be used to forecast the growth. Furthermore, the results provide an evidence that the Growth plays a role in forecasting the Institutions in the short-run. Besides, the long-run causality analysis, on the other hand, shows that: the Growth is the Granger cause of the Institutions, and the Institutions cause the Growth. Thereby, the causal linkages among the Growth and the Institutions have been dominated in the long-run. The empirical results suggest that there is a bidirectional causality effect between the both variables.

#### 6. Conclusion and Policy Implications

This paper seeks to identify whether or not there is a representative empirical effect of the institutional quality on the economic performance in the ASEAN countries, and if so, to measure the size of this effect and direction, the overall results of the dynamic panel difference estimation, and the panel OLS estimations suggest that the institutions exert a large and positive influence on the economic growth. The empirical estimation of the effects of the institutions on the economic growth, shows that the improvement in the institutional quality leads to an acceleration in the growth. Since the institutions are the fundamental determinant of the economic growth, to achieve high and sustainable growth, the institutional quality needs to be strengthened. We found that the institutions are associated with more sustainable economic development for the ASEAN economies. Moreover, the empirical results suggest that there is a bidirectional

short-run and long-run causality effect between both variables in the ASEAN countries.

When all the institutional measures indicators were combined in one index, the effects on the growth were more pronounced, which revealed a high degree of complementarity among the institutions in general and between the institutions that protect property rights and those that inhibit the political rent seeking, in particular. As the political institutions improve, the measures such as the improvement in the law and order conditions would yield immediate results in the form of the economic development. The other control variables showed that the human capital and the physical capital have significant influence on the growth as the theory predicts. Results also confirm the conditional convergence predicted in the modern theories of the growth. On the policy perspective, the emphasis should be given to the strengthening of all forms of the institutions such as Voice and Accountability, Political Stability and Absence of Violence/Terrorism, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption and to achieve the high and sustainable growth. The institutional quality needs to be strengthened.

### References

Acemoglu, D., Johnson, S., & Robinson, J. A. (2001). The Colonial Origins of Comparative Development: An Empirical Investigation. *American Economic Review*, 91(5), 1369–1401.

Acemoglu, D., & Robinson, J. (2010). The Role of Institutions in Growth and Development. *Review of Economics and Institutions*, 1(2), 1-30.

Acemoglu, D., Cutler, D., Finkelstein, A., & Linn, J. (2006). Did Medicare Induce Pharmaceutical Innovation. *American Economic Review*, 96(2), 103–107.

Al-Marhubi, F. (2004). The Determinants of Governance: A Cross-Country Analysis. *Contemporary Economic Policy*, 22, 394–406.

Arellano, M., & Bover, O. (1995). Another Look at the Instrumental-Variable Estimation of Error-Components Models. *Journal of Econometrics*, 68, 29–52.

Arellano, M., & Bond, S. (1991). Some Tests of Specification for Panel Data: Monte Carlo Evidence and an Application to Employment Equations. *Review of Economic Studies*, 58, 277–297.

Apergis, N., & Payne, J. E. (2009). Energy Consumption and Economic Growth: Evidence from the Common Wealth of Independent States. *Energy Economics*, 31, 641–647.

Barro, R. J. (2000). Inequality and Growth in a Panel of Countries. *Journal of Economic Growth*, 5(1), 5–32.

----- (1997). Determinants of Economic Growth: A Cross-Country Empirical Study. *Development Discussion Paper*, Retrieved from <http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan027110.pdf>

----- (1991). Economic Growth in a Cross Section of Countries. *Quarterly Journal of Economics*, 106, 407–433.

Blundell, R., & Bond, S. (1998). Initial Conditions and Moment Restrictions in Dynamic Panel Data Models. *Journal of Econometrics*, 87, 115–143.

Bjornksov, C. (2006). The Multiple Facets of Social Capital. *European Journal of Political Economy*, 22, 22–40.

Cass, D. (1965). Optimum Growth in an Aggregate Model of Capital Accumulation. *Review of Economic Studies*, 32, 233–240.

Chauffour, J. P. (2011). Freedom, Entitlement, and the Path to Development. *World Bank Economics Premise*, 59, 1–5.

Chi, W. (2008). The Role of Human Capital in China's Economic Development: Review and New Evidence. *China Economic Review*, 19(3), 421–436.

Chong, A., & Calderon, C. (2000). On the Causality and Feedback between Institutional Measures and Economic Growth. *Economics and Politics*, 12(1), 69–81.



Coase, R. H. (1992). The Economic Structure of Production. *American Economic Review*, 82(4), 713–719.

Dahlman, C. J. (1979). The Problem of Externality. *The Journal of Law and Economics*, 22(1), 141–162.

Dawson, J. W. (2003). Causality in the Freedom–Growth Relationship. *European Journal of Political Economy*, 19, 479–495.

Easterly, W. (2002). The Cartel of Good Intentions: The Problem of Bureaucracy in Foreign Aid. *Journal of Policy Reform*, 5, 223–250.

Easterly, W., & Levine, R. (2002). Tropics, Germs, and Crops: How Endowments Influence Economic Development. *Journal of Monetary Economics*, 50(1), 3–39.

Engle, R. F., & Granger, C. W. J. (1987). Co-integration and Error-Correction: Representation, Estimation, and Testing. *Econometrica*, 55, 251–276.

Frye, T., & Shleifer, A. (1997). The Invisible Hand and the Grabbing Hand. *American Economic Review Papers and Proceedings*, 87, 354–358.

Hall, R. E., & Jones, C. I., 1999. Why Do Some Countries Produce So Much More Output Per Worker than Others? *Quarterly Journal of Economics*, 114(1), 83–116.

Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for Unit Roots in Heterogeneous Panels. *Journal of Economics*, 115, 53–74.

Johnson, S., Kaufmann, D., & Zoido-Lobaton, P. (1998). Government in Transition: Regulatory Discretion and the Unofficial Economy. *American Economic Review*, 88, 387–392.

Justesen, M. K. (2008). The Effect of Economic Freedom on Growth Revisited: New Evidence on Causality from a Panel of Countries 1970–1999. *European Journal of Political Economy*, 24, 642–660.

## **18/ Does Institutions Matter for Economic Development?: ...**

---

Kauffman, D., & Kraay, A. (2002). Growth without Governance. *Working Paper*, Retrieved from <https://www.hks.harvard.edu/fs/pnorris/Acrobat/stm103%20articles/Kaufman%20and%20Kraay%20Nov2002.pdf>

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2005). Governance Matters IV: Governance Indicators for 1996–2004. *World Bank Policy Research*, Retrieved from [http://akgul.bilkent.edu.tr/Governance/GovMatters\\_IV\\_main.pdf](http://akgul.bilkent.edu.tr/Governance/GovMatters_IV_main.pdf)

----- (2008). Governance Matters VII: Governance Indicators for 1996–2007. *World Bank Policy Research*, Retrieved from <http://info.worldbank.org/governance/wgi/pdf/GovernanceMattersVII.pdf>

Knack, S., & Keefer, P. (1995). Institutions and Economic Performance: Cross Country Tests Using Alternative Institutional Measures. *Economics and Politics*, 7, 207–222.

Koopmans, T. C. (1965). On the Concept of Optimal Economic Growth. *The Economic Approach to Development Planning*, Retrieved from <http://cowles.yale.edu/sites/default/files/files/pub/d01/d0163.pdf>

Law, S. H., Lim, T. C., & Ismail, N. W. (2013). Institutions and Economic Development: A Granger Causality Analysis of Panel Data Evidence. *Economic Systems*, 37(4), 610–624.

Lee, K., & Kim, B. (2009). Both Institutions and Policies Matter but Differently for Different Income Groups of Countries: Determinants of Long-Run Economic Growth Revisited. *World Development*, 37, 533–549.

Levine, R., & Renelt, D. (1992). September. A Sensitivity Analysis of Cross Country Growth Regressions. *American Economic Review*, 82(4), 942–963.

Levin, A., Lin, C. F., & Chu, C. S. J. (2002). Unit Root Tests in Panel Data: Asymptotic and Finite-Sample Properties. *Journal of Economics*, 108, 1–24.

Lucas, R. E. (1988). On the Mechanics of Economic Development. *Journal of Monetary Economics*, 22, 3-42.

Mankiw, N. D., Romer, P., & Weil, D. (1992). A Contribution to the Empirics of Economic Growth. *Quarterly Journal of Economics*, 107, 407-437.

Meon, P. G., & Sekkat, K. (2004). Does the Quality of Institutions Limit the MENA's Integration in the World Economy? *World Economy*, 27, 1475-1498.

Meon, P. G., & Weill, L. (2006). Does Better Governance Foster Efficiency? An Aggregate Frontier Analysis. *Economics of Governance*, 6(1), 75-90.

Mauro, P. (1995). Corruption and Growth. *Quarterly Journal of Economics*, 110(3), 681-712.

Moers, L. (1999). How Important Are Institutions for Growth in Transition Countries? *Tinbergen Institute Discussion Paper*, Retrieved from <http://www.efsa.unsa.ba/~adnan.efendic/materijali/E&P.pdf>.

North, D. C. (1990). *Institutions, Institutional Change and Economic Performance*. Cambridge: Cambridge University Press.

North, D. C., & Thomas, R. P. (1973). *The Rise of the Western World: A New Economic History*. Cambridge: Cambridge University Press.

Olson, M. (1982). *The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities*. London: Yale University Press.

Olson, M., Sarna, N., & Swamy, A. V. (1998). Governance and Growth: A Simple Hypothesis Explaining Cross-Country Differences in Productivity. *Public Choice*, 102, 341-364.

Pande, R., & Udry, C. (2005). Institutions and Development: A View from Below, Yale University Economic Growth Center, *Discussion Paper*, Retrieved from [http://www.econ.yale.edu/~cru2/pdf/institutions\\_draft.pdf](http://www.econ.yale.edu/~cru2/pdf/institutions_draft.pdf).

**20/ Does Institutions Matter for Economic Development?: ...**

---

Rodrik, D., & Subramanian, A. (2003). The Primacy of Institutions. *Finance and Development*, 40, 31–34.

Rodrik, D., Subramanian, A., & Trebbi, F. (2004). Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development. *Journal of Economic Growth*, 9(2), 131–165.

Romer, P. M. (1986). Increasing Returns and Long-Run Growth. *Journal of Political Economy*, 94, 1002–1037.

Sachs, J., & Warner, A. (1995). Economic Reform and the Process of Global Integration. *Brookings Papers on Economic Activity*, 1, 1–118.

Schleifer, A., & Vishney, R.W. (1994). Politicians and Firms. *Quarterly Journal of Economics*, 109, 995–1025.

Solow, R. M. (1956). A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics*, 70, 65–94.

Valeriani, E., & Peluso, S. (2011). The Impact of Institutional Quality on Economic Growth and Development: An Empirical Study. *Journal of Knowledge Management Economic and Information Technology*, 1(6), 274–299.

World Development Indicators. (2015). Retrieved from <https://datacatalog.worldbank.org/dataset/world-development-indicators>.