The Impact of Governance on Economic Growth in Malaysia

Kesan Governan Terhadap Pertumbuhan Ekonomi di Malaysia

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ABSTRACT

This study uses the Autoregressive Distributed Lag (ARDL) model to examine the effect of governance on economic growth in Malaysia over the 1996 to 2018 period. In this study the standard of governance is graded as democratic and scientific. These two global governance metrics are synonymous with "voice and accountability" and "political stability and absence of violence" (WGIs). In the meantime, four WGI metrics are concerned with "government effectiveness", "regulatory quality", "rule of law", and "control of corruption". Empirical results show that the impact of democratic quality and technical quality on economic growth is significantly positive. The findings suggest that the promotion of good governance is useful in facilitating economic growth in Malaysia.

Keywords: Autoregressive Distributed Lag Model; ARDL bounds test; economic growth; governance

ABSTRAK

Kajian ini menggunakan model Autoregressive Distributed Lag (ARDL) untuk mengkaji kesan tadbir urus terhadap pertumbuhan ekonomi di Malaysia sepanjang tempoh 1996 hingga 2018. Kualiti tadbir urus dalam kajian ini diklasifikasikan sebagai kualiti demokratik dan kualiti teknikal. Kualiti demokratik berkaitan dengan "suara dan akauntabiliti" dan "kestabilan politik dan ketiadaan keganasan", kedua-dua ini merupakan petunjuk Indikator Worldwide Governance Indicators (WGIs). Sementara itu, kualiti teknikal adalah berkait dengan "keberkesanan kerajaan", "kualiti peraturan", "aturan perundangan", dan "pengendalian rasuah" adalah empat komponen indikator WGI ini. Hasil empirikal menunjukkan bahawa kesan kualiti demokratik dan kualiti teknikal terhadap pertumbuhan ekonomi adalah sangat positif. Hasil kajian menunjukkan bahawa mempromosikan urus tadbir yang baik bermanfaat untuk memudahkan pertumbuhan ekonomi di Malaysia.

Kata kunci: Model Autoregressive Distributed Lag; ujian had ARDL; perkembangan ekonomi; governan

INTRODUCTION

Malaysia is rich in natural resources and is an exporter of natural and agricultural resources. The most valuable export material is petroleum. The main mineral resources include tin, gold, iron ore, bauxite, coal, and natural gas. And because the climate is suitable for tropical plants, agriculture is also very prosperous. Among the best in the world, there are other agricultural products such as natural rubber, sugar cane, and coconut. Malaysia has abundant natural resources as an important pillar of the economy. However, the international trade and manufacturing produced by the proximity of the Malacca Straits route are key factors for Malaysia's economic development, especially the

export-oriented electrical and electronic products manufacturing industry. The Malaysian government officially announced the National Policy on Industry 4.0 on October 31, 2018, as one of Malaysia's key economic and trade policies. The purpose is to promote the development of industrial automation, intelligent and digital information applications, improve the overall manufacturing standard, national competitiveness.

Malaysia has actively developed its economy in recent years, and its various economic development data are good. Malaysia is actively attracting some foreign funds and talents. For example, there is a "Second Home Resident Program", a long-term visa-free conditional permanent residency program. Meanwhile, Malaysian Islamic finance is second

to none in the world, and Islamic finance is an important development direction in the future. In the past three years, Malaysia's overall economy has grown strongly, whether it is export or domestic demand. The International Monetary Fund (IMF) therefore predicts that Malaysia will become the third high-income economy in Southeast Asia after Singapore and Brunei in a few years and it is expected to become a high-income country in 2020. Of course, there are obstacles on the way to high-income countries. The International Monetary Fund and the World Bank believe that the main obstacles are Malaysia's infrastructure improvement, per capita productivity growth, and global trade and investment factors.

The Malaysian Institute of Economic Research (MIER) pointed out at the "Malaysia 2019 Economic Outlook" briefing that the Malaysian economy continues to rely on private consumption to promote growth. If domestic investment activity slows down, it will delay the pace of economic growth; coupled with the United States and the ongoing trade disputes in mainland China will impact global trade and investment, which will lead to a decline in external demand, which will drag Malaysia's economic growth in 2019. Besides, the new Malaysian government has adopted a more conservative fiscal policy because of the high debts of the previous government. It is expected that the growth of public consumption will be slow. Taking into account the slowdown in global demand and the slowdown of domestic investment activities, the excessive growth of economic growth depends on private consumption. Domestic demand will continue to promote Malaysia's economic growth. The institute maintains a GDP forecast of 4.7% in 2018 but revises its forecast for economic growth in 2019 to 4.5%, which is lower than the previous forecast of 4.5% to 5%, and in 2020 it is estimated to be 4.5% to 5.5%.

The Malaysian government recently announced Malaysia's new economic development direction (June 10, 2019) to ensure that people can share the fruits of prosperity while solving economic problems. Officials proposed seven key strategies, including rebuilding and improving the business ecosystem, creating new growth sectors, strengthening talent reform and national resources, and improving the labor market and employee income. At the same time, the Malaysian government has also confirmed other catalysts, such as progressive fiscal policy, high-level management system and sincerity, ideal

educational results, high-quality technical and vocational education training, and competitive financial support funds. The government will make every effort to ensure the provision of effective support from government agencies, currency stability, comprehensive and inclusive big data, and a knowledgeable and civilized society to achieve the goal of shared prosperity.

Although Malaysia's economic development has been very successful over the past two decades, productivity growth in recent years has failed to meet expectations and has even stalled. Many factors, such as improving infrastructure, developing high-quality education, and increasing female labor force participation are core factors for the success of the Malaysian economy. However, the first element of Malaysia's sustained economic growth is to improve governance, combat corruption and increase administrative efficiency. Malaysia inherits the British system, and the relevant laws and regulations are still comprehensive, but it will take a long time to handle the affairs related to the administrative unit, and the administrative efficiency still needs to be improved.

In general, improvement in governance benefits a country's economic growth (Kaufmann et al. 1999; Dollar and Kraay 2002; Easterly and Levine 2003; Rigobon and Rodrik 2005; Arusha 2009; Jacho-Cha´vez 2009; Gani 2011; Marı´a-Teresa et al. 2012; Onichakwe 2016; Paitoon, K. 2018). Given that Malaysia has experienced a rapid growth in economic development in recent years, an opportunity presents itself for us to evaluate if good governance benefits economic growth, or if economic growth promotes better governance. Does good governance enhance economic growth in Malaysia? Does a different kind of governance quality have the different impact on economic growth? Is it effective for the government of Malaysia to promote economic growth by improving governance quality? This is worth exploring. The purpose of this paper is to explore the impact of governance quality on economic growth.

The remainder of the paper is organized as follows. Section 2 describes the data used in this study. Section 3 provides a description of the autoregressive distributed lag (ARDL) model analysis. Section 4 presents empirical results; Section 5 concludes the paper.

DATA

This study uses annual time-series data from 1996 to 2018 to investigate the impact of governance quality

on economic growth in Malaysia. The economic variables include economic growth (*EG*) which is the percentage growth rate of GDP, fixed capital formation (*FC*) which is expressed as a percentage of GDP, labor force participation rate (*L*), enrollment ratio for secondary school (*EDU*), and foreign direct investment (*FDI*) which is measured by net inflows as a percentage of GDP. Data are obtained from the World Bank Development Indicators Database.

Additionally, we use the World Bank's Worldwide Governance Indicators (WGIs). as our key governance measures. The WGIs comprise six indicators those are voice and accountability, political stability, government effectiveness, regulatory quality, rule of law, and control of corruption. Each indicator ranges from -2.5 (weak governance) to +2.5 (strong governance). A higher score indicates a better rating. In this study, the quality of governance is classified as democratic quality and technical quality following Helliwell and Huang (2008) and Ott (2011). Democratic quality (*DemoQ*) is the average of the first two indicators of WGIs related to the political situation. Meanwhile, technical quality (*TechQ*) is the average of the last four indicators of WGIs related to the institutional quality and effectiveness.

Table 1 reports the summary statistics of all variables during the period of 1996 to 2018. In Table 1, the mean GDP growth rate is 4.91%, the mean fixed capital formation is 25.39% GDP, the mean labor force participation rate is 62.04%, the mean gross enrollment ratio for secondary school is 79.13%, and the mean foreign direct investment is 3.46% GDP.

TABLE 1. Descriptive Statistics

Variable	Mean	Median	Max.	Min.	Std. dev.	Jarque-Bera
EG	4.91	5.47	10.00	-7.36	3.54	37.85***
DEMO	-0.09	-0.14	0.21	-0.27	0.13	2.57***
TECH	0.57	0.57	0.74	0.42	0.07	0.24
FC	25.39	24.21	43.11	20.57	5.80	44.33*
L	62.04	61.60	64.60	60.16	1.44	2.69
EDU	79.13	78.63	85.45	66.43	5.01	5.26
FDI	3.46	3.28	5.14	0.06	1.31	3.66

Note: * and *** indicate significance at the 10% and 1% levels, respectively.

As to governance quality, there are two types of governance quality those are democratic quality and technical quality in this study. The mean democratic quality is -0.09 and the mean technical quality is 0.57. Obviously, Malaysia's democratic quality is weaker than the technical quality over the past twenty years. Jarque-Bera test from Table 1 shows that all the data series are normal at the 10% level of significance, with the exception of economic growth, democratic quality, and fixed capital formation.

METHODOLOGY

The ARDL is utilized in this study and expressed as:

$$\Delta EG_t = \alpha_0 + \sum_{i=1}^{k} \beta_1 \Delta EG_{t-i} + \sum_{i=1}^{k} \beta_2 \Delta Gov_{t-i} + \sum_{i=1}^{k} \beta_3 \Delta FC_{t-i} + \sum_{i=1}^{nk} \beta_4 \Delta L_{t-i}$$
$$+ \sum_{i=1}^{k} \beta_5 \Delta EDU_{t-i} + \sum_{i=1}^{k} \beta_6 \Delta FDI_{t-i}$$
$$+ \gamma_1 EG_{t-1} + \gamma_2 Gov_{t-1} + \gamma_3 FC_{t-1} + + \gamma_4 L_{t-1} + \gamma_5 EDU_{t-1} + \gamma_6 FDI_{t-1} + \varepsilon_t$$

(1)

where *EG* is economic growth, *Gov* represents one of the two governance measures, either *DemoQ* or *TechQ*, *FC* is fixed capital formation, *L* represents labor force participation rate, *EDU* is enrollment ratio for secondary school, and *FDI* is foreign direct investment. Δ is the first difference operator; α_0 is a constant; β_i is a short-run coefficient; γ_i is a long-run coefficient; k is the lag order; ε_t is the error term.

The ARDL bound test (Pesaran et al. 2001) is unlike other traditional cointegration techniques is very effective even for different levels of integration and small sample sizes. In this study, the ARDL bounds testing approach is employed in order to examine whether exists the cointegrated relationship among variables. The null hypothesis can be described as follows:

$$H_0: \gamma1=\gamma2=\gamma3=\gamma4=\gamma5=\gamma6=0.$$

The null hypothesis implies that there is no cointegration. F* indicates the F statistic, F_L is the lower bound critical value, and F_U is the upper bound critical value. If $F^* > F_U$, then we reject H_0, it implies that there exists a cointegration and there is a long-run relationship among the variables of study.

Conversely, if $F^* < F_L$, then we cannot reject H_0, it implies that there exists no cointegration. However, if $F_L < F^* < F_U$, analysis is inconclusive.

If the result of ARDL bound test suggests that there exists a cointegration, then an error correction version of ARDL will be employed and it is shown as follows:

$$\Delta EG_t = \alpha_0 + \sum_{i=1}^{k} \beta_1 \Delta EG_{t-i} + \sum_{i=1}^{k} \beta_2 \Delta Gov_{t-i} + \sum_{i=1}^{k} \beta_3 \Delta FC_{t-i} + \sum_{i=1}^{nk} \beta_4 \Delta L_{t-i}$$
$$+ \sum_{i=1}^{k} \beta_5 \Delta EDU_{t-i} + \sum_{i=1}^{k} \beta_6 \Delta FDI_{t-i} + \beta_7 ECT_{t-1} + \varepsilon_t$$

$$(2)$$

where *ECT* is the error correction term.

EMPIRICAL RESULTS

Although the ARDL approach does not require a unit root test, we used the Augmented Dickey Fuller (ADF) test to ascertain that no variable is integrated of order 2. The ARDL bounds test is based on the assumption that the variables are I(0) or I(1). Before conducting the ARDL bounds test, we used the Augmented Dickey Fuller (ADF) unit root test to ensure the variables are either I(0) or I(1) and no series is I(2) so as to avoid spurious results. In the presence of variables integrated of order two, we cannot interpret the values of F statistics provided by Pesaran (2001). As shown in Table 2, all variables are I(0), except for variable *L* which is I(1).

TABLE 2. ADF Unit Root Test Results

Variable	Level	First Difference	Order of Integration
	t-statistic	t-statistic	
Order of Integration	Order of Integration	Order of Integration	Order of Integration
Order of Integration	Order of Integration	Order of Integration	Order of Integration
Order of Integration	Order of Integration	Order of Integration	Order of Integration
Order of Integration	Order of Integration	Order of Integration	Order of Integration
Order of Integration	Order of Integration	Order of Integration	Order of Integration
Order of Integration	Order of Integration	Order of Integration	Order of Integration
Order of Integration	Order of Integration	Order of Integration	Order of Integration

Note: *, ** and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

The result of ARDL bounds test is reported in Table 3. In the Model 1 that *EG* is dependent variable and *DemoQ*, *FC*, *L*, *EDU*, and *FDI* are independent variables, the F statistic value (67.68) exceeds the upper-bound critical values at 10%, 5%, and 1% levels of significance. Therefore, there exists the cointegration. In the Model 2 that independent variables are *TechQ*, *FC*, *L*, *EDU*, and *FDI*, we also found that F statistic value (47.71) is greater than the critical values at 10%, 5%, and 1% levels of significance. Hence, there exists a long-run relationship between *EG* and independent variables.

TABLE 3. Results of Bounds Test

Model	Dependent Variable	Function	F-statistic	Decision rule
Model 1	*EG*	*EG*(*DemoQ*, *FC*, *L*, *EDU*, *FDI*)	67.680	Cointegration
Model 2	*EG*	*EG*(*DemoQ*, *FC*, *L*, *EDU*, *FDI*)	47.712	Cointegration
Asymptotic Critical Value				
		10%	5%	1%
Lower-bound		2.26	2.62	3.41
Upper-bound		3.35	3.79	4.68

The results of ARDL error correction model are shown in Table 4 and Table 5. In Table 4, democratic quality one-period lagged has a significantly positive impact on economic growth. The coefficient of error correct term is the speed of adjustment toward long-run equilibrium and is negative (-1.71).

The coefficient of error correct term is significant implies that there exists a long-run relationship among economic growth, democratic quality, and other economic variables.

TABLE 4. Results of ARDL Error Correction Model 1 (Democratic Quality)

Variable	Coef.	Std. Error	t-Stat.	Prob.
Constant	-0.58	0.42	-1.39	0.19
ΔEG_{t-1}	-0.07	0.12	-0.56	0.59
$\Delta DemoQ_{t-1}$	13.05***	3.94	3.31	0.01
ΔFC_{t-1}	-0.57***	0.16	-3.58	0.00
ΔL_{t-1}	3.93***	0.90	4.34	0.00
ΔEDU_{t-1}	-0.31	0.18	-1.72	0.11
ΔFDI_{t-1}	0.47	0.34	1.40	0.19
ECT_{t-1}	-1.71***	0.18	-9.62	0.00

Notes: Dependent variable is ΔEG_t, where Δ is the difference operator. ECT_{t-1} represents one-period lag of the residues from the long-run equilibrium relation. * and *** indicate significance at the 10% and 1% levels, respectively.

Source: Author's estimation using Eviews 10

Similarly, technical quality one-period lagged has a significantly positive impact on economic growth in Table 5. The coefficient of error correct term is s negative (-1.58) and significant. Therefore, there also exists a long-run relationship among economic growth, technical quality, and other economic variables.

TABLE 5. Results of ARDL Error Correction Model 2 (Technical Quality)

Variable	Coef.	Std. Error	t-Stat.	Prob.
Constant	-0.47	0.50	-0.95	0.36
ΔEG_{t-1}	0.02	0.13	0.17	0.87
$\Delta TechQ_{t-1}$	23.64***	7.84	3.02	0.01
ΔFC_{t-1}	-0.60**	0.22	-2.75	0.02
ΔL_{t-1}	2.68**	1.07	2.52	0.03
ΔEDU_{t-1}	-0.56**	0.25	-2.22	0.05
ΔFDI_{t-1}	-0.12	0.39	-0.30	0.77
ECT_{t-1}	-1.58***	0.21	-7.34	0.00

Notes: Dependent variable is ΔEG_t, where Δ is the difference operator. ECT_{t-1} represents one-period lag of the residues from the long-run equilibrium relation. * and *** indicate significance at the 10% and 1% levels, respectively.

Source: Author's estimation using Eviews 10

The diagnostic tests of Mode l (democratic quality) and Model 2 (technical quality) are presented in Table 6. According to the results of Breusch-Godfrey serial correlation LM test, we cannot reject the null hypothesis of no serial correlation at 10% level of significance. The results of Jarque–Bera test show that the null hypothesis of normally distributed residuals cannot be rejected. The results of Ramsey RESET test also show that the null hypothesis of no misspecification cannot be rejected at the 10% level of significance. This is an indication that there is no specification error. Additionally, we cannot reject the null hypothesis of homoscedasticity according to Breusch-Pagan-Godfrey heteroskedasticity test. Finally, the CUSUMSQ test is employed to test the hypothesis of stability. The plots of CUSUMSQ test for Models 1 and 2 are shown in Figure 1 and Figure 2, respectively. In Figures 1 and 2, the blue line lives within the boundary so we conclude that the models are stable. The results of diagnostic tests show that there is no evidence of diagnostic problem with the models.

TABLE 6. Diagnostic Tests

Test	Model 1	Model 2
Serial Correlation		
LM test statistic	5.36 [0.10]	5.36 [0.10]
Normality		
Jarque–Bera test statistic	0.02 [0.98]	0.77 [0.68]
Specification		
LM test statistic	0.02 [0.96]	1.09 [0.30]
Heteroskedasticitiy		
LM test statistic	7.20 [0.41]	6.34 [0.62]

Note: The standard errors are shown in brackets
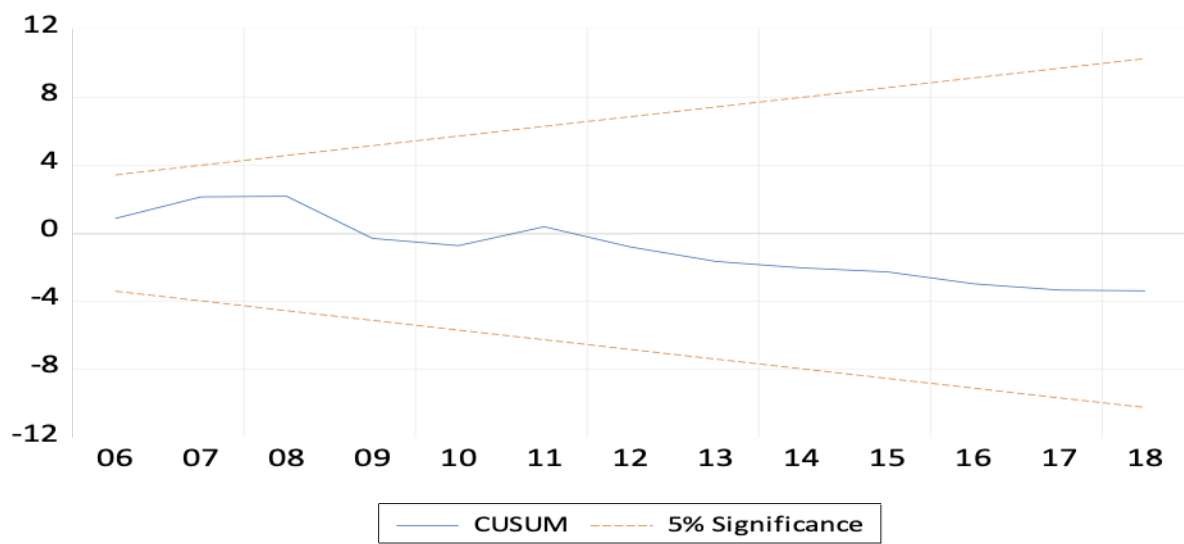
Source: Author's estimation using Eviews 10

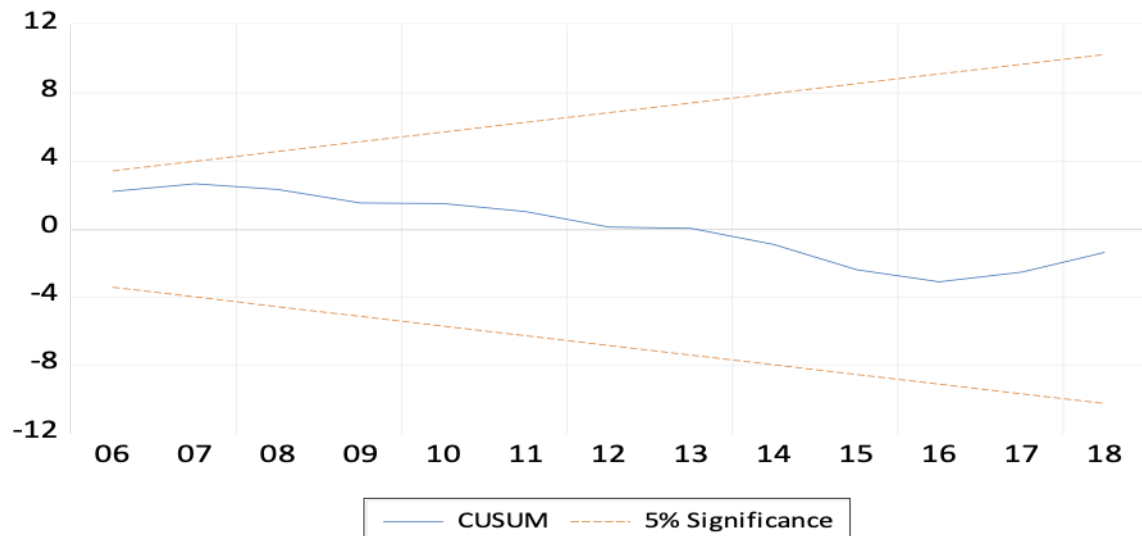FIGURE 1. Plot of CUSUMSQ Statistics for Model 1

FIGURE 2. Plot of CUSUMSQ Statistics for Model 2

CONCLUSIONS

Asian countries have experienced rapid growth in economic development in recent years, especially in Malaysia. Does good governance facilitate economic growth? The purpose of this study is to examine the impact of governance quality on economic growth in Malaysia during the period of 1996 to 2018.

The quality of governance in this study is measured by six indicators of WGIs and classified as democratic quality and technical quality. Democratic quality is related to the political situation. Technical quality is related to the institutional quality and effectiveness. The empirical results show that the impacts of democratic quality and technical quality on economic growth are significantly positive in the short-run. Additionally, there exists a long-run relationship between economic growth and democratic quality (or technical quality). Therefore, promoting democratic quality such as "voice and accountability" and "political stability, and absence of violence" or promoting technical quality such as "government effectiveness", "regulatory quality", "rule of law", and "control of corruption" will be effective to promote economic growth. Good governance will facilitate economic growth in Malaysia.

The findings of this study indicate that good governance plays an important role in promoting economic growth in Malaysia. Promoting good governance such as democratic quality or technical quality is beneficial for enhancing economic growth. Government authorities in Malaysia could pay more attention to promoting good governance in order to promote economic growth.

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REFERENCES

Arusha, V. C. 2009. Government expenditure, governance and economic growth. *Comparative Economic Studies* 51(3): 401-18.

Dollar, D. and Kraay, A. 2002. Growth is good for the poor. *Journal of Economic Growth* 7: 195-225.

Easterly, W. and Levine, R. 2003. Tropics, germs and crops: how endowments influence economic development. *Journal of Monetary Economics* 50(1): 3-39.

Gani, A. 2011. Governance and growth in developing countries. *Journals of Economic* 45(1): 19-39.

Helliwell, J. and Huang, H. 2008. How's your government? International evidence linking good government and well being. *British Journal of Political Science* 38: 595-619.

Jalilian, H., Kirkpatrick C., and Parker, D. 2006. The impact of regulation on economic growth in developing countries: a cross-country analysis. *World Development* 35: 87-103.

Kaufmann, D., Kraay, A., and Zoido, P. 1999. Governance matters. *World Bank Policy Research Working Paper No. 2196.*

Marı́a-Teresa M.-P., Galindo-Martı́nb, M.-A., and Ribeiro-Sorianoc, D. 2012. Governance, entrepreneurship and economic growth. *Entrepreneurship and Regional Developmen* 24: 865-877.

Onichakwe, C. C. 2016. The role of good governance and development administration in national development. *International Journal of Development and Management Review* 11: 176-186.

Ott, J. C. 2011. Government and happiness in 130 nations: good governance fosters higher level and more equality of happiness. *Social Indicators Research* 102(1): 3-22.

Paitoon, K. 2018. Good governance and economic growth: an investigation of thailand and selected asian countries. *Eurasian Journal of Economics and Finance* 6(1): 93-106.

Pesaran, H. M. and Shin,Y. 2001. Autoregressive distributed lag modelling approach to cointegration analysis, chapter 11. In Storm, S. (eds)., *Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium*. Cambridge: Cambridge University Press.

Rigobon R. And Rodrik, D. 2005. Rule of law, democracy, openness and income: estimating the interrelationships. *Economics of Transition* 13(3): 533-564.