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Is there a link between government spending, good governance, and economic growth? Evidence from developing countries

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Abstract

This paper examines whether government spending and governance have a nonlinear relationship with economic growth. The study determines the threshold effect of the institutional quality on the relationship between public expenditure and economic performance for developing countries using the Dynamic Panel Threshold Kink Model (DPTKM) (Seo et al., 2019) from 1996 to 2020. This approach differs from other studies by analyzing the interplay of good governance under different regimes considering the double endogeneity of the threshold variables and the regressors. The results confirm that public spending favors growth only beyond a certain level for which the institutional quality is good.

1. Introduction

Recently, there has been a great discussion concerning the role of the government. Many studies are interested in whether government spending entails rapid economic growth, whether sound institutional quality promotes it, and how these two factors interact. Since then, economists and politicians have struggled to determine the linear impact of government spending on economic growth. However, the results are more confusing than helpful. From a theoretical perspective, the Keynesians hold that government spending has a positive effect on the economic performance, while this implication is negative for the classicists and neoclassicists (Romer, 1986; Lowenberg, 1990). The empirical analysis also presents many differences where certain studies found a positive effect (Yasin, 2000; Attari and Javed, 2013), while others noted adverse consequences (Nurudeen and Usman, 2010) or no significant influence on the economic growth (Schaltegger and Torgler, 2006; Hasnul, 2015).

Nowadays, the debate has intensified in the presence of a continuing rise in government spending and a falling growth rate in many economies. The absence of consensus on the empirical results suggests that a linear approach is probably not appropriate for analyzing this relationship. For this reason, many economists are typically interested in the nonlinear relationship by assuming that the negative impact of government spending on economic growth reaches an ideal threshold at which it becomes positive (Barro, 1990). Afonso and Furceri (2010) have confirmed that investing public funds is counterproductive and decelerate the advance of the national economy if the size of public expenditure on infrastructure is beyond a certain level. Nubukpo (2007) has also proposed a non-linear analysis of the government's size and economic growth. This link is influenced by certain factors that play a key role, such as institutional quality. However, few empirical studies have focused on this last factor which constitutes the main objective of this paper.

In reality, several economists are interested in the question of institutional quality by exploring the direct impact of good governance on economic growth (North, 1990; Confemen, 2008; Acemoglu and Robinson, 2010; Siddiqui and Ahmed, 2013; etc.) in addition to its effect on other economic aggregates (Mtiraoui, 2013 and 2014). Good government institutions have an essential role in ensuring that macroeconomic policies are effectively managed to boost economic growth and to improve citizens' life quality (Acemoglu and Robinson, 2010; Rodrik, 2008; Acemoglu et al., 2005). Furthermore, sound institutions lead to the optimal use of the country's resources to create a robust economic ecosystem that inspires investors and consumer confidence. They also increase the capital and the talent flowing, as well as productivity, and they enable companies to move up the global value chain (GVC) and create greater economic prosperity for all stakeholders (Dollar and Kidder, 2017). At the same time, weak governance can erode investors' confidence and hinder sustainable economic growth which can generate negative externalities due to rent-seeking behavior, moral hazard, mismanagement, and higher transaction costs. For this reason, exploring the impact of institutional quality and its interaction with other economic channels is crucial.

This paper provides a new empirical insight into these issues by exploring the relationship between public spending, governance indicators, and economic growth. It differs from the current empirical literature in two points. First, instead of focusing on their direct impact, this study explores their potential nonlinearity link. It specifically investigates whether governance thresholds exist such that the impact of government spending on growth changes and whether governance and government spending act as complements for affecting economic growth. The results are important and helpful for policymakers to achieve favorable outcomes. Second, the study's novelty is the use of the Dynamic Panel Threshold Model of Seo and Shin (2016) and Seo et al., (2019). This approach is more appropriate than previous studies that adopt nonlinear interaction models. It takes into account the endogeneity of the regressors and the threshold variable, and it considers the heterogeneity of the regional and time differences using cross-country variations in dynamic empirical modeling.

This article is structured as follows: Section 2 presents the methodology and the data, section 3 develops empirical results and their discussion, and section 4 covers concluding remarks.

2. Methodology and Data

This paper focuses on the relationship between public spending and economic growth, particularly on whether it is constrained by the level of governance. The study employs the dynamic panel threshold regression model developed by Seo and Shin (2016) which is based on the Hansen approach (1999)[1].

In fact, Hansen (1999) has presented a threshold regression method for a non-dynamic panel where the threshold variable and the regressors are exogenous while Gonzalez et al., (2005) and Gonzalez et al., (2017) have proposed a generalized panel smooth transition regression model that allows the coefficients to change gradually between regimes. However, the reliability of these static approaches came under scrutiny when dynamic panels were introduced, which can challenge their validity (Kremer et al., 2013). Considering the cross-sectional threshold model of Hansen (1999), Caner and Hansen (2004) have developed a dynamic panel threshold model that applied endogenous regressors and used GMM model. The validity of this approach is inquired when the panels are heterogeneous due to large panel data with potential endogenous threshold variables and discontinuity assumptions that might not remain valid in practical situations. As a result, Seo and Shin (2016) have advanced a dynamic panel threshold model that includes lagged dependent variables and endogenous covariates[2]. It is based on first-differenced generalized method of moments (GMM) estimators, which introduces linearity testing to identify the presence of a threshold effect.

Following Seo et al., (2019) the estimated equation of this model is:

$$y_{it} = \mu_i + \beta \, X_{it} + (1, X_{it}) \delta I\{q_{i,t} > \gamma\} + \varepsilon_{i,t} \tag{1}$$

Where $y_{i,t}$ is the dependent variable which corresponds to the economic growth rate; i represents countries (i = 1,..., N); t indicates the time-series dimension for each unit (t = 1,...,T). X_{it} indicates the m-dimensional vector of the regressors that involve the lagged values of the dependent variable[3] and the main explanatory variable which is the public spending as a percentage of GDP (EXP); q_{it} is the threshold variable which is the institutional quality. I(.) is the indicator function specifying the regime; γ is the threshold parameter that divides the equation into two regimes slope coefficients β_1 and β_2; μ_i is the unobserved state fixed-effects coefficient and $\varepsilon_{it} \approx (0, \sigma^2)$ is the independently and identically distributed error term.

The model resorts to the first-differenced generalized method of moments (GMM) to avoid the internal variable problem associated with both the threshold and explanatory variables. However, the threshold model is usually linked with the existence of a discontinuity in the regression function. It can signal the presence of a kink not a jump or a discontinued relationship (Seo et al., 2019). So, using these constraints, the dynamic panel threshold model (DPTR) is given by:

$$y_{i,t} = \beta X_{it} + k(q_{i,t} - \gamma) I\{q_{i,t} > \gamma\} + \alpha_i + \varepsilon_{i,t} \tag{2}$$

Where $y_{i,t}$ is the dependent variable; $X_{i,t}$ is the vector of the explanatory regressors, T is assumed to be fixed while the sample size (N) can be as large as possible. k(•) indicates the kinked restriction, q_{it} is the threshold variable which

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[1] In general, the nonlinear models relative to the effect of finance, foreign direct investment, institutional quality, etc. on economic growth have ignored the threshold variable's endogeneity, which can limit the usefulness of the Hansen model. However, there is substantial evidence that these threshold variables (governance, trade, public debt, etc.) are endogenous (Panizza and Presbitero, 2012; Frankel and Romer, 1999; Acemoglu et al., 2001).

[2] The endogeneity of governance indicators is controlled by trying to treat latitude as an instrument variable (La Porta, et al., 1999). Other governance instruments, such as settler mortality, have been used in the literature, but we did not use them because his data is limited as far as the endogeneity of the public expenditures is controlled by considering the disbursement and predict-disbursement (Kraay 2012) as instrument variables.

[3] The number of instrumental variables is important because it affects the results (Roodman, 2009). All the lagged values of the dependent variable in the model are considered as instrumental variables (Arellano and Bover ,1995). Using only one lagged dependent variable as an instrument keeps the estimated coefficients neutral (Kremer et al, 2013).

is the institutional quality; γ is the threshold parameter; α_i is the country-specific fixed effect and $\varepsilon_{it} \approx (0, \sigma^2)$ is the independently and identically distributed error term.

More precisely, the equation (2) can be written as follows:

$$y_{i,t} = \beta_0 + \beta_1 X_{it} + \beta_2 q_{i,t} + \delta\left(q_{i,t} - \gamma\right)I(q_{i,t} > \gamma) + \alpha_i + \varepsilon_{i,t} \qquad (3)$$

To determine the nonlinear effect of governance and the relationship between public spending and economic growth, two steps are considered in this study. First, it is essential to ascertain the statistical significance of a potential threshold effect by testing the null hypothesis[4]. Second, the Dynamic Panel Threshold method (Seo and Shin, 2016) is used to estimate this model. This method accounts the effect of the initial level of the dependent variable on its current state, overcomes the endogeneity problems, and unveils the actual pattern of the relationship whether it is kinked or discontinued, when governance variables reach a threshold level. More precisely, this model is estimated adopting the dynamic panel threshold method (DPTR) with and then without imposing a kink to determine the most appropriate one that can best elucidate the relationship between public spending and economic growth.

The sample covers balanced panel data of 46[5] developing countries[6] over the period 1996–2020[7]. The dependent variable is the annual growth rate of the GDP per capita (y_{it}). The threshold variable corresponds to the governance indicators from the database of Kaufman, Kraay and Mastruzzi (WGI)[8].

The main independent variable is the government expenditure as a ratio of the GDP (EXP). The other independent variables represent the traditional determinants of the economic growth suggested by plural studies and introduced as control variables[9]: the public investment measured by the gross public fixed capital formation as a percentage of GDP (INVST); the trade openness evaluated by the sum of exports and imports as a share of GDP (TRADE); the financial development represented by the liquid liabilities as a percentage of GDP (LL) and the human capital per person, which is the average years of schooling (KH). All these variables are obtained from the World Bank Development Indicators (WDI) except the human capital (KH) from the Barro and Lee (2013) database.

The descriptive statistics and the correlation matrix result (Tables 1 and 2) suggest a positive interaction between public spending and economic growth, which is in line with the theoretical literature (Gandhi, 1971; Gupta, 1967 and Aschauer, 1989). The trade openness (TRADE), the human capital (KH), the investment (INVST), and the financial development (LL) also exhibit a positive interaction. The governance indicators (control political stability and absence of violence and terrorism (PV), and government effectiveness (GE)) are also positively related to the economic performance but are highly correlated between them[10].

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[4] The threshold level of governance variables does not exist (H0: $\beta_1 = \beta_2$) against the alternate hypothesis that threshold level 0f governance variables exists (H1: $\beta_1 \neq \beta_2$) beyond which public expenditures enhances economic growth in developing countries.

[5] The number of countries is determined according to the availability of data because the method requires balanced datasets.

[6] Slesman et al., (2015) prove that the findings of studies relative to developed and developing countries do not provide significant and reliable evidence of the impact of institutions on growth, and do not help to understand the process by which institutions shape the growth prospects of developing countries.

[7] The period is selected because the governance database started in 1996.

[8] These governance indicators are: political stability and absence of violence (PV) presents the government stability; government effectiveness (GE) evaluates the capability of a government to implement effective policies; regulatory quality (RQ) gives information about the ability of the government to formulate policies that encourage the private sector and control of corruption (CC) estimates the degree to which public power is diverted from private gain. These indicators are between -2.5 and 2.5 where the high level indicates good governance.

[9] The lagged growth rate used as an explanatory variable highlights the significance of using a dynamic growth model.

[10] Considering these indicators in a single regression may leads to a problem of multicollinearity (Globerman and Shapiro, 2002; Buchanan et al., 2012) and an over-parametrized specification in the model (Kim et al., 2018) for this reason, it is more appropriate to use them separately (Meon and Sekkat, 2004; Acemoglu et al., 2001).

Table 1: Descriptive statistics

Variable	Obs	Mean	Std. Dev	Min	Max
Y	1150	2.519	4.134	-36.556	18.065
EXP	1150	21.390	11.335	-77.053	79.360
INVST	1150	22.536	7.621	-22.857	58.150
TRADE	1150	78.959	36.566	15.635	253.224
LL	1150	42.969	31.109	0.376	450.395
KH	1150	7.625	2.343	-.605	11.6
CC	1150	-.418	.561	-1.496	1.592
GE	1150	-.278	.561	-1.848	1.337
PV	1150	-0.362	.693	-2.699	1.171
RQ	1150	-0.165	.564	-2.236	1.542

Table 2: Correlation matrix

	Y	EXP	INVST	TRADE	LL	KH	CC	GE	PV	RQ
Y	1.000									
EXP	0.034	1.000								
INVST	0.274	0.040	1.000							
TRADE	0.058	0.200	0.103	1.000						
LL	-0.078	0.154	0.072	0.280	1.000					
KH	0.063	0.428	0.207	0.123	0.193	1.000				
CC	0.058	0.428	0.174	0.075	0.165	0.282	1.000			
GE	0.096	0.357	0.223	0.119	0.294	0.426	0.825	1.000		
PV	0.107	0.304	0.222	0.259	0.034	0.306	0.508	0.441	1.000	
RQ	0.146	0.330	0.266	0.075	0.407	0.777	0.845	0.440	0.133	1.000

Notes: Y=the rate of economic growth, EXP=public expenditure (a percentage of GDP), INVST=investment (a percentage of GDP), TRADE=economic openness (a percentage of GDP), LL=liquid liabilities (a percentage of GDP), KH=human capital, CC=control of corruption, GE=government effectiveness, PV= political stability and absence of violence/terrorism and RQ=regulatory quality

3. Results

The main objective of this paper is to analyze the nonlinear link between public expenditure and growth by considering the impact of the institutional quality for a heterogeneous sample of developing countries during the period 1996-2020. The empirical study is realized in two steps: first, it is necessary to test the cross-sectional dependence and stationarity when it concerns panel data. Second, the model is estimated using the Dynamic Panel Threshold Model without (DPTR) and with a Kink (DPTKM) (Seo and Shin, 2016, and Seo et al., 2019).

For panel data, the analysis of the cross-sectional dependence is essential because ignoring it may lead to the inefficiency of the estimators (Pesaran, 2021). To avoid this bias and the deviation in the estimation outcomes, a Cross-Sectional Dependency test of Pesaran (CSD)[11] is used. The result (Table 3) confirms this dependence by rejecting the null hypothesis at 1 percent level which implies that the corresponding effects or the relationships among all the variables are highly heterogeneous across countries. So, a country-specific consideration when analyzing a response to shock might generate a biased conclusion. In fact, the issue of cross-sectional dependence can arise when a shock to one country is transmitted to others, for example, through international trade or economic integration (Beck et al., 2011).

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[11] The usual assumption is that the disturbances are cross-sectionally independent.

Table 3: Panel cross-sectional dependence Test

Pesaran's test of cross-sectional independence	18.781***
Average absolute value of the off-diagonal elements	0.245
Probability value	0.0000

Note: (***) indicates significance at 1%.

The presence of cross-sectional dependence across the countries reveals the necessity to ensure the stationarity[12] of the variables by considering the heterogeneous panel unit roots tests of Im, Pesaran, and Shin test (IPS), ADF-Fisher, and Phillips-Perron (PP)-Fisher level (Table 4). The results prove that most of the variables are stationary at level I (0) [13].

Table 4: Heterogeneous panel Unit root tests

Variable	Im-Pesaran-Shin (IPS) Level			ADF-Fisher Level			PP-Fisher Level		
	level	First Diff.	Status	level	First Diff.	Status	level	First Diff.	Status
Y	-12.638 0.000***		I(0)	-8.916 0.000***		I(0)	-15.232 0.000***		I(0)
EXP	2.961 0.001***		I(0)	-1.971 0.024**		I(0)	-3.375 0.000***		I(0)
INVST	-5.268 0.000***		I(0)	-5.754 0.000***		I(0)	-4.683 0.000***		I(0)
TRADE	-4.911 0.000***		I(0)	-0.775 0.219	-18.427 0.000***	I(1)	-1.077 0.140	-26.885 0.000***	I(1)
LL	1.898 0.971	-10.203 0.000***	I(1)	1.891 0.970	-14.164 0.000***	I(1)	2.683 0.996	-13.640 0.000***	I(1)
CC	-3.463 0.000***		I(0)	-3.386 0.000***		I(0)	-3.225 0.000		I(0)
GE	-5.136 0.000***		I(0)	-1.758 0.039**		I(0)	-1.347 0.000***		I(0)
PV	-4.663 0.000***		I(0)	-3.138 0.000***		I(0)	-2.121 0.017**		I(0)
RQ	-3.848 0.000***		I(0)	-1.298 0.097	-14.759 0.000***	I(1)	-1.511 0.000***		I(0)

Note 1: (***), (**) and (*) indicate significant at 1%, 5%, and 10% levels respectively.

The estimated results for the dynamic threshold model (DPTR) without a kink (Table 5) indicate, in both regimes, that the coefficients of the governance threshold and the lagged dependent variable (lag y) are insignificant, which cannot overcome the endogeneity problem and reveal the non-linearity link between public spending and economic growth among the institutional quality index, except the threshold level of the political stability and absence of violence (PV) as well as the lagged growth indicator (model3). For this model, the public spending (EXP) becomes significant and negative above this threshold level. However, this finding is in contrast with the theoretical literature that proves a positive effect on growth if the institutions function properly. Also, the control variables present mixed

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[12] All the asymptotic theory for panel threshold models proposed by Hansen (1999) and Kremer et al., (2013) are for stationary regressors.
[13] Except the liquid and liabilities (LL) which is stationarity for all the tests at the first difference I (1) and for the trade openness (TRADE) and the regulatory quality (RQ) where the results slightly differ among tests: according to the Im-Pesaran-Shin (IPS) test, the trade openness (TRADE) is stationary at the level I (0) and at the first difference I (1) for the ADF and PP-fisher tests. However, the variable regulatory quality (RQ) is stationary at the level I (0) in the Im-Pesaran-Shin (IPS) test and PP-fisher test and at the first difference I (1) for ADF-Fisher test.

results below and above the threshold level[14]. These discrepancies and ambiguous results confirm that the threshold model does not contain a discontinuity in the regression function (Jump) and the DPTR model with a kink is more appropriate in this case.

Table 5: The dynamic Panel Threshold model (DPTR)

Dep. Var: y	Model 1 Control of Corruption (CC)	Model 2 Government Effectiveness (GE)	Model 3 Political Stability and Absence of Violence (PV)	Model 4 Regulatory quality (RQ)
Lag y-b	-.0216 0.719	-.027 0.777	.353*** 0.003	-.280 0.000
EXP-b	-.483*** 0.000	.168 0.394	.492 0.056	-.058 0.767
INVST-b	-.155** 0.024	.1582 0.098	.417** 0.016	-.662*** 0.000
TRADE-b	.209*** 0.000	.136*** 0.000	.329*** 0.000	.244*** 0.000
LL-b	-.135*** 0.000	.0548*** 0.000	-.067 0.057	-.0367 0.365
KH-b	3.809*** 0.000	3.170*** 0.000	2.937*** 0.006	6.017*** 0.000
Lagy-d	-.179 0.252	-.309 0.235	-.3181** 0.023	.1669 0.121
EXP-d	.310 0.115	-.809 0.000	-1.042*** 0.001	.2117 0.434
INVST-d	.2095 0.173	-.222 0.110	-.705*** 0.000	1.195*** 0.000
TRADE-d	-.114*** 0.006	-.136*** 0.000	-.0957*** 0.001	.124 0.146
LL-d	-.0211 0.731	-.259*** 0.000	.2181*** 0.000	-.231*** 0.004
KH-d	-4.506*** 0.000	-3.764*** 0.000	-3.476*** 0.013	-10.095*** 0.000
Threshold (r)	-.284 0.061	-.178 0.003	-.708*** 0.000	.1240 0.079

Notes: *** significant at 1% level; ** significant at 5% level; * significant at 10% level.

The results of the DPTR model with a kink (Table 6) show that the p-value generated by the bootstrap test of linearity rejects the hypothesis of no threshold effect, which means that the relationship between spending and economic growth is nonlinear. The coefficient of the lagged GDP per capita in all estimates is significant and positive. It is also less than one in the low regime, which indicates the convergence of GDP in the countries (Maddah et al., 2022) and justifies the use of the dynamic panel threshold model.

The coefficient of kink is statistically significant which implies a continuity in the regression function by confirming the presence of a kink, not a jump, and that the model is adequately specified to assess the link between government spending and economic growth. The negative coefficients of the kink-slope (models 1, 3, and 4) state the moderating effect of good governance on this relationship. This result explains the deterioration in institutional development's trend in the sense that few developing countries can attain the threshold level or are able to sustain it over time.

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[14] The economic openness (TRADE); the investment (INVST), and the human capital (KH) show an unexpected result with a negative effect on economic growth in the higher regime. The financial development (LL) presents a mixed result below and above the threshold level.

Model 2 reveals a positive and significant coefficient of kink which is relative to a positive correlation between government effectiveness and public spending. This finding aligns with recent studies that justified the positive impact of public expenditures through the effective policy development processes, their implementation, and the credibility of government commitments (Montes et al., 2019).

For all the models, the threshold variables are statistically significant at one percent which confirm the non-linear relationship between public expenditure and economic growth, contingent upon a specific governance threshold (Law et al., 2018; Beckmann and Czudaj, 2017; Serdaroglu, 2015; Karadam and Ocal, 2014; Chen and Quang, 2014; Bekaert et al., 2005). Consequently, developing countries need to enhance or maintain a certain level of their governance structures to benefit from public expenditure's potential to foster economic growth.

The results of the nonlinear kink model estimation (DPTKM) confirm the negative link between government spending and economic growth in low institutional quality environment. Several studies have supported that public spending in developing countries has either no or a negative impact on economic growth (Cook and Uchida,2003; Filipovic 2005; Smaoui and Nechi,2017). This result can be explained by the weak institutional quality in developing countries that often fall below acceptable levels but also by the risk of misappropriation or diversion for private gains due to the lack of oversight in public spending (Mauro, 1997, and Tanzi and Davoodi, 1997). Moreover, this negative effect can be amplified by the inefficiency of this spending when it is allocated to non-development sectors, such as debt servicing and defense (Barro, 1990).

The coefficients of the investment in physical capital (INVST) are positive and significant in the low regime. This finding aligns with theoretical results where the physical capital investment enhances growth independently of the level of development of each country (Barro, 1990; Sachs and Warner, 1995; Bosworth and Collins, 2003; Le and Suruga, 2005, etc.). The estimated coefficients of trade openness (TRADE) are positive and statistically significant. So, more trade openness can increase economic performance by ensuring the availability of more financial resources through the capital inflows of foreign portfolio investment, technological innovations, and transfers which can improve the productivity and the competition of the domestic economy (Greenaway and Milner, 1993). Several studies highlight this positive effect (Krugman, 1979; Young, 1991; Grossman and Helpman, 1991) through many channels, such as scale economies (Taylor, 1994; Grossman and Helpman, 1991); innovation, knowledge, ideas' import and the information's diffusion (Feder, 1982; Grossman and Helpman, 1992). In reality, the benefic effect of trade on growth is related to educational investment, financial development, inflation stabilization, public infrastructure, and labor market flexibility but also to the governance where less advanced countries have to work on the development and the enhancement of their institutional quality (Chang et al., 2009).

For the financial development indicator (LL), the estimated coefficients are negative and significant. In general, the banking system in developing countries is less developed and inefficient in addition to the misallocation of their resources (Samargandi et al., 2014). So, corruption and political interference can neutralize the positive effect of the financial development on the economic growth by diverting credit from productive to non-productive sectors (Yinusa et al., 2020). The estimated coefficients of human capital (KH) are both significant and positive (Lucas, 1988) and their effect becomes more pronounced and impactful when the institutional quality is high.

Table 6: The Dynamic Panel Threshold Kink Model

Dep. Var : Y	Model 1 Control of Corruption (CC)	Model 2 Government Effectiveness (GE)	Model 3 Political Stability and Absence of Violence (PV)	Model 4 Regulatory quality (RQ)
Lag Y-b	.2344***	.4200***	.0010	.2599 ***
	0.000	0.000	0.978	0.000
EXP-b	.0336	-.119	-.184***	-.231***
	0.653	0.232	0.000	0.000
INVST-b	.414***	.532***	.158***	.0547
	0.000	0.000	0.004	0.272
TRADE-b	.080***	.055***	.1964***	.183***
	0.000	0.001	0.000	0.000
LL-b	-.155***	-.191***	-.133***	-.201 ***
	0.000	0.000	0.000	0.000
KH-b	.288	1.819***	1.107***	1.377***
	0.238	0.000	0.000	0.000
Kink slope	-14.559 ***	7.790***	-8.900***	-20.059***
	0.000	0.000	0.000	0.000
Threshold (r)	-.0662 ***	-.748***	.1813***	.1509***
	0.000	0.000	0.000	0.000
Cross-section 46				
Time 25				
Prob > Boots 0.000***				

Notes: *** significant at 1% level; ** significant at 5% level; * significant at 10% level.

4. Conclusion

The main objective of this paper is to determine the threshold effect of institutional quality on the relationship between the public expenditure and the economic growth. More precisely, the paper investigates whether there are regime-switching effects of government spending on economic growth, with due attention to the role of governance in this process.

Many studies have analyzed the relationship between public spending and growth, but the results are mixed. In fact, the focus of the existing literature was on the linear relationship, or it can be nonlinear. Recently, several studies have started to interest in whether there are nonlinear effects of finance, trade, public debt, foreign investment, institutional quality, etc. on growth (Khoury and Savvides, 2006; Drukker et al., 2005; Falvey et al., 2007; Azman-Saini et al., 2010; Odawara, 2010, etc.), but those related to public spending are still absent which constitutes the main objective of this paper.

The study investigates the threshold level of governance beyond which the public spending can stimulate the economic growth using the dynamic panel threshold kink model (DPTKM) (Seo and Shin, 2016; Seo et al., 2019) for a panel of developing countries during the period 1996–2020. The results show that a sustainable level of governance is necessary to ensure the positive effect of public spending on growth. So, countries must achieve and maintain a certain level of institutional quality above the threshold value to benefit from more efficient public expenditures. However, the significant negative coefficient of the kink slope implies that developing countries that reach the threshold are unable to maintain it over time. For this reason, these governments must focus their efforts on strengthening institutions and governance. They need to implement policies and to enhance the stability, and the quality of their institutions. Additionally, they have to take specific measures to safeguard institutional improvements

over time such as constant monitoring, ongoing reforms, and sustained efforts to prevent institutional regression. This can be achieved by fighting against corruption, insecurity, violence, and terrorism; consolidating the rule of law and regulatory quality; promoting accountability and public participation in governance; and reducing inefficient government activities to ensure lasting improvements in the institutional environment. Ultimately, the objective is to maintain a stable institutional environment that fosters more productive public spending which can contribute positively to economic growth and enhance the prospects of countries.

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