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IMPACT OF ECONOMIC FREEDOM, POLITICAL STABILITY AND ECONOMIC GROWTH IN THE USA ON EMERGING ASIAN ECONOMIES

This study examines the impact of economic freedom, political stability and economic policy uncertainty in the United States on economic growth in emerging Asian countries during the period 2002–2013 using Westerlund's Durbin-Hausman cointegration tests and Dumitrescu-Hurlin panel causality test. A long-run relationship between economic growth, political stability, economic freedom and economic policy uncertainty in the US has been founded. Economic freedom and political stability had positive impact on economic growth, while economic policy uncertainty in the US had mixed impact on economic growth. The Dumitrescu-Hurlin panel causality test demonstrated a unidirectional causality from economic freedom to economic growth and from economic growth and economic policy uncertainty in the US, while there was bidirectional causality between political stability and economic growth.

Keywords: economic freedom; political stability; economic growth; panel data analysis.

JEL classification: D80; E31; E66; G18; O43; O47.

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ВПЛИВ ЕКОНОМІЧНИХ СВОБОД, ПОЛІТИЧНОЇ СТАБІЛЬНОСТІ ТА ЕКОНОМІЧНОГО ЗРОСТАННЯ В США НА РОЗВИТОК КРАЇН АЗІЇ

У статті досліджено, яким чином економічні свободи, політична стабільність та нестабільність економічної політики в США впливають на економічне зростання країн Азії протягом 2002–2013 років. Для аналізу використано тест Дурбіна-Хаусмана на коінтеграцію та тест Думітреску-Харліна на причинність панельних даних. Доведено існування довготривалої залежності між всіма дослідженими змінними. Економічні свободи в США та їх політична стабільність позитивно впливають на економічний розвиток країн Азії, в той же час нестабільність економічної політики має неоднозначний, суперечливий вплив. Тест Думітреску-Харліна продемонстрував існування односпрямованого причинно-наслідкового зв'язку від економічних свобод до економічного зростання, а також від економічного зростання в Азії до нестабільності економічної політики в США. Двосторонній взаємозв'язок спостерігається між політичною стабільністю та економічним зростанням.

Ключові слова: економічна свобода; політична стабільність; економічне зростання; аналіз панельних даних.

Табл. 9. Літ. 56.

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ВЛИЯНИЕ ЭКОНОМИЧЕСКИХ СВОБОД, ПОЛИТИЧЕСКОЙ СТАБИЛЬНОСТИ И ЭКОНОМИЧЕСКОГО РОСТА США НА РАЗВИТИЕ СТРАН АЗИИ

В статье исследовано, каким образом экономические свободы, политическая стабильность и нестабильность экономической политики в США влияют на экономический рост стран Азии на протяжении 2002–2013 годов. Для анализа использованы тест Дурбина-Хаусмана на коинтеграцию и тест Думитреску-Харлина на причинность панельных данных. Доказана долгосрочная зависимость между всеми исследуемыми пере-

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менными. Экономические свободы в США и их политическая стабильность позитивно влияют на экономическое развитие стран Азии, в то время как нестабильность экономической политики имеет неоднозначное, противоречивое влияние. Тест Думитреску-Харлина продемонстрировал существование однонаправленной причинно-следственной связи от экономических свобод к экономическому росту и от экономического роста в Азии к нестабильности экономической политики в США. Двухсторонняя взаимосвязь наблюдается между политической стабильностью и экономическим ростом.

Ключевые слова: экономическая свобода; политическая стабильность; экономический рост; анализ панельных данных.

1. Introduction. Contemporary economic growth theories suggest that many determinants such as saving rate, physical and human capital, population growth, technological progress, institutional framework affect economic growth. In this context, most of empirical studies have been investigated the impact of saving rate, physical and human capital, technological progress and institutional framework on economic growth. Yet there have been relatively few studies on the impact of political stability, economic policy uncertainty (EPU) on economic growth.

Political stability is the constancy of governments/regimes and can be distorted by various events such as coups, frequent government or cabinet changes that cause frequent changes in economic policies. Political instability raises uncertainty in economic decisions such as investment, production or labor supply (Alesina et al., 1992: 4). Therefore, economic growth requires at least a minimum level of political stability (Kuznets, 1966: 451). On the other hand, EPU may have negative impacts on economic growth by hampering households and firms in making consumption and investment decisions.

Moreover, economic freedom is the reflection of institutional and legitimate quality which controls economic growth. Although discussions on economic freedom date back to Adam Smith, its meaning varies depending on a school of economic thought. We have used the economic freedom index of Heritage Foundation in this study. Therefore, economic freedom here means the basic right of every person to control his or her own labor and property. Furthermore, it includes property rights, freedom from corruption, fiscal freedom, government spending, business freedom, labor freedom, monetary freedom, trade freedom, investment freedom and financial freedom (Heritage Foundation, 2015). Consequently the components of economic freedom have impact on the authorities which govern economic policies. Therefore, it is expected that economic freedom affects economic growth.

Emerging Asian countries have experienced significant rates of economic growth especially in the last 3 decades. The aim of this study is to evaluate the impact of economic freedom, political stability and economic policy uncertainty in the United States on economic growth in emerging Asian countries including China, India, Indonesia, the Republic of Korea, Malaysia, Philippines, and Thailand during the period 2002–2013 by using Westerlund's Durbin-Hausman cointegration tests and Dumitrescu-Hurlin panel causality test.

Our study is organized as follows. Section 2 reviews the literature on the impact of economic freedom, economic policy uncertainty and political stability on economic growth. Section 3 presents data, empirical application and offers major findings. Section 4 concludes the study.

2. Literature review. There have been extensive empirical studies on the relationship between economic freedom and economic growth in literature; while there have been relatively few studies on the relationship between economic growth, political stability and EPU. Moreover, various variables have been used in the studies to represent economic freedom, political stability and EPU and there has been a lack of agreement on this issue. Empirical studies demonstrated that economic freedom and political stability dominantly affect economic growth positively, while EPU generally affects economic growth negatively. In this section we will present the literature for our study in 3 subsections. Firstly, we provide the literature on the relationship between economic freedom and economic growth, and then we give literature on the relationship between economic growth, political stability and EPU.

2.1. Literature on economic freedom and economic growth. There have been a large number of empirical studies on the relationship between economic growth and economic freedom, especially in the two recent decades. Here we introduce the recent major studies. Table 1 demonstrates that economic freedom has been generally said to have positive impact on economic growth.

2.2. Literature on political stability and economic growth. In one of the pioneering studies, Barro (1991) examined the impact of political instability together with human capital, fertility, investment, government expenditure, economic system, market distortions, on economic growth in 98 countries during 1960–1985 and found that political instability had negative impact on economic growth. Alesina et al. (1992) examined the relationship between political instability and economic growth in 113 countries during 1950–1982 and found that countries with higher political stability had lower economic growth. On the other hand, De Haan and Siermann (1996) investigated the impact of political instability and political freedom on economic growth in 97 countries during the period 1963–1988 and reached mixed findings depending on the continent. Devereux and Wen (1998) investigated the impact of political instability on economic growth in 52 countries by using the averages of 1960–1985 and found that political stability had negative impact on economic growth.

Asteriou and Siriopoulos (2000) examined the impact of political instability on economic growth and stock market in Greece during 1960–1995 by using regression, and found that political instability generally affected economic growth negatively. On the other hand, Ali (2001) examined the impact of political stability and economic policy stability on economic growth in 119 countries during 1965–1997 and found that policy instability was negatively correlated with economic growth. Fosu (2002) examined the impact of various political instability indicators on economic growth in 31 countries of Sub-Saharan Africa during the period 1960–1986 and found that political instability generally affected economic growth negatively.

Jong-A-Pin (2009) examined the impact of political instability on economic growth in 90 countries during 1974–2003 and found that political instability had negative impact on economic growth. Aisen and Veiga (2013) examined the impact of political instability and economic freedom on economic growth in 169 countries during 1960–2004 in 5-year periods and found that political stability had negative impact on economic growth, while economic freedom had positive impact on economic growth.

Table 1. Literature review on nexus between economic freedom and economic growth

Study	Country/Country Group (Period)	Impact of Economic Freedom on Economic Growth
Nelson and Singh (1998)	67 less developed countries (1970–1989)	Positive
De Haan and Sturm (2000)	80 countries (1975–1990)	Positive
Dawson (2003)	No information about the number of countries (1970–2000)	Economic freedom was a cause for economic growth
Gwartney et al. (2004)	99 countries (1980–2000)	Positive
Us Swaleheen and Stansel (2007)	60 countries (1995–2004)	Positive
Justesen (2008)	Varying number of countries (1970–1999)	Positive
Yun-Peng and Tuan-Yuen (2009)	92 countries (1970–2000)	Positive
Saribas (2009)	49 countries (1995–2004)	Negative
Paakkonen (2010)	25 transition economies (1998–2005)	Positive
Azman-Saini et al. (2010)	85 countries	Positive
Cebula (2011)	OECD countries (2003–2007)	Positive
Wu (2011)	China (1995–2008)	Positive
Fabro and Aixala (2012)	79 countries (1976–2005)	Positive
Peev and Mueller (2012)	Transition economies (1994–2007)	Positive
Alexandrakis and Livanis (2013)	23 Latin American/Caribbean, 23 OECD countries (1984–2007)	Mixed depending on the country
Piatek et al. (2013)	25 transition economies (1990–2008)	Positive
Kilic and Arica (2014)	23 uppermiddle income countries (1995–2010)	Positive
Akinci et al. (2014)	144 developed/developing/underdeveloped countries (1995–2012)	Positive

On the other hand, Gurgul and Lach (2013) investigated the relationship between political instability and economic growth in 10 Central and Eastern Europe during the period 1990–2009 and found that political stability had negative impact on economic growth. Bashir and Xu (2014) examined the effect of economic freedom, political freedom and political stability on economic growth in 117 countries during the period 1980–2012. They used the Heritage Foundation economic freedom index for economic freedom and established a political stability index by using 12 different political risk measures of International Country Risk Guide. They found that political stability and economic freedom had positive impact on economic growth.

2.3. Literature on the EPU and economic growth. A few empirical studies on the relationship between EPU and economic growth have been conducted in literature. These empirical studies mostly have found a negative relationship between EPU and economic growth although they used different indicators for EPU.

Aizenman and Marion (1991) examined the relationship between policy uncertainty and economic growth during the period 1970–1985 in 46 developing countries and they found a negative correlation between policy uncertainty indicators and economic growth. On the other hand, Lensink et al. (1999) examined the effect of diverse uncertainty measures on economic growth in 138 countries during the period 1970–1995 by panel regression and found that most of uncertainty measures had negative impact on economic growth. Fatas and Mihov (2006) investigated the relationship between policy volatility and economic growth in 93 countries during 1960–2000 by using panel regression and found that policy volatility had negative effect on economic growth.

Carriere–Swallow and Cespedes (2013) examined the impact of uncertainty shocks in 40 countries during 1990–2010, and found that uncertainty shocks had caused decreases in investment and private consumption. On the other hand, Bhagat et al. (2013) examined effect of EPU on major macroeconomic variables during 2003–2012 in India by using VAR analysis and found that EPU had negative effect on fixed investment.

Schneider and Giorno (2014) examined the effect of economic uncertainties on economic growth during the period 1991–2013 in Greece, Ireland and Portugal by using VAR analysis and found that impact economic uncertainties on economic growth was stronger in Ireland and Portugal than in Greece. On the other hand, Stockhammar and Osterholm (2014) examined the effects of the US EPU on economic growth during 1988–2013 in Sweden by using Bayesian VAR and they found a negative relationship between the US EPU and Swedish economic growth. In another study Leduc and Liu (2014) examined the impact of uncertainty shocks on macroeconomic variables in the US and the United Kingdom during the period 2009–2013 by using VAR model and found that uncertainty shocks increased unemployment and decreased inflation.

3. Data, econometric application and findings. We examined the impact of economic freedom, political stability, EPU in the US on economic growth in emerging Asian countries during the period 2002–2013 by using the Westerlund's Durbin-Hausman cointegration tests and Dumitrescu-Hurlin panel causality test. We took all the countries including including China, India, Indonesia, the Republic of Korea, Malaysia, Philippines, and Thailand except Taiwan (due to data non-availability) classified by MSCI as emerging Asian economies (MSCI, 2015).

3.1. Data. We used real GDP per capita growth as a dependent variable and economic freedom, index of political stability and absence of violence/terrorism and EPU index of the US as independent variables. We took real GDP per capita growth rates from the World Development Indicators of World Bank, annual percentage growth rate of real GDP per capita based on constant 2005 US dollars (World Bank, 2015). On the other hand, we took the index of economic freedom from the Heritage Foundation database. Index of economic freedom is graded on the scale of 0–100 and is based on 10 quantitative and qualitative factors grouped as rule of law (property rights, freedom from corruption), limited government (fiscal freedom, government spending), regulatory efficiency (business freedom, labor freedom, monetary freedom) and open markets (trade freedom, investment freedom, financial freedom) (Heritage Foundation, 2015). We took the index of political stability and absence of

violence/terrorism from the World Wide Governance Indicators of the World Bank and it measures perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism (Kaufmann et al., 2015).

Lastly we took the EPU index of the US from the website of EPU (Economic Policy Uncertainty, 2015). The EPU index of the US is calculated by Baker et al. (2013) and it is composed of 3 components which are the news about policy-related economic uncertainty in 10 large newspapers, reports by the Congressional Budget Office and Federal Reserve Bank of Philadelphia's Survey of Professional Forecasters about consumer price index, purchase of goods and services by state and local governments, and purchases of goods and services by the federal government. Variables and their symbols used in the study are given in Table 2. We use E-Views 8.0, WinRATS Pro. 8.0 and Gauss 11.0 for panel data analysis.

Table 2. Variables used in econometric analysis and their symbols

Variable	Symbol	Data Source
Real GDP per capita growth	RGG	World Bank/World Development Indicators
Political Stability and Absence of Violence/Terrorism	PSAV	World Bank/ World Wide Governance Indicators
Economic Freedom	EF	Heritage Foundation/ Index of Economic Freedom
Economic Policy Uncertainty	EPU	Economic Policy Uncertainty

3.2. Panel unit root tests. Panel data analysis conducts both time and cross sectional analyses, therefore, variables should be stationary to avoid possible spurious relationships among them. We investigate common unit root processes by Levin, Lin and Chu (2002) and the individual unit root process by Im, Pesaran and Shin (2003). We test the stationarity of individual invariant time series by Augmented Dickey Fuller (ADF) (1979) test. The results of the unit root tests are presented in Table 3. The results demonstrated that RGG, PSAV, EF and EPU variables were I(1).

Table 3. Results of Panel Unit Root Test, authors'

Variables	Levin, Lin & Chu Test Results		Im, Pesaran & Shin Test Results		ADF-Fisher Chi-square	
	Level	First Difference	Level	First Difference	Level	First Difference
	Trend and Constant	Constant	Trend and Constant	Constant	Trend and Constant	Constant
RGG	0.2314	0.0002*	0.2265	0.0003*	0.1987	0.0008*
PSAV	0.1877	0.0024*	0.1703	0.0001*	0.1623	0.0000*
EF	0.1104	0.0016*	0.0941	0.0036*	0.0971	0.0046*
EPU	0.1321	0.0000	0.1455	0.0177*	0.1042	0.0081*

Time series were deseasonalized by tramo/seats, periods of crisis and policy changes were considered in regard to their statistical significance and they were included in the model if their trend and constant components were statistically significant.

* Significant at the 0.05 and 0.01 levels. Cusum path lies within the confidence interval bounds at 5%, structural breakpoint was not observed.

The first generation panel unit root tests in Table 3 are assumed that cross-sectional units are independence, while the second generation panel unit root tests con-

sider the dependency among cross-sectional units. So we should test the cross-sectional dependency in panel data set for determining the existence of unit root. If we is cross-sectional dependency in the panel data after the test, we should use the second generation panel unit root tests to yield a more consistent, efficient and powerful estimation. In our study we use the Berusch Pagan (1980) CD_{LM1} test because time dimension ($T = 12$) is bigger than cross-sectional dimension ($N = 7$). The hypotheses of the test are as follows:

H_0 : There is a cross-sectional dependency.

H_1 : There is no cross-sectional dependency.

The results of the CD_{LM1} test were presented in Table 4. The results show there was a cross-sectional dependence in the series.

Table 4. CD_{LM1} Test Results, authors'

Test	RGG		PSAV		EF		EPU	
	t stat.	p	t stat.	p	t stat.	p	t stat.	p
CD_{LM1}	7.044	0.029	8.563	0.000	10.221	0.002	8.276	0.001

In this case we will test the stationarity of the series with the cross-section augmented Dickey-Fuller (CADF). The hypotheses of the test are as follows:

H_0 : There is a unit root.

H_1 : There is no unit root.

We first calculate CADF statistics for each country and then compare with the critical values calculated by Pesaran (2007) to determine whether there is a unit root for each country's series. Then we will calculate CIPS (Cross-sectionally augmented IPS (Im Pesaran and Shin, 2003)) statistics by taking the arithmetic average of all CADF statistics in order to determine whether there is a unit root in the overall panel. If the calculated CIPS value is smaller than the critical value in Pesaran (2007), it means there is no unit root in relevant data. The calculated CADF and CIPS statistics for our study are presented in Table 5. H_0 was accepted because CIPS statistics was higher than the critical value. So the series were not stationary at the level and therefore we would conduct our analysis with the first-differenced series.

Table 5. CADF and CIPS Test Results, authors'

	RGG		PSAV		EF		EPU	
	CADF stat.	lag	CADF stat.	lag	CADF stat.	lag	CADF stat.	lag
China	-3.83	2	-5.82	1	-6.24	1	-5.35	1
India	-3.99	1	-4.23	1	-3.72	1	-3.09	1
Indonesia	-4.01	1	-3.89	2	-5.23	2	-5.31	2
Republic of Korea	-3.46	2	-4.98	1	-5.87	2	-5.48	1
Malaysia	-3.56	1	-5.06	1	-4.03	1	-3.02	2
Philippines	-8.55	1	-3.11	1	-5.36	1	-4.27	1
CIPS Statistics	-4.66		-4.37		-4.80		-4.52	

Critical value at the 1% significance level is -4.234 for CADF Pesaran (2007).

Critical value at the 1% significance level is -2.836 for CIPS Pesaran (2007).

3.3. Slope Homogeneity Test. Swamy (1970) is the leading study to determine whether the slope coefficients of the cointegrating equations are related to the cross-

sectional units of the panel. Then Pesaran and Yamagata (2008) developed the Swamy test and the hypotheses of their test are as follows:

H_0 : Slope coefficients are homogeneous.

H_1 : Slope coefficients are not homogeneous.

The homogeneity test results are presented in Table 6. The test results demonstrated that slope coefficients of the cointegrating equation were heterogeneous. In this case comments about cointegration of each country are valid and reliable.

Table 6. **Pesaran and Yamagata (2008) Homogeneity Test Results, authors'**

	Test statistics	p-value
$\tilde{\Delta}$	5.944	0.001*
$\tilde{\Delta}_{adj}$	8.562	0.022*

* Significant at the 0.05 level.

3.4. Westerlund's Durbin-Hausman Cointegration Tests. We applied cointegration analysis because time series in the panel were I(1). Durbin-Hausman panel test and Durbin-Hausman group test offered by Westerlund (2008) consider cross-sectional dependency and enable some variables in the model to be I(0). This test assumes that autoregressive parameter is invariable among the sectors and the test is derived from the Fisher equation (Westerlund, 2008). The hypotheses of Durbin-Hausman panel test are as follows:

$H_0: a_i = 0$.

$H_1: a_i < 0$.

There is cointegration relationship for the whole panel provided that the null hypothesis is rejected. On the other hand, Durbin-Hausman group test enable the coefficients to differentiate among the sectors. The hypotheses of the Durbin-Hausman group test are the same with Durbin-Hausman panel test. There is at least cointegration relationship among some sectors provided null hypothesis is rejected in Durbin-Hausman group test. The results of Durbin-Hausman tests were given in Table 7. H_0 hypothesis is rejected because group and panel statistics are found to be bigger than 1.645. Therefore, there was cointegration relationship among the variables in the model.

Table 7. **Westerlund (2008)'s Durbin-Hausman Test Results, authors'**

Tests	Test stat.	Bootstrap prob.
Durbin-Hausman group statistics	3.972	0.001
Durbin-Hausman panel statistics	3.225	0.002

3.5. Estimation of cointegration coefficients with common correlated effect estimator. We found there were unit root, cross-sectional dependence, heterogeneous and a cointegrating structure. Therefore, we estimate the long run cointegrating coefficients of the model by Common Correlated Effect (CCE) estimator developed by Pesaran (2006). There are two separate estimators in the CEE model called as Common Correlated Effects Mean Group (CCEMG) estimator and Common Correlated Effects Pooled (CCEP). CCEMG estimator is used if there is homogeneity and cross-sectional dependence in panel data. CCEP estimator is used if common effects are fixed or there is very few information about unobservable common effects (Pesaran,

2006). CCE exhibits asymptotically standard normal distribution under autocorrelation and heteroscedasticity and is consistent under these conditions. The estimation results of the long run cointegrating coefficients of the model by CCE for each cross-sectional unit (country) were given in Table 8. The results demonstrated that political stability and economic freedom had positive impact on economic growth and this finding is consistent with the literature. On the other hand, EPU in the US had negative impact on economic growth in China and the Philippines. Because China is the US's second-largest trading partner, its third-largest export market, and its biggest source of imports (Morrison, 2014), EPU in the US had negative impact on economic growth of China. On the other hand, since the US is also the biggest trading partner of the Philippines, there was a negative relationship between EPU in the US and economic growth of the Philippines.

Table 8. **CCE Estimation Results, authors'**

Countries	DPSAV		DEF		DEPU	
	Coefficient	t	Coefficient	t	Coefficient	t
China	0.621	5.892*	0.342	3.212*	-0.783	-1.980*
India	0.477	3.662*	0.526	4.621*	0.452	2.321*
Indonesia	0.632	3.871*	0.521	3.006*	0.216	2.863*
Republic of Korea	0.431	2.996*	0.714	2.874*	0.385	3.112*
Malaysia	0.563	3.753*	0.638	3.445*	0.397	3.751*
Philippines	0.746	3.117*	0.542	3.062*	-0.519	-2.996*

Note: Autocorrelation and heteroscedasticity problems in the estimation were eliminated by Newey-West method.

* and ** respectively denotes significant at the 1% and 10% levels.

3.6. Dumitrescu-Hurlin Panel Causality Test. Dumitrescu and Hurlin (2012) panel causality test is a version of Granger (1969) non-causality test used for heterogeneous panels with fixed coefficients. It considers both heterogeneity of the regression model and the heterogeneity of causal relationships. The results of Dumitrescu-Hurlin (2012) panel test are presented in Table 9. The results demonstrated that:

- Economic freedom is a cause of economic growth, while economic growth is not cause of economic freedom.
- There is bidirectional causality between political stability and economic growth.
- Economic growth is a cause of EPU in the US, while EPU in the US is not a cause of economic growth.
- All the other remaining variables are found to be a cause for each other.

4. Conclusion. Political stability, economic freedom and EPU probably have impact on economic growth by affecting institutions governing economic policies. We examined the impact of economic freedom, political stability, economic policy uncertainty in the US on economic growth in emerging Asian countries including China, India, Indonesia, Republic of Korea, Malaysia, the Philippines, and Thailand during 2002–2013 by using Westerlund's Durbin-Hausman cointegration tests and Dumitrescu-Hurlin panel causality test.

We found cointegration long run relationship among the variables in the model and economic freedom and political stability had positive impact on economic growth, while EPU in the US had mixed impact on economic growth depending on

a country. Our finding is consistent with the general trend in literature. On the other hand, the causality tests demonstrate a unidirectional causality from economic freedom to economic growth and from economic growth and economic policy uncertainty in the US, while there is a bidirectional causality between political stability and economic growth.

Table 9. Dumitrescu-Hurlin Panel Causality Test Results, authors'

Pairwise Dumitrescu Hurlin Panel Causality Tests			
Lags: 2			
Null Hypothesis	W-Stat.	Zbar-Stat.	Prob.
DEF does not homogeneously cause DRGG	3.72599	0.13938	0.8892
DRGG does not homogeneously cause DEF	6.48588	3.65578	0.0120
DPSAV does not homogeneously cause DRGG	2.80670	0.18694	0.0117
DRGG does not homogeneously cause DPSAV	3.72872	4.56958	0.0090
DEPU does not homogeneously cause DRGG	5.25126	0.68080	0.4960
DRGG does not homogeneously cause DEPU	8.04813	3.60869	0.0027
DPSAV does not homogeneously cause DEF	10.7045	2.61649	0.0089
DEF does not homogeneously cause DPSAV	16.1873	4.56271	0.00005
DEPU does not homogeneously cause DEF	4.76912	4.50965	0.0103
DEF does not homogeneously cause DEPU	2.70054	4.22462	0.0223
DEPU does not homogeneously cause DPSAV	5.68238	6.83383	0.0044
DPSAV does not homogeneously cause DEPU	3.02536	5.10932	0.0130

Our findings imply that especially economic freedom is one of the most critical factors which foster economic growth. Therefore, it is important for less developed countries to increase their economic freedom by enhancing their institutional quality. On other hand, we see that political stability and economic growth feed each other.

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