EFFECTS OF INFLATION, INTEREST AND UNEMPLOYMENT RATES ON ECONOMIC GROWTH: EVIDENCE FROM ASEAN COUNTRIES

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Abstract

The long-run relationship between interest, unemployment and inflation rates and economic growth in ASEAN countries has been neglected for decades. Such a disregard is surprising because these macroeconomic factors affect capital and investment costs. Using secondary panel data gathered from the World Bank database, we investigate the long-run relationship between these factors and GDP growth from 1995 to 2018 in ASEAN-5 countries (Malaysia, Indonesia, Thailand, Singapore and the Philippines). Statistical results show a strong dynamic long-run linkage between interest and inflation rates and economic growth, but the linkage between unemployment rate and economic growth is insignificant. Granger's test of causality indicates that interest, unemployment and inflation rates and economic growth are related. Policy makers should be aware of these relationships when making decisions to facilitate economic growth and stability.

Keywords: interest rates, unemployment, inflation, economic growth, ASEAN countries

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1. INTRODUCTION

ASEAN countries belong to an important strategic region in world trade flows, but many factors that contribute to the economic growth of these countries remain largely unexplored. The integration of social and economic issues has become important in recent years (Thanh, 2015). Macroeconomic factors, such as unemployment, interest and inflation rates, have become controversial subjects of interest to most economists and central bodies across the globe. Every country aims for price stability, full employment, currency stability and economic growth. However, the views taken by structuralists and monetarists regarding the growth engines of an economy differ. Structuralists argue that inflation is an important economic booster, whereas monetarists regard inflation as a danger (Sir, 2014). To the contrary, fluctuation in currency values, coupled with high inflation and unemployment rates, clearly threatens any economy. Maintaining a balance of such factors through effective monetary policies is therefore important. High economic growth with low stabilised inflation, low unemployment and stable interest rates are the main objectives of policy makers, but the long- and short-run effects of each variable on economic growth is yet to be thoroughly examined in the context of ASEAN countries. Two real questions must be answered. What are the factors that influence economic growth in the long run? Do interest, unemployment and inflation rates directly affect economic growth? This study aims to answer these questions in the context of ASEAN-5 countries.

Section 2 reviews related literature. Section 3 outlines the methods and empirical modelling techniques used, and Section 4 analyses data. Section 5 discusses the results, and Section 6 presents the conclusions together with recommendations for future research.

2. LITERATURE REVIEW

Growth represents an increase in revenue. In most cases, the availability of goods and services is a measure of a standard living. Macroeconomic factors, such as interest, unemployment and inflation rates, are relevant variables when considering economic development (Bal, Dash, & Subhasish, 2016). Akeju and Olanipekun (2014), Dritsakis and Stamatiou (2018) and Odhiambo (2009) claim that interest, unemployment and inflation rates contribute to GDP, directly affecting a population's standard of living.

In the neoclassical view, price stability is regarded as the foundation of good monetary policy (Goodfriend, 2002). A credible commitment to low inflation prevents inflation or deflation scares that are destabilising for output and prices. Price stability is a welfare maximising monetary policy that prevents fluctuations in employment and output. Quantity theory of money asserts that the level of price stability

is determined by changes in money supply and employment level (Totonchi, 2011). Wood (1994) however, emphasise that a desire for full employment leads to increased inflation. He also asserts that reductions in money supply and the components of demand and government expenditure lead to reduced inflation. Another important theory of Okun's law explains the relationship between unemployment and economic growth who stated inverse relationship between them. All these theoretical discussions regard inflation as the net result of macroeconomic phenomena.

In ASEAN countries, growth is identified as an increase in GDP. For the measurement of microeconomic growth, ASEAN economies focus on GDP as the best indicator. The International Monetary Fund's World Economic Outlook indicates that ASEAN economies have a combined total GDP of $2.4 trillion and the third highest growth rate after China and India (Brueckner, 2018).

The relationship between interest, unemployment and inflation rates and economic growth is reviewed in the following subsections.

2.1. Effect of Interest Rate on GDP

Interest is 'the rate at which payment is made by borrowers for the use of money' (Jelilov, Waziri, & Isik, 2016). Malkiel (2015) defines interest rate as a percentage of principal paid for a certain number of times per period for all periods during the total term of the loan or credit.

The relationship between interest rates and economic growth attracts the attention of many scholars, generating much empirical data. According to Menyah, Nazlioglu and Wolde-Rufael (2014) a fundamental theoretical basis states that real interest rates and GDP growth have an inverse relationship (Galindo & Méndez, 2014).

Interest rates affect an economy by the imbalance in capital cost that determines the savings-to-investment ratio (Jelilov et al., 2016). Many scholars (Habib, Mileva, & Stracca, 2017; Sergey, Alexandra, Pavel, & Elena, 2017; Tan & Tang, 2016) compile considerable empirical data linking interest rates to economic growth.

Using VECM and cointegration testing, Soon, Baharumshah and Shariff (2017) examine the dynamic linkage between real interest rates and GDP in ASEAN countries, and they find dynamic causality in the short run. Other studies (Adeniran, Yusuf, & Adeyemi, 2014; Jelilov & Maiga, 2016: Maiga, 2017) use cointegration techniques to confirm the long- and short-run relationship between the variables. According to Momeni, Behroozi and Anbavi (2014), interest rates can encourage or discourage economic growth. Reduction in interest rates likely stimulates an economy. Anaripour (2011) and Ramlan and Suhaimi (2017) also find an inverse relationship between growth and interest rates. Using the views expressed in previous studies as basis, we conclude that interest rates

greatly influence the economic growth of a country in the long run.

2.2. Effect of Unemployment Rate on GDP

Unemployment rate is the percentage of workers in the workforce without jobs. A high unemployment rate weakens an economy, together with increased interest and inflation rates (Layard, Layard, Nickell, & Jackman, 2005). Using self-reported well-being data in the USA, De Neve et al. (2018) and Deaton and Niman (2012) show that GDP falls and well-being declines when unemployment increases. Similarly, recession leads to increase in inflation and unemployment and decline in GDP over time (Clark & Oswald, 1994). An economy must grow continuously over time to prevent employment loss. Villaverde and Maza (2009) state that under Okun's law, unemployment is linked with GDP growth in the short run. In the economic development of ASEAN, the key issue is unemployment. High unemployment occurs when existing labour resources are used inefficiently. Onyekachi and Onyebuchi (2016) find a long-run inverse relationship between unemployment and GDP through cointegration and VECM analysis. In previous studies (Gordon, 2014; Park, Lee, & Kim, 2003; Wong, Ho, & Autio, 2005), an inverse relationship exists between increasing unemployment and GDP growth. Imran (2014) focuses on the importance of studies on unemployment and growth

(Rosenfeld & Levin, 2016; Soylu, Çakmak, & Okur, 2018). Unemployment has a negative effect on growth in every country worldwide. High unemployment causes economic activity to decline as public income decreases (Ştefănescu-Mihăilă, 2015). The present study concludes that unemployment greatly influences the economic growth of a country in the long run.

2.3. Effect of Inflation Rate on GDP

Inflation refers to an increase in the price of consumable goods and services over a time interval (Furtado, 2018). The relationship between inflation and GDP growth is a crucial issue. When inflation rate declines, GDP increases (Bruno & Easterly, 1998). The findings of Eggoh and Khan (2014) suggest that an economy must be sustained at a certain level to maintain steady inflation rate. In particular, rising inflation creates GDP growth, but economic growth can be hampered by high inflation. A low inflation rate has a positive relationship with economic growth and no inflationary impact on growth. When combined with other well-controlled factors, low inflation fosters growth (Afonso & Blanco Arana, 2018). However, high inflation rate has a negative effect on GDP growth. The level of inflation differs among countries because it depends on many factors. Every country has a threshold for inflation, in which the relationship between inflation and GDP shifts from a positive to a negative influence on

GDP growth (Tung & Thanh, 2015). In an investigation in the Malaysian context, Munir and Mansur (2009) find a threshold for inflation beyond which it is detrimental to growth and a nonlinear relationship between growth and inflation rates. According to Thanh (2015), a significant negative relationship exists between inflation and economic growth for ASEAN-5 countries when inflation rates are above a threshold of 7.84%, after which increasing inflation begins to hamper GDP growth. Studies (Bittencourt, Van Eyden, & Seleteng, 2015; Pradhan, Nishigaki, & Hall, 2017) investigate the inflation–growth relationship theoretically and empirically. An extensive debate occurs on the role of inflation in influencing growth (Eggoh & Khan, 2014). The present study concludes that inflation rates greatly influence economic growth in the long run.

From the review of previous studies, interest, unemployment and inflation rates have significant influence on GDP growth in ASEAN countries. This study aims to confirm this opinion by focusing on 23 years of panel data, from 1995 to 2018, for ASEAN-5 countries.

3. METHODOLOGY

Data are analysed for ASEAN-5 countries, namely, Malaysia, Singapore, Indonesia, Thailand and the Philippines. The secondary data used are from the World Bank database. The analyses conducted for measuring all variables include descriptive analysis, unit root test, Johansen cointegration test, Granger's test of causality, dynamic OLS (DOLS) and fully modified OLS (FMOLS). These techniques are used to measure the relationship between interest, unemployment and inflation rates and GDP growth.

3.1. Empirical Model and Econometric Method

The major objective of this study is to identify the relationship between interest, unemployment and inflation rates and GDP growth. An empirical model is used to examine the three relationships with GDP growth. Econometric modelling is performed to focus on the relationship between the dependent and independent variables.

3.1.1. Unit Root Test

Unit root test is an analytical technique for determining whether a time sequence of data is trend stationary. A data sequence over time must have no unit roots to avoid the possibility of false correlations. Unit root tests have low statistical power, and one possible test is not universally preferred over others.

Four different root test units, namely, Levin–Liu–Chu (LLC), augmented Dicker–Fuller (ADF), Phillips–Perron (PP) and Im–Pesaran–Shin (IPS), are implemented. LLC and IPS are used to complement PP and ADF tests that are widely used to obtain good results. We use the kernel method to select the optimum lag.

3.1.2. Johansen Cointegration Test

Economic variables such as interest, unemployment and inflation rates and GDP, are continuous and often modelled as the process of root unit. In previous studies (Bashir et al., 2011; Masoodsup, Aktan, & Chaudhary, 2009), the Johansen equation is replaced with a process that is appropriate to the near-root unit variables.

Sarno and Taylor (1998) modelled a nonstationary time series (Y_t) as a linear combination of other nonstationary time series ($X_{1,t}$, $X_{2,t},…X_{k,t}$).

$$Y_t = \beta_0 + \beta_1 X_{1,t} + \beta_2 X_{2,t} + \cdots + \beta_k X_{k,t} + \epsilon_t$$

A model is generally considered stationary and integrated if the stochastic trend, together with the residuals, is eliminated, providing a nonspurious result. In such cases, we can confirm the reliability of the model.

3.1.3. Granger's Test of Causality

Many models explore the relationship between variables but cannot establish the cause and effect. In 1969, Granger first developed a causality test which is a statistical hypothesis test for determining whether a time series is useful in forecasting another. The VAR twin factor is used to identify causal variables. This test defines the message by assuming two Xt and Yt series.

The residual panel integration test confirms that interest, unemployment and inflation rates and GDP have combined relationships. However, information about references cannot be obtained from an integrated relationship. In the case of a degree relationship based on the boundary test, a test of conditional Granger causality under a fault correction model must be conducted.

The Granger's test of causality is provided as follows:

$$\Delta GDP_{it} = \emptyset_0 + \sum_{i=1}^{p} \emptyset_{1i}\Delta INT_{t-1} + \sum_{i=1}^{p} \emptyset_{2i}\Delta UNEMP_{t-1} + \sum_{i=1}^{p} \emptyset_{3i}\Delta INF_{t-1} + \rho_3\epsilon_{t-1} + \mu_{3t} \quad (1)$$

$$\Delta INT_{it} = \emptyset_0 + \sum_{i=1}^{p} \emptyset_{1i}\Delta GDP_{t-1} + \sum_{i=1}^{p} \emptyset_{2i}\Delta UNEMP_{t-1} + \sum_{i=1}^{p} \emptyset_{3i}\Delta INF_{t-1} + \rho_3\epsilon_{t-1} + \mu_{3t} \quad (2)$$

$$\Delta UNEMP_{it} = \emptyset_0 + \sum_{i=1}^{p} \emptyset_{1i}\Delta GDP_{t-1} + \sum_{i=1}^{p} \emptyset_{2i}\Delta INT_{t-1} + \sum_{i=1}^{p} \emptyset_{3i}\Delta INF_{t-1} + + \rho_3\epsilon_{t-1} + \mu_{3t} \quad (3)$$

$$\Delta INF_{it} = \emptyset_0 + \sum_{i=1}^{p} \emptyset_{1i}\Delta GDP_{t-1} + \sum_{i=1}^{p} \emptyset_{2i}\Delta INT_{t-1} + \sum_{i=1}^{p} \emptyset_{3i}\Delta UNEMP_{t-1} + \rho_3\epsilon_{t-1} + \mu_{3t}$$

A hypothesis is established in accordance with the variables within the population and sample stated. Data collection involves empirical data and an econometric method. Secondary panel data are acquired from the World Bank database, and statistical software EViews 9 is used to analyse the data.

4. RESULTS

This section details the analysis of data from ASEAN-5 countries and the results.

4.1. Data and Empirical Analysis

The data obtained from the World Bank database (1995–2018) are examined for ASEAN-5 countries. This selection is made because of the availability of data for each country. The data are then combined for analysis using the statistical software EViews 9.

4.1.1. Descriptive Analysis

Panel data of 128 observations are summarised through descriptive analysis. The average GDP is $11,597.54, and the average interest rate is 4.293672%. Inflation has a mean value of 4.37%. The volatility of the constructs can be assessed through standard deviation. Table 1 shows that the GDP is a highly volatile component with a value of $15,176.86 compared with the less volatile unemployment with 2.563619%.

Table 1 shows that interest rate is skewed negatively, whereas GDP, unemployment rate and inflation rate are skewed positively. The data are abnormally distributed because they are nonparametric in nature. Therefore, unit root tests are used to establish the stationarity of the data.

Table 1. Statistics of the variables

	Unemployment Rate	*Interest Rate*	*Inflation Rate*	*GDP ($)*
Mean	4.4283	4.3336	4.3782	11597.5400
Median	3.7200	4.6239	3.1873	4431.2110
Maximum	10.9900	12.3224	58.3870	52600.6400
Minimum	0.5700	-24.6001	-0.8950	1506.5840
Std. Dev.	2.2436	4.4247	6.2143	15176.8600
Skewness	1.2139	-2.7110	6.4659	1.6266

4.1.2. Unit Root Test

Panel unit root tests are employed to determine structural breaks in levels, individual intercepts and trends and establish the stationarity of panel data variables. Unit root tests begin by testing the stationarity of four variables which are GDP and interest, unemployment and inflation rates via five testing models (PP, ADF, IPS, LLC and HADRI). Of all tests performed, only the HADRI test shows that the variables are stationary on the null hypothesis (Hadri, 2000). Table 2 lists the results for level, first difference and second difference.

The test results show that interest, unemployment, inflation and GDP are nonstationary panels and have unit root at a constant level, but the panel data series is stationary for most of the results at their first and second differences. The data from the first difference can be used for cointegration analysis.

4.1.3. Cointegration Test

After the data are found to be stationary at the first difference level, the testing is continued with cointegration analysis. If the probability is lower than 5%, the mean data are significant and the null hypothesis is rejected. Pedroni's method recommends the use of cointegration heterogeneous panels, such as panel-v and panel rho(r) (Phillips & Perron, 1988). The residual cointegration results are provided in Table 3. As suggested by Canarella, Miller and Pollard (2011) and Gregoriou, Kontonikas and Montagnoli (2006), only panel v-statistical tests are significant with a p-value of ≤ 0.05. Therefore, the null .

Table 2. Unit root test

Variables	LLC	IPS	ADF	1Q	HADRI
$\ln GDP_{2t}$	4.9924*	-0.9824*	19.0577	6.4914*	2.1062
$\Delta \ln GDP_{2t}$	-7.2032	-5.9684	48.9917	702.0670	21.6039
$\Delta\Delta \ln GDP_{2t}$	-19.1371	-15.8894	195.206	489.9840	0.3609*
$\ln INT2t$	-2.6794	-1.7698	19.2272	70.6475	1.21951*
$\Delta \ln INT2t$	-6.2970	-8.1153	65.3574	702.0670	17.2757
$\Delta\Delta \ln INT_{2t}$	-7.6278	-15.5314	143.3210	1316.9500	1.2329*
$\ln UNEMP2t$	-1.6006*	-0.3294*	10.6657	10.7477*	2.6808
$\Delta \ln UNEMP2t$	-3.8554	-3.7145	0.3842*	78.0492	2.1231
$\Delta\Delta \ln UNEMP2t$	-11.0660	-9.5471	69.7692	107.0640	2.5834
$\ln INF2t$	-2.8878	-1.8370	18.7640	48.0572	4.8547
$\Delta \ln INF2t$	-6.3754	-6.7580	54.8581	476.0360	11.4902
$\Delta\Delta \ln INF2t$	-11.5318	-12.5775	95.6510	92.1034	10.4838

Note: *, ** and *** denote the significance level of 5%. Δ stands for the first difference, and $\Delta\Delta$ stands for the second difference. PP is Phillips–Perron; ADF is the augmented Dicker–Fuller; IPS is Im–Pesaran–Shin; LLC is Levin–Liu–Chu. lnGDP2t, lnINT2t, lnUNEMP2t and lnINF2t denote the natural logarithms of GDP, interest rate, unemployment rate and inflation rate, respectively.

Table 3. Pedroni (2004) test of cointegration

Statistics	Within dimensions		Statistics	Between dimensions	
	statistic	probability		statistic	Probability
Panel v-Statistic	8.1929	0.000			
Panel rho-Statistic	1.7713	0.9617	Group rho-Statistic	2.5881	0.9952
Panel PP-Statistic	1.7540	0.9603	Group PP-Statistic	2.2376	0.9874
Panel ADF-Statistic	4.4930	1	Group ADF-Statistic	5.0699	1

Note: Probability with a significance level of ≤ 0.05.

Table 4. Johansen Fisher panel cointegration test

Hypothesised No. of CE(s)	Fisher Stat.* (from trace test)	Prob.	Fisher Stat.* (from max-Eigen test)	Prob.
None	19.81	0.0005	19.81	0.0005
At most 1	19.81	0.0005	19.81	0.0005
At most 2	37.62	0	32.22	0
At most 3	274.4	0	274.4	0

Note: Probability denotes the significance level at 5%.

hypothesis is accepted, that is, all variables are cointegrated signify-cantly. Other statistics is insignificant, which means this test cannot reject the null hypothesis and the data exhibit a non-cointegrated relationship (Khan et al., 2019).

Table 4 shows the unrestricted cointegration rank test (trace and maximum eigenvalue) with probabilities computed using asymptotic chi-square distribution (Khan et al., 2019). The result shows that the p-value is significant in Fisher trace statistics with a value of 0.0005 and the same value for Fisher max-Eigen statistics. This result confirms the significant cointegration between interest, unemployment and inflation rates and GDP.

4.1.4. Granger's Test of Causality

Granger's test of causality is applied to test the causal relationships between interest, unemployment and inflation rates and GDP. Table 5 shows the test results. The results based on F-statistics with a significance value of 0.005 indicate the significant bidirectional causality between the three variable sets of unemployment rate and GDP, inflation and GDP and unemployment rate and inflation. The three variable pairs have cause and effect relationships with a probability value of less than 0.05.

Table 5. Result of panel Granger's test of causality

Null hypothesis:	F-statistics (probability)	Observation
Interest rate does not Granger-cause GDP	2.0435 (0.0378)	A unidirectional relationship exists between interest rate and GDP.
GDP does not Granger-cause interest rate	1.6782 (0.1947)	
Unemployment rate does not Granger-cause GDP	5.2615 (0.0069)	A bidirectional relationship exists between unemployment rate and GDP.
GDP does not Granger-cause unemployment rate	7.5544 (0.0009)	
Inflation does not Granger-cause GDP	3.2967 (0.0420)	A bidirectional relationship exists between inflation and GDP.
GDP does not Granger-cause inflation	5.0848 (0.0083)	
Interest rate does not Granger-cause inflation	0.8665 (0.4264)	No relationship exists between interest rate and inflation.
Inflation does not Granger-cause interest rate	3.0819 (0.0543)	
Unemployment rate does not Granger-cause inflation	13.3068 (0.0001)	A bidirectional relationship exists between unemployment rate and inflation.
Inflation does not Granger-cause unemployment rate	4.7856 (0.0109)	
Unemployment rate does not Granger-cause interest rate	0.5050 (0.6059)	No relationship exists between unemployment rate and interest rate.
Interest rate does not Granger-cause unemployment rate	2.5075 (0.0896)	

Note: Probability denotes the significance level at 5%.

Independent unidirectional causality exists significantly between interest rate and GDP, suggesting that interest rate can affect GDP, but GDP cannot affect interest rate. This finding indicates that interest, unemployment and inflation rates all influence GDP.

4.1.5. FMOLS and DOLS Tests

This study examines the links between interest, unemployment and inflation rates with GDP by using estimators, such as FMOLS (long run) and DOLS (short run), as suggested by Khan et al. (2019). Deterministic trends are included for

Table 6. Model specifications (dependent variable: GDP)

FMOLS analysis			DOLS analysis		
Variable	Coefficient	t-Statistics	Variable	Coefficient	t-Statistics
Interest rate	-0.0528	-1.9313	Interest rate	0.2329	0.3705
Unemployment rate	-0.2996	-1.8664	Unemployment rate	-0.4819	-1.7696
Inflation	-0.1261	-2.5654	Inflation	-0.4591	-5.5309

Note. T-statistics has a significance level at $\leq 5\%$ and is reported in parentheses. Intercepts and linear trend are included in the regressions.

the long-run estimation, whereas trends are suppressed in the short-run estimation. The long-run result of FMOLS and the short-run result of DOLS estimated for this model are reported in Table 6. We use FMOLS as a robustness test (Panigrahi, 2017).

The FMOLS data show that the variables are significant with t-statistics above ±1.64. From the coefficient, a negative relationship exists for interest, unemployment and inflation rates. The DOLS data show that interest rate is insignificant because the t-statistics is more than 0.05, whereas unemployment and inflation rates are negatively related to each other. The results indicated that the p value for the relationship in long run is statistically significant with p value less than 0.05 evidencing strongly against the null hypothesis and accepting alternative hypothesis. However, from the DOLS findings it was noted that null hypothesis is accepted for inflation and GDP in the short run.

5. DISCUSSION

Analytical techniques, such as descriptive analysis, unit root tests, the Johansen cointegration test, the Granger causality test, FMOLS test and DOLS test, are used to reveal the relationships between interest, unemployment and inflation rates and GDP.

Unit root tests are performed to determine the stationarity of data. Data are stationary at the first-level difference. Data analysis is continued with the Johansen panel cointegration test to examine whether the variables are cointegrated. The test shows that we can reject null Fisher trace statistics and Fisher max-Eigen statistics, which means that the data are cointegrated. Granger's test of causality is performed to identify the direction of long-run causalities between interest, unemployment and inflation rates and GDP and the interactions between them. Significant correlations are determined between interest, unemployment and inflation rates and

GDP. This finding indicates that each variable affects GDP.

Regression analysis is performed via panel least square testing. The results show that interest and unemployment rates are individually insignificant at p-values of more than 0.05. That is, interest and unemployment rates individually do not influence GDP. By contrast, inflation has a negative effect on GDP. As the Prob (F-statistic) is less than 0.05 this independent variable influences the dependent variable which is GDP.

Moreover, the FMOLS (Pedroni, 2001) and single-equation DOLS estimator (Phillips & Loretan, 1991) are used to investigate long- and short-run relationships. The results from FMOLS and DOLS tests reveal short- and long-run relationships between the variables. Unemployment and inflation rates have a negative relationship in short and long run, whereas interest, unemployment and inflation rates have a negative relationship with GDP in the long run. Interest, unemployment and inflation rates thus have minimal effects on growth. However, economic growth can be improved by lowering interest, unemployment and inflation rates. Economists and policy makers should take appropriate micro- and macroeconomic measures to improve GDP. The study concludes that in ASEAN countries, interest, unemployment and inflation rates have significant long-term effects on GDP.

6. CONCLUSIONS AND IMPLICATIONS

This study examines the effects of interest, unemployment and inflation rates on GDP in ASEAN-5 countries. The findings confirm that all three influence GDP.

The findings can benefit governments managing economic issues and serve as evidence of the value of supporting research providing strong statistical evidence of factors influencing efficient economies. Sound policy decisions must be established to enhance economic stability and productivity.

This study has obvious limitations. A sample size of 120 observations is considered a low number for policy analysis, and the two major financial crises during the data period (1995–2018) may influence the output of this study.

Future research should include other microeconomic factors, such as market structure and consumer purchasing power. Researchers should also consider macroeconomic factors, such as exchange rates, fiscal deficits and money supply which are relevant to economic growth.

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