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THE NEXUS BETWEEN INFLATION, TRADE, AND FDI WITH ECONOMIC SUSTAINABILITY IN MALAYSIA

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Abstract

The Adjusted Net Saving (ANS) rate indicator was introduced by the World Bank in the early 1990s to measure the sustainable development path of a country. Since then, the indicator has been widely recognized for its comprehensive economic sustainability measurement. This paper explored the nexus between inflation rate, international trade and foreign direct investment (FDI) with the economic sustainability path in Malaysia from 1987 to 2018. We employed the autoregressive distributed lag (ARDL) model based on the Bounds test approach to identify the connection among the listed variables. The result findings showed that in the long run, trade and FDI have a significant positive impact on the ANS rate while the inflation rate, however, presented otherwise. Following the cointegrating short-run model, the error correction term indicates a highly significant negative form which confirms the correct speed of adjustment towards the equilibrium. As the Coronavirus pandemic is currently affecting the global economy, this study further recommends that investment and international trade policies must be meticulously be reformulated to ensure sustained development in an emerging economy like Malaysia.

Keywords: ANS Rate, Sustainable Development, Malaysia

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Introduction

For many decades, policymakers across nations have been utilising the Gross National Product (GNP) as the indicator to measure economic progress. However, the GNP had been criticised for it only calculates the final output and neglect the by-effects of the measurement. The monetary calculation on the economic externalities, such as air and water pollution, greenhouse gas emission and land degradation were not included in the GNP accounting. By the early 1980s, the debates on the issues on how these externalities would affect the social well-being of generations have finally become the central concern among policymakers. The word "sustainable development" (SD) has become popular since making its first appearance in the report by Brundtland et al. (1987). The term sustainable development originally came from the idea of conservation that was presented in *The International Union for Conservation of Nature* (IUCN) meeting (IUCN, 1980). The concept of sustainability upholds the fundamental idea of conserving the nature and environment to ensure capacity building and maintain the social well-being of humankind. The efforts on nature and environmental conservation have eventually led to further introduce the concept of sustainability in economic development. Sustainable development has its definition as a "*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*". The concept was being firstly proposed by Solow (1974), which extend to what an economy should maintain, a growth embedded with comprehensive development that bequests their wealth to the future generations. A general sustainable development concept encompasses a complex means of societal development from the three main perspectives; economic, social, and ecological dimensions. The Brundtland Report (Brundtland et al., 1987) has introduced another perspective concerning resources, in the sense to replace the concept of GNP with the "*green* national product". This vision has the effect of reducing inequality in terms of equitable return on vital resources. It hypothesized that sustainable development can also be translated into economic sustainability and act as a reciprocal means of investment made from natural resources

and environmental rents.

Adjusted Net Saving rate as the Indicator for Economic Sustainability

The sustainable development concept requires a comprehensive definition of progress from the perspective of economic, social and environmental aspects. Therefore, efforts have been taken to identify and measure sustainable development. It was often argued that sustainable development is difficult to measure; hence, a single indicator to represent sustainability is said to be impossible. Some of the indicators may ignore the sustainability aspect of environmental protection while in focus to fulfil the social and economic conditions, while some others may be too focused on environmental protection as the opposite. In the early 1990s, the World Bank finally introduced the calculation of the Adjusted Net Saving (ANS) rate. Derived from the fundamental theoretical framework presented by Solow (1956), this indicator extends the economic growth model. The ANS measures the economically sustainable development path of a country by obtaining the level of their genuine saving. It was derived from the net national saving - NNS (national saving minus with consumption of fixed capital) and is then added with public expenditures on education to reflect the human capital development. The calculation is then deduced with the depletion of minerals and energy, net forest depletion and also the damage cost from the emission of carbon dioxide (CO_2). The calculation of ANS rate indicator as proposed by the World Bank is given as:

$$ANS = (NNS + ED - \sum R_{n,i} - ENV)/GNI \quad \text{(Eq. 1)}$$

Where ANS represents the Adjusted Net Saving, NNS is the Net National Saving (obtained from the Gross National Saving minus with consumption on fixed capital), ED represents the public sector's expenditure on education, while $\sum R_{n.i}$ are the sums of natural resources depletion for country *i* (according to World Bank, these include minerals depletion, net forest depletion, and energy depletion). ENV would represent the total cost of damages due to carbon dioxide (CO_2) emissions (mainly from fossil fuel use and cement manufacture). The ANS rate is normally expressed as a percentage of Gross National Income (GNI) and is measured annually. The database of ANS rates for countries worldwide can be obtained from the World Development Indicator (WDI) report by the World Bank. A persistent positive sign of the ANS rate would indicate that a country is on a sustainable development path and would be favoured by most economies. Conversely, a negative sign of the ANS rate would be alarming to some as it indicates that the economy is depleting either of its natural resources or is facing a rising cost of damages from the CO_2 emission. A greater percentage of ANS rate is most preferred due to the nature of its measurement which highlights the investment made on the human capital, fabricated resources (that would add up to the gross savings).

Economic Growth and Sustainable Development Path in Malaysia

Saving has been recognized as a vital aspect of economic development. The concept of saving has appeared in the circular flow of income model as presented by Keynes (1936). Savings are the amount of income left after final consumption and a form of leakages from households to the financial institutions. The level of savings in the economy would be the core aspect to determine the level of investment made possible to the firms. Thus, without adequate savings, the optimum level of investment to stimulate economic growth would not be achieved. In the pursuit of higher economic growth, it is realized that maintaining a higher level of national savings would lead to a greater level of investment. Therefore, no country will be able to escape the state of low-level subsistence without creating a surplus in investment. Measuring economic growth using the standard national accounts (i.e. the GNP) has been argued since it does not account for the depletion of natural resources and the pollution damages. ANS rate overcomes these issues by accounting for the change in the value of specified assets (namely the natural resources including the environmental elements).

Malaysia as among the emerging economies and currently is categorized in the upper-middle-income countries, have been performing well in its economic progress. However, from the WDI report, the trend of the ANS rate in Malaysia has indicated some important points to be discussed. As shown in Figure 1, the overall trend of the ANS rate in Malaysia for 30 years from 1987 to 2018 had been volatile. Beginning the year 2011, the ANS rate had gradually fallen until it reached the lowest rate in 2018. This

indicates that the sustainable development path of Malaysia has been declining in recent years and this should be an alarming situation that needs to be highlighted. Even though the economic progress in Malaysia (GNP) showed a prominent increase over the stated period, this achievement should be debated as the externalities from pursuing a higher national income has not been accounted for.

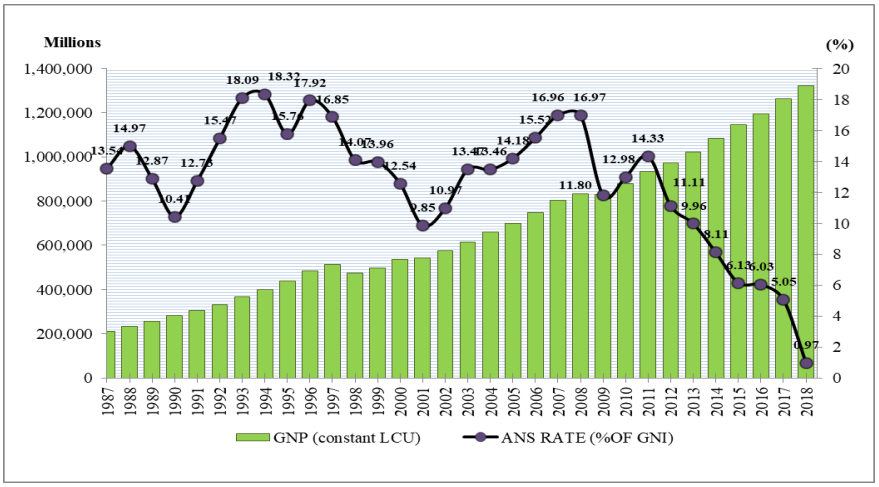

Figure 1. Adjusted Net Saving (ANS) Rate & Gross National Product (GNP), Malaysia (1987 – 2018)
Source: World Development Indicator Report (WDI), World Bank (various years)
GNP is measured in constant local currency unit (LCU): Malaysian Ringgit (MYR)

Scope and Objectives of the Study

Malaysia has pursued a consistently high economic growth with the GNP at around MYR1.4 trillion in 2018. However, there is a sharp decline in the ANS rate in these few years, with the lowest was less than 1% of GNP in 2018. The lower value of the ANS rate means that the Malaysian economy had been either, depleting its natural resources and increased in damage cost from CO_2 emission, or been decreasing the reinvestment of capital rents. We took attention to this situation for Malaysia as it showed a contrary trend between economic progress and the sustainable development path. We further investigate some factors that contribute towards economic progress and relate them to the sustainable development path of Malaysia. The economic growth which is illustrated by the increase in GNP is generally caused by the increase in single or multiple components of aggregate demand - comprising of the consumption made by households, investment by firms, spending made by the public sector and net exports of the foreign sector. By looking at the elements in aggregate demand, it may be possible to connect the link between them with economic growth and its extended form – the economically sustainable development path. To do this, we presumed that factors that influence economic growth may also influence sustainable development paths. Hence, our objective for this study is to analyse the possible factors which may have an influence on the fluctuating trend of economic sustainability in Malaysia for the period of 1987 to 2018.

Literature Review

Studies on the determinants of ANS embarked from the previous literature on economic growth and national saving. ANS was an extended version of saving; therefore researchers suggest that theoretically, any factors that influence savings might also have an impact on sustainability. Barbier et al. (1990) addressed issues that relate resource abundance with lower economic growth and less sustainability. Similar results were found in Atkinson and Hamilton (2003) which concluded that weak-resource management and unreliable institutional policy influence sustainable development path. A famous factor that influences growth and savings – the population; has appeared in the analyses conducted by Hamilton (2000) and Arrow et al. (2003) where both studies analyzed the impact of a growing population on ANS. A study by Hess (2010) analyzed several factors that might affect the ANS rate. While adopting several countries with varying levels of income, it was found that the Human Development Index (HDI), the share of natural capital, population structure variables and financial development have a significant impact on the sustainable development path of these countries. The studies have set some benchmarks for other studies to follow the methodologies afterwards. A study by

Boos (2011) examined some exogenous factors to ANS - armed conflicts, natural resources extraction and population growth. These variables were found to harm sustainable development.

A different approach to understand factors relating *to per capita sustainability* was conducted by Carbonnier and Wagnera (2012). The study examined the dynamic relationship between resource extraction, institutional quality, and armed violence with per capita sustainability. Another recent study by Koirala and Pradhan (2019), presented a finding which suggested that inflation rate, financial development, per capita income and natural resources rents have mixed significant impacts on ANS rate in selected 12 Asian countries. In summary, the above-listed literature generally made on panel country analysis – that the observations were pooled together in the model estimation process. For a country-specific analysis, Jamal et al. (2012) and Jamal et al. (2014) each provided distinctive studies on the comprehensive measurement of ANS and its gap with economic growth, respectively. Due to the lack of focus for a country-specific analysis, a study by Faridah et al. (2015) presented an analysis on the determinants of ANS in Malaysia. The study has found that inflation, financial development, income growth and natural resources extraction have a significant impact on the sustainable development path (ANS rate) in Malaysia; both in the short-run and long run. Another recent finding on specific country analysis is from Bağci and Gökirmak (2020) which presented evidence that foreign direct investment (FDI) and trade openness have a meaningful impact on the Turkish economy.

Research Methodology and Data Analysis

We initially hypothesized that factors affecting economic growth may also influence the sustainable development path. Any increase from one or several components of aggregate demand (consumption, investment, government spending or net exports) would raise national income, and lead to economic growth. Based on the previous literature, factors like inflation rate, trade and foreign direct investment had greatly influenced the economic progress of a nation. Therefore, to investigate the nexus among the consumption and investment variable with the economic sustainability path, a series of time-series analyses were employed.

Variables Description

A. Dependent variable – Adjusted Net Saving Rate (ANSR)

ANSR is the main variable of interest for this study. We used ANSR as the proxy for economic sustainability. ANS rate was introduced as a weak indicator of sustainable development path; as the indicator recommends that an economy may sustain its wealth and level of consumption as long as the level of saving is sufficient to assure the replacement of depletion in natural capital or environmental degradation. ANSR is expressed in the form of percentage from the Gross National Income - GNI (as similar to GNP). The sample period covers from 1987 to 2018 and is measured on yearly basis.

B. Independent Variables

The selections of hypothesized variables that may have an impact on ANSR were mainly based on the economic growth and the ANS rate literature. The potential variables were chosen as their previous reputation in affecting the economic growth and sustainable development trends in various countries.

i. Inflation Rate (INFR*)*

The inflation rate reflects the changes in the consumer price index (CPI) over the years. We followed the hypothesis by Farhan and Akram (2011) which highlights its significant relationship with economic growth. Also, from previous findings from Faridah et al. (2015), the inflation rate exhibited a significant determinant for ANS when the analysis took combined with other factors like per capita income, financial development and minerals export share. Data on inflation rate is extracted from the WDI, proxied as the CPI which is measured annually.

ii. Trade openness (TRD)

We defined trade openness as the orientation of a country's economy in the context of international trade. According to WDI, the degree of trade openness is measured by the actual size of registered imports and exports of a nation. We extract data for trade openness from the WDI statistics for Malaysia, which

is the sum of exports and imports of goods and services measured as a share of gross domestic product. The indicator is measured yearly on a percentage basis.

iii. Foreign Direct Investment (FDIV)

The foreign direct investment (FDIV) for this study are the net inflows of investment to acquire a lasting management interest (10 per cent or more of voting stock) in an enterprise operating in an economy other than that of the investor (WDI). It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors and is divided by GDP. The series of FDIV is expressed as a percentage of GDP and is also measured on yearly basis.

Model Specification

For this study, the dependent variable is the adjusted net saving rate (ANSR). Therefore, it is hypothesized that ANSR is a function of certain factors which are the inflation rate, trade and foreign direct investment. The ANS rate model for sustainable development path in Malaysia is proposed as:-

$$ANSR: f(INFR, TRD, FDIV) \qquad \text{(Eq. 2)}$$

Eq. 2 is a representative function of the adjusted net saving rate (ANSR) with its possible determinants – inflation rate (INFR), trade (TRD) and the net inflow of foreign investment (FDIV). We then reparameterized Eq. 2 to formulate the following empirical model (Eq. 3) to capture the dynamic effect by including a time trend variable:-

$$ANSR = \beta_0 + \beta_1 INFR_t + \beta_2 TRD_t + \beta_3 FDIV_t + \varepsilon_t \qquad \text{(Eq. 3)}$$

Whereby, $\beta_0, \beta_1, \beta_2, \beta_3 > 0$ and ε_t is the error term of time, *t*.

Estimation method

To examine the connection between the presumed variables with the dependent variable (ANSR), we employed the econometrical technique namely the Autoregressive Distributed Lag (ARDL) bounds testing procedure. The ARDL-bounds testing method was developed by Pesaran et al. (1996) and has been praised for its simplicity and advantages over conventional cointegration such as by Engle and Granger (1987) and Johansen and Juselius (1990). The method is useful to estimate any empirical model which consists of variables with mixed order of integration. In addition, it can also be considered to be more dynamic and able to capture the time effect even in small sample sizes as compared to the traditional estimation techniques which normally requires a large sample or greater frequencies.

Following Pesaran et al. (2001), we generalized the (Eq. 3) to proceed with the ARDL approach to cointegration, by including the estimation of the Unrestricted Error Correction Model (UECM) Bound Form which consists of both short-run and long-run dynamics. Therefore, to model the nexus between sustainable development path with the inflation rate, trade and FDI, the following equation is specified:-

$$\Delta ANSR = c_0 + \delta_1 ANSR_{t-1} + \delta_2 INFR_{t-1} + \delta_3 TRD_{t-1} + \delta_4 FDIV_{t-1} + \sum_{i=1}^{p} \varphi_i \Delta ANSR_{t=i} + \sum_{i=0}^{p} \overline{\omega}_i \Delta INFR_{t=i} + \sum_{i=0}^{p} \phi_i \Delta TRD_{t=i} + \sum_{i=0}^{p} \lambda_i \Delta FDIV_{t=i} + \upsilon_t \qquad \text{(Eq. 4)}$$

Where δ_i a long-run coefficient; c_0 is the intercept; Δ is the first difference of variable, p is the optimum lag order and υ_t is the white-noise disturbance term.

The first procedure of estimating an ARDL model is to perform the Bounds test procedure on Eq. 4 using the Ordinary Least Square (OLS) method to find the long-run cointegration among the variables.

We computed the F-statistic Test to identify the existence of long-run cointegration, based on the critical values obtained from Narayan and Saud (2005) which specifically tailored for a small sample size of 30 to 80 observations. The null hypothesis of no long-run cointegration among the variables is H_0: $\delta_1=\delta_2=\delta_3=\delta_4=0$. On the other hand, the alternative hypothesis of long-run cointegration is H_1: $\delta_1\neq\delta_2\neq\delta_3\neq\delta_4\neq 0$. The F-statistics value that is greater than the upper bound value would indicate that the null hypothesis can be rejected and the smaller value than lower bound critical values would indicate otherwise.

Result and Discussion

Unit Root Test

Our analyses begin with examining the nature of stationarity of the variables – ANSR, INFR, TRD and FDIV. Stationarity means that the variables do not contain a unit root at a certain order of integration. We performed the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) unit root test to identify whether each of the employed variables is stationary at their levels, I(0), stationary at the first difference, I(1) or the second difference, I(2). One of the pre-condition of the ARDL method is the analysis would be meaningful on variables with mixed order of integration, I(0) or I(1) but not with variables that have stationarity of I(2), because estimation with the I(2) variables would produce a spurious regression (Pesaran et al., 2001). Therefore, we conducted the two conventional unit root tests on the hypothesized variables to ensure the absence of any variables that are stationary at second differenced. The results for the unit root test are given in Table 1. The ADF test for unit root's lag length selection was based on the Schwarz Information Criterion (SIC) while the PP test's bandwidth selection is automatically selected based on Newey-West bandwidth. The conventional unit root tests presented the result that ANSR and FDIV are stationary at their levels, while INFR and TRD are stationary at their first difference. The mixed decision of the variables' order of integration, I(0) and I(1) justified the option to apply the ARDL model. Since we have confirmed that none of the variables is integrated at their second order, I(2), we then proceed to the next step to find the existence of a long-run relationship between sustainable development and the other variables.

Table 1. Unit Root Test Result (test equation with trend and intercept included)

	ADF		PP		Decision
	Level (y_t)	First Difference (Δy_t)	Level (y_t)	First Difference (Δy_t)	
ANSR	-1.067 (0)	-4.807 (0) ***	-1.067 [0]	-4.752 [2]***	I(1)
INF	-5.507 (0)***	-6.855 (1) ***	-5.524 [2]***	-10.130 [3]***	I(0)
TRD	-1.904 (0)	-4.453 (0)***	-3.174 [28]	-5.328 [29]***	I(1)
FDIV	-3.621 (0)***	-5.114 (1)***	-3.568 [2]***	-6.309 [3]***	I(0)

[1]Number in parenthesis for ADF-test indicates lag order selection, based on Schwarz Info Criterion (SIC)
[2](***) indicates a 1% level of significance
[3]Lag selection for ADF test is based on Schwarz Info Criterion (SIC)
[4]Spectral estimation method in PP test is made default using Bartlett-Kernel and bandwidth selection [ ] are automatically selected based on Newey-West bandwidth
[5]Both tests are conducted using the Eviews package ver. 10.0

Bounds Test for Cointegration

The first step of ARDL model estimation is to examine the presence of long-run relationships among the ANSR, INFR, TRD and FDIV. We used the method of bounds test for cointegration as developed by Pesaran et al. (1996). From the bounds test results presented in Table 2, the value of F-statistics (7.23) was found to be higher than the upper bound value taken from the tabulated critical bounds as proposed by Narayan and Saud (2005). The empirical findings, therefore, led to the conclusion that there is a long-run connection between the adjusted net saving rate, inflation rate, trade and foreign direct investment.

Table 2. ARDL Bounds test for Cointegration

F-statistics	Existence of Long-run cointegration	Critical value	Lower bound	Upper bound

F_{ANSR} (ANSR | INFR.TRD.FDI)			1%	3.65	4.66
Max lag: 4 (4,4)	**7.225*** **	**YES**	5%	2.79	3.67
Lag order: (4,4,4,4)			10%	2.37	3.2

Notes:
1. Number of parameters estimated, k = 3
2. Tabulated number of observations, n = 30 as in Narayan & Saud (2005)
3. *** denotes significance at 1% level, with the rejection of the null hypothesis of NO long-run cointegration
4. Lag order's selection is automatically based on Akaike Information Criterion (AIC)
5. Critical bound values are from Narayan and Saud (2005) based on Case III: Unrestricted intercept and no trend

Following the result of the bounds test that showed the existence of long-run cointegration among the variables, the subsequent step is to estimate the long-run and short-run coefficients of the ARDL model. The results are presented in Table 3. From the long-run estimation output, we can summarise that trade and FDI showed a significant positive impact on adjusted net saving rate. The long-run model is therefore given as:

$$ANSR = -28.363*** - 7.817INFR + 0.150TRD*** + 4.803FDIV*** \quad \text{(Eq. 5)}$$

In the long run, the ANSR would increase by 0.15% due to the 1% increase in trade; while a 1% increase in FDIV would lead to an estimated increase of ANSR by 4%. The findings further suggest that the importance of trade and foreign investment to the domestic economy are crucial to ensure the growth and sustainability of an economy. Next, our estimation focused on the short-run elasticities estimation, as also exhibited in Table 3. Our computation presented mixed evidence of a short-run relationship between the included variables. In the short run, the lag-1 of INFR has a weak significant positive effect on ANSR. The finding suggests that INFR is a weak indicator to influence the level of sustainable development path, both in the short and long run. The past values of ANSR (t-1 and t-3) also showed an opposite significant direction against the present level of ANSR. The results illustrate that the lagged 1 of ANSR provides a negative effect on the current ANSR but the lagged-3 years of ANSR would promote a positive and strong significant impact on the future ANSR.

This condition has brought some new insights which relate to the recent trends of Malaysia's sustainable development path. Trade (TRD) showed significant negative effects on ANSR from its lagged-2 and 3 values but there was no evidence of a relationship between the present values (lagged-0) of TRD with the ANSR. Therefore, we can justify that trade activity will take some period of between 2 to 3 years to effectively influence sustainable development. For the foreign investment variable (FDIV), the results exhibited that only lagged-3 years of its values could influence the ANSR. The ECT (-1) value represents the variations of the sustainable development path (ANSR) in the short run that were explained by the variables presented in the model (INFR, TRD and FDIV). The value reflects the speed of adjustment towards the long-run equilibrium. Our finding for this regression model implies that with the ECT (-1) value of -0.58, the speed of adjustment to equilibrium aftershock is high. At a strong level of significance (0.01 level), approximately 58% of disequilibria from the preceding year's shock is estimated to converge back to the long-run equilibrium in the current year. For the model criteria or goodness-of-fit for the ARDL regression model from Equation 4, the Wald-statistics value indicates that the underlying hypotheses fit the model very well with a strong significance at the 1% level. The regression model also passed all the diagnostic tests conducted; such as confirmation of no serial correlation, none existence of heteroscedasticity and normality of the residuals.

Table 3. ARDL Estimation Results

Dependent variable: ANSR			
Panel A: ARDL Long-run Elasticities			
Constant	INFR	TRD	FDIV
-28.363 (4.154) ***	-1.817 (-1.363)	0.150 (5.592)***	4.803 (3.965)***
[6.827]	[1.333]	[0.0269]	[1.211]

Panel B: Short-run Elasticities (ECM representations of ARDL model)				
Lag Order	**ΔANSR**	**ΔINFR**	**ΔTRD**	**ΔFDIV**

0	-	-0.176(-1.284) [0.137]	-0.022(-1.540) [0.014]	1.256 (10.134) *** [0.123]
1	-0.411 (-2.016) ** [0.148]	0.469 (2.309) ** [0.203]	-0.125 (-5.134) *** [0.024]	-0.102(-0.491) [0.209]
2	0.254 (1.101) [0.140]	0.079(0.417) [0.190]	-0.095 (-4.228) *** [0.022]	-0.139(-3.453) [0.157]
3	0.653 (2.701) *** [0.173]	-0.200(-1.247) [0.161]	-0.025(-1.445) [0.017]	0.387 (-7.361) *** [0.078]
4	-	-	-	-
ECT (-1)	-0.576 (-7.361) *** [0.078]			

1. **, *** denotes 10%, and 5% level of significance respectively.
2. T-statistics are depicted in parenthesis.
3. The number in [ ] indicates the standard error.
4. Estimated long-run coefficients using ARDL approach, ARDL (4,4,4,4) selected based on Akaike Info Criterion (Dependent variable: ANSR)
5. Error Correction Model (ECM) representation based on ARDL (4,4,4,4) selected based on Akaike Info Criterion (Dependent variable: ANSR)

Model Criteria/Goodness-of-Fit
R-squared = 0.990; Adj. R-squared = 0.968
Wald F-statistics = 43.390***; DW-Statistics = 2.397
Diagnostic Tests (Numbers in parenthesis are χ^2 probability value)
LM=0.597 (0.11); H_0: There is no serial correlation LM: Serial Correlation (Breusch-Godfrey Serial Correlation LM Test)
White Heteroscedasticity (F-statistic) =1.052(0.499, 0.395); H_0: There is no heteroscedasticity Heteroscedasticity Test is from Breusch-Pagan-Godfrey Test
JB=0.039(0.980); H_0: The residuals are normally distributed JB: Jarque-Bera Normality Test

Subsequently, we conducted the stability test of the long-run coefficients by the short-run dynamics. From the ECM estimation, the cumulative sum of recursive residuals (CUSUM) and CUSUM of square (CUSUMSQ) tests was applied based on the OLS representation of the ECM. Figure 2 depicts the graphical plots of both CUSUM and CUSUMSQ for the ARDL model. The CUSUM and CUSUMSQ statistics lies within the lower and upper bound of the tabulated 5% confidence interval of parameter stability, hence indicates the absence of parameter instabilities in our estimated model.

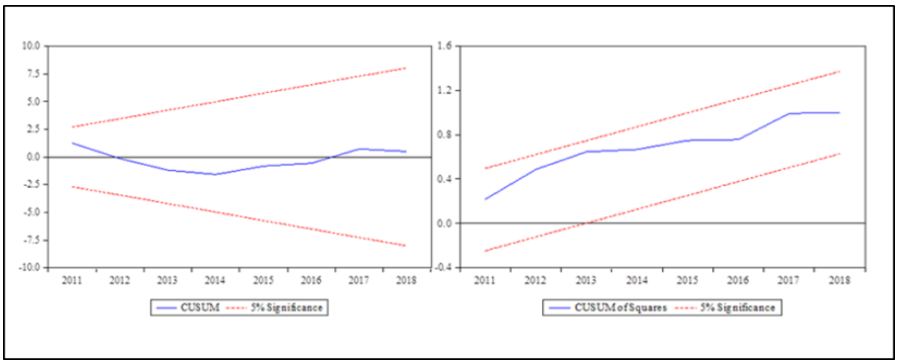

Figure 2. Plots of CUSUM and CUSUMSQ for ARDL Model of ANSR

Conclusion

The findings from our estimation on the ARDL model of economic sustainability in Malaysia (represented by the ANS rate) provided mixed evidence of cointegration between inflation rate, trade and foreign direct investment. According to the short and long-run cointegrating estimates, both lagged values of trade and foreign direct investment inflows exhibited a significant negative and positive impact on the adjusted net saving rate, respectively. The findings are similar to previous literature which

highlighted the evidence of the strong relationship of both variables in the economic growth model. In relative, the inflation rate showed no evidence of cointegration with the ANS rate in both short-run and long-run estimates. The result implied that changes in price level did not affect the economic sustainability path in Malaysia during the 30 years of 1987 to 2018. The reason behind this perhaps from the perspective that changes in CPI may take a longer time to effectively impact sustainable development rather than its direct impact on economic growth. Now that the global business market has been badly hit since the coronavirus outbreak in 2019, proactive approaches must be taken to regain back the economy once the pandemic is over. Government across nations should prioritise investment activities to regain their economic compositions, as well as to maintain the well-being of people. Building confidence in foreign investors would be an important measure for an economic rebound. FDI inflows are found to be the prominent factor in boosting the economy that would also help to secure employment opportunities. We also recommend that policymakers reformulate an effective investment policy that is to encourage more active participation from the private sector. Collaborations between the public and private sectors may promote a greater volume of trade activities. A high volume of trade increases competition and lead to lower prices, which bring benefits to the consumers. A rise in purchasing power due to lower prices would bring a rise in consumer surplus; hence, the economic growth and sustainability could be well-maintained.

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