

CONTRIBUTION OF SMALL AND MEDIUM ENTERPRISES (SMES) TOWARDS MALAYSIAN ECONOMIC GROWTH: AN EMPIRICAL STUDY

Ashish Kumar Sana^{1*}, Sandeep Poddar² & Biswajit Paul³

¹Department of Commerce, University of Calcutta, India

²Lincoln University College, Malaysia

³Department of Commerce, University of Gour Banga, India

*Corresponding Author's Email: cu.ashis@gmail.com

ABSTRACT

The economic growth in Malaysia was contributed by SME's cannot be denied. Few other conceptual studies are found on the relationship between the performance of SME sector and growth of Malaysian economy. This paper attempts to review the importance of SMEs in growth of Malaysia. To investigate the presence of relationship among the selected variables and their dynamics, methodology suggested to apply the ARDL bound test approach of cointegration followed by the ECM-ARDL model. Secondary data were collected from the World Bank Database (WDI) for the period from 1964 to 2018. This study recommended that there is a strong contribution of SME sector in Malaysian economic growth based on productivity, export, and savings (investment). A wide difference is seen in global trends in classifying the SMEs across jurisdictions and depends upon the government policies of the country.

Keywords: Economic Growth, Malaysian Economy, SMEs, ARDL, Government Policies

INTRODUCTION

Small and Medium Enterprises (SMEs) play a vital role in most economies, particularly in developing countries. As per the World Bank SME Finance Report (Beck, Demirgüç-Kunt & Maksimovic, 2008), it represents about 90% of businesses and more than 50% of employment worldwide. Formal SMEs contribute up to 40% of national income (GDP) in emerging economies. These numbers are significantly higher when informal SMEs are included. SMEs, which often form the backbone of the middle class, are important for social stability, innovation, inclusive growth, and poverty alleviation.

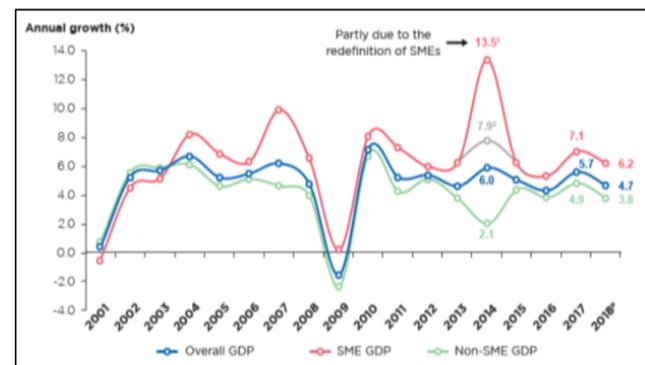
In terms of economic contribution, Malaysian SMEs contributed 38.3% to overall GDP, 17.3% to total exports and 66.2% to total employment during the year (SME Annual Report, 2018-19) and 98.5% of the business establishments are SMEs. SME sector contributes 38.3% of Malaysia's GDP in 2018 (Department of Statistics of Malaysia, 2018).

It is also found that GDP at constant 2015 prices showed the SME-GDP grew at an average annual growth rate of 6.2% in the period of 2016 – 2018 which is higher than the average annual growth rate of overall GDP of 5.0%. The same trend can be observed since 2004, of which the GDP growth of SMEs has consistently outperformed the overall economic growth. The contribution of SMEs to the overall GDP

has increased from 37.0% in 2015 to 38.3% in 2018 (SME Annual Report 2018-19).

In terms of sectoral performance, it is observed that among all the sectors a remarkable contribution is seen from the service sector to the GDP of Malaysia. The same is shown in figure 1 below:

Figure 1: SME GDP, Non-SME GDP, and Overall GDP Growth



1Growth based on 2014 New SME Definition versus 2013 Old SME Definition

2Growth based on 2014 New SME definition versus 2013 New SME Definition

p: preliminary

Source: Department of Statistics, Malaysia, and SME Corporation Malaysia

From the above figure, it is observed that there is an apparent relation between SME sector's performance and growth of Malaysian economy. In this paper, an

attempt has been made to investigate how the SME sector contributes to the entire Malaysian economy throughout the study period (1964-2018). This study has considered some variables of new focus and by that policy measure can be taken to boost up the Malaysian SME sector.

LITERATURE REVIEW

Most of the available literature is descriptive in nature

presenting the overall SME sector of Malaysia over time. So far, a very few studies on the contribution of SME as well as MSME sector in Malaysian economy have been conducted. Out of those literatures, very few have been mentioned in this study. To identify the research gap of the study, an attempt has been made to review some of them. Review of literature has been categorized as under:

Literature on Malaysian Economy and SMEs consulted for this study

Sl. No.	Area of Work	Author(s) / Researcher(s)
1.	Malaysian Economy	Athukorala, (2010); Mulok <i>et al.</i> , (2011); Tan, (2014); Kasuma & Hummida (2017).
2.	SMEs of Malaysia	Muhammad <i>et al.</i> , (2009); Khalique <i>et al.</i> , (2011); Moorthy <i>et al.</i> , (2012); Mi & Baharun (2013); Rahman <i>et al.</i> , (2016); Chin & Lim (2018); Razak, Abdullah & Ersoy (2018).
3.	Malaysian Economy and SMEs	Saleh & Ndubisi (2006); Hashim (2007); Hoq, Ha & Said (2009); Chelliah, Sulaiman & Yusoff (2010); Tehseen (2016).
4.	Other aspects	Othman, Sulaiman & Zainudin (2008); Harif, Osman & Hoe (2010); Yahya, Othman & Shamsuri (2012); Kruja (2013); Narayanan & Hosseini (2014); Darus, Yunus & Rahman (2017); Gade (2018); Boateng <i>et al.</i> , (2019).

Malaysian Economy

Athukorala (2010) examined macroeconomic experiences and policies of Malaysia with emphasis on the three major crisis episodes during the post-independence era. It probed the nature and origin of the macroeconomic shocks and the institutional and ideological influences on policy formulation and the responses of economic agents, placing the three episodes in their historical, economic, and political contexts. He argued that fiscal profligacy was the root cause of Malaysia's vulnerability to the 'commodity shock' in the mid-1980s and the Asian Financial Crisis (1997-8). The impact of the global financial crisis of 2008 on the Malaysian economy would have been much more severe if it were not for the macroeconomic discipline imposed on the Malaysian authorities by the Asian Financial Crisis. Mulok *et al.*, (2011) studied the relationship between population growth and economic growth of Malaysia as a case study. They did not support the existence of a long-run relationship between the economic growth and the population growth. It was concluded that there is no causal relationship between economic growth and population growth. Tan, (2014) reviewed the economic growth and development experience of Malaysia since the early independence years against the major economic policy initiatives. She tried to link those policy initiatives to the various economic growth theories. Kasuma & Hummida (2017) pointed out the factors behind the fluctuation in economic growth in varying degrees. In

this study, they selected four macroeconomic variables, namely oil prices, foreign direct investment (FDI), exports, and inflation to test their relationship and impact on the economic growth of Malaysia, as measured using Gross Domestic Product (GDP). They revealed that there is a long-run impact among them and while oil prices, foreign direct investment, and export are significant to influence economic growth, there was no indication of causality between inflation on any of the variables.

SMEs of Malaysia

Muhammad *et al.*, (2009) found that the current trend of economic growth and the rapid industrial development has made Malaysia as one of the most open economies in the world. In conjunction with the Ninth Malaysian Plan (2006-2010), the government is devoting and designing the SME development plan to assist the SMEs to meet the new business challenges in the competitive global business environment. The focus of this paper was the discussion of the competitiveness facing SMEs in the global business environment by examining the opportunities and supports from the government. This study also analyzed the challenges of Malaysian SMEs in globalizes market together with economics turmoil. Khalique *et al.*, (2011) stated that the role of small and medium enterprises is very critical for the economic development. This study also explored the challenges which are facing the small and medium enterprises (SMEs) in Malaysia. According to them, the significance of the study will add the knowledge about

the current issues relating with SMEs in Malaysia in intellectual capital perspective. Moorthy *et al.*, (2012) investigated that there is a significant positive relationship between the use of marketing information as well as the application of information technology and the performance of SMEs. They also found out that the use of marketing information can influence the performance of SMEs at the highest. Mi & Baharu (2013) revealed the general idea about SME, the growth potential that this country has and to use and take it to higher levels of efficiency by instigating the right branding strategy. Rahman *et al.*, (2016) discussed current development of micro, small and medium enterprises (MSMEs) and their main constraints in two key member states of ASEAN, Malaysia, and Indonesia. They also stated the MSMEs development policies of these two countries. Chin & Lim (2018) assessed policies and initiatives implemented for the development of small and medium-sized enterprises (SMEs) in Malaysia from the Eighth Malaysia Plan (2001-2005) to the Eleventh Malaysia Plan (2016-2020) as well as the SME Masterplan (2012-2020). The study provided a critical analysis of the adequacy of the Eleventh Malaysia Plan for SME development including whether the targeted goals for SMEs towards 2020 can be achieved. Razak, Abdullah & Ersoy (2018) investigated and concluded that Small and Medium Enterprises (SMEs) in play a vital role in the Malaysian economy and are the backbone of industrial development in the country. Razak, Abdullah & Ersoy (2018) accepted that Small and Medium-sized Enterprises (SMEs) in Turkey and Malaysia play significant economic and social roles by offering new job opportunities, lowering unemployment rate, increasing competition, productivity and providing substantial benefits to the economy of both countries.

Malaysian Economy and SMEs

Saleh & Ndubisi, (2006) tried to examine and analyze the role of SMEs in different sectors as well as their major contribution to the economy. The key message from their study was that SMEs in Malaysia are facing domestic as well as external challenges, which could hinder their resilience and competitiveness. Hashim (2007) studied on SME owners of Malaysia instead of SME firms. This study showed that SME owners in Malaysia possess below-average ICT skills and seldom use the Internet at their workplace. This study also showed that the level of ICT adoption among SME owners in Malaysia is lower than expected. Saleh & Ndubisi (2006) made a comprehensive analysis of the contribution of and challenges facing SMEs in the Malaysian economy, with highlighting the specific sub-sectors. They also highlighted an overview of the

contributions of each sector of the Malaysian SMEs. Chelliah, Sulaiman & Yusoff (2010) investigated the relationship of internationalization and performance of SMEs. Their study focused on SMEs in the Malaysian manufacturing sector considering sample of 77 SMEs in the manufacturing sector. They convincingly demonstrated that internationalization and performance have a positive relationship. Tehseen (2016) tried to highlight the importance of SMEs in the Malaysian economy and its significant contributions towards GDP, employment, and exports.

Other aspects

Othman, Sulaiman & Zainudin (2008) studied entrepreneurial acculturation in Malaysia. They mentioned that the Ministry of Entrepreneur Development was established in 1995 because of the government's interest of initiatives relating to entrepreneurs and entrepreneurship development. Harif, Osman & Hoe (2010) investigated the financial management components and techniques practiced by the SMEs in Malaysia. They found that three components of financial management to be categorized as core components practiced by the SMEs, i.e. financial planning and control, financial accounting, and working capital management. Yahya, Othman & Shamsuri (2012) analysed the factors that impact training in SMEs based on three perspectives which are manager's, enterprise's, and external characteristics. They suggested that manager's, enterprise's, and external characteristics affect the demand for training, and training has a positive impact on SMEs performance. Narayanan and Hosseini (2014) found that nearly half of the 303 firms (drawn from five major service subsectors) in the sample were innovating with the majority reporting improvements in quality or cost in both service products and processes. Darus, Yunus & Rahman (2017) opined that SMEs service sector should be competent and capable enough to compete in the international arena. This study strives to investigate the factors that enhance the SMEs service sectors performance. It is expected to contribute to new information and data support to the SMEs' in enhancing their performance in the services sector. Gade (2018) examined the contribution of MSMEs Sector in the nation's growth and the areas which are required to strengthen the MSMEs sector to its continuous contribution to the development of India. He stated that the MSMEs are providing uniform development to the society and can be a strong mean to utilize the natural resources of India and the MSMEs are very helpful to remove the regional imbalances if it is establish in the underdeveloped areas. Kruja (2013) examined the contribution of SMEs to the economic growth of the country through employment generation, building of

added value, GDP, export activities etc., and the changes in entrepreneurial skills of Albanian SMEs to foresee the ways of improvement and enterprise development. They showed that from the weakest dimensions of SME sector in Albania are entrepreneurship education and training and the promotion of innovation and use of new technologies. Boateng, Nagaraju & Sodem (2019) assessed the performance and contribution of MSMEs to both the Indian and the global economy. The Analysis of the data gathered confirmed that MSMEs serve as a catalyst to the evenly distribution of development and wealth in the country. They found that, even though all states and union territories have their share of the MSMEs, the states of Uttar Pradesh, West Bengal followed by Tamil Nadu, Maharashtra, Karnataka, Bihar, Andhra Pradesh, Gujarat, Rajasthan, and Madhya Pradesh, are the 10 states with the highest number of MSMEs. They indicated that, MSMEs that engage in trade activities dominate the industry.

From the review of literature however, it is apparent that there are no studies or very few studies surrounding the relationship between contribution of SME sector and economic growth of Malaysia. As such, this paper aims at filling this gap, so, an attempt has been made by the researchers to examine whether any relationship exists between them or not.

Objectives of the Study and Design

The specific objective of the study is to examine the contribution of SME sector in Malaysian economy and that is why the researchers examined the relationship between the performance of SME sector and growth of Malaysian economy.

The remainder of the paper is organized as follows: Section IV explains data, model, and research methodology. Section V reports the empirical results and provides a discussion on the results. Section VI concludes the paper. The last section -VI gives limitations of the study and future research scope.

RESEARCH METHODOLOGY

Justification of Selecting Variables

Annual percentage growth rate of GDP is considered as

a proxy variable for Malaysian economic growth. Annual growth rate of exports of goods and services, gross domestic savings and manufactures exports all these three variables are used to indicate the performance of MSME sector of Malaysia.

Annual Growth Rate of Exports of Goods and Services: Background and Rationale

Despite the challenges, SMEs were less affected compared to the large firms by the weakness in external demand due to relatively low exposure to the export market.

In Malaysia, the services sector which accounted for 50.3% of total SME exports, expanded at a more moderate pace of 2.0% in 2018 (2017: 7.1%). The slower growth was due to fewer tourist arrivals during the year which translated to lower exports of travel and other business services. The exports growth momentum was driven by SMEs in the manufacturing sector which contributed 48.3% of total SME exports in 2018, supported by manufactured goods, chemicals products and beverages & tobaccos. The main destination for SME exports in the manufacturing sector was Singapore which accounted for 18.6%, followed by China (8.9%) and the United States (7.8%) (SME Annual Report, 2018-19). Hence, it is easily understood that the importance of service and manufacturing sector of Malaysian economy.

Gross Domestic Savings: Background and Rationale

Majority of the Malaysian SMEs are domestic driven and proven to be more resilient than the large firms. As many SMEs are domestic driven, better performance of SME sector will enhance the domestic savings level.

Manufactures Exports: Background and Rationale

In terms of performance by economic sectors, the increase in share of SMEs to GDP in the period of 2016 - 2018 was largely contributed by the services sector and then manufacturing sector. So, manufacturing sector is the second largest contributor to the Malaysian economy. After fulfilling the domestic demand, excess should be exported to foreign countries.

We have selected the variables based on the following relationships mentioned below:

Better performance of SME sector. →	It is expected that service sector's performance would be better →	It is expected that annual growth rate exports of goods and services would be high.
Better performance of SME sector. →	It is expected that manufacturing sector's performance would be better. →	It is expected that manufactures exports would be high.
Better performance of SME sector. →	It is expected that income of employers and employees of SME sector would be high. →	It is expected that domestic savings would be high.

Data Source and Period of Study

To investigate the relationship empirically between SME sector's performance as well as contribution and economic growth of Malaysia, secondary data have been collected from the World Bank Database (WDI) for the

period from 1964 to 2018. For theoretical discussion, different books, journals, conference proceedings, Government reports newspapers, magazines and websites have been consulted. The variables and their representations are being portrayed in table 1.

Table 1: Variables, Representation and Source

Variables & Representation	Explanation	Source	Consideration
Gross Domestic Product Growth (Annual %) (GDP_G)	Annual percentage growth rate of GDP at market prices based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources.	World Bank (World Development Indicators/WDI)	Proxy variable for Economic Growth/ Dependent Variable
Exports of Goods and Services (Annual % Growth) (EGS_G)	Annual growth rate of exports of goods and services based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. Exports of goods and services represent the value of all goods and other market services provided to the rest of the world. They include the value of merchandise, freight, insurance, transport, travel, royalties, license fees, and other services, such as communication, construction, financial, information, business, personal, and government services. They exclude compensation of employees and investment income (formerly called factor services) and transfer payments.	World Bank (WDI)	Proxy variable for SME Sector's Performance/ Independent Variable
Gross Domestic Savings (% of GDP) (GDS)	Gross domestic savings are calculated as GDP less final consumption expenditure (total consumption).	World Bank (WDI)	Proxy variable for SME Sector's Performance / Independent Variable
Manufactures Exports (% of Merchandise Exports) (ME)	Manufactures comprise commodities in SITC sections 5 (chemicals), 6 (basic manufactures), 7 (machinery and transport equipment), and 8 (miscellaneous manufactured goods), excluding division 68 (non - ferrous metals).	World Bank (WDI)	Proxy variable for SME Sector's Performance / Independent Variable

Source: Representation made by authors

Model Specification

A functional regression equation is formulated for the purpose of analyzing the dynamics of the relationship between SME sector's performance as well as contribution and economic growth of Malaysia by taking the above-mentioned variables.

The general form of model (OLS) is –

$$Y = b_0 + b_1X_1 + b_2X_2 + \dots + b_nX_n + \epsilon$$

Where,

Y= the explained variable;

X₁= the explanatory variable 1;

X₂= the explanatory variable 2;

n= number of observation

b₀, b₁, b_n = Model parameters.

ε = Error term, unknown (the difference between the true

and the specified model);

In the model, 'Growth of Gross Domestic Product' is considered as the dependent variable and 'Annual growth rate of exports of goods and services', 'Gross Domestic Savings' and 'Manufactures Exports' to examine the influence of SME sector on Malaysian economic growth. To satisfy the specify objective of this study, the general form of model may be set as –

$$\text{GDP_G}_t = b_0 + b_1 \text{EGS_G}_t + b_2 \text{GDS}_t + b_3 \text{ME}_t + \varepsilon$$

Where,

GDP_G = Growth of Gross Domestic Product

EGS_G = Growth of Exports of Goods and Services

GDS = Gross Domestic Savings

ME = Manufactures Exports

As the data are time series in nature, so, time series econometric techniques are used for the analysis of data. Finally, the model is:

$$\text{L_GDP_G}_t = \alpha_0 + \alpha_1 \text{L_GDP_G}_t + \alpha_2 \text{EGS_G}_t + \alpha_3 \text{GDS}_t + \alpha_4 \text{ME}_t + \varepsilon_t$$

Econometric Tools Used

To satisfy the objectives of this study, methodology is divided into five sub-sections. These are discussed below:

1. Unit Root Test

A unit root test examines whether a time series variable is non-stationary and possesses a unit root. If the data series are non-stationary, then time series modeling cannot be done. For that reason, at first, the researchers applied the unit root test. Dickey & Fuller (1979) and Phillips & Perron (1988) are two popular unit root tests which are employed in this study. In most literature, Dickey & Fuller (1979) and Phillips & Perron (1988) tests have been used extensively in order to find out the order of integration i.e. stationarity at which level. To apply time series econometrics, the data series must be stationary. So, the stationarity of the variables is assessed by testing the presence of unit roots by using The Augmented Dickey & Fuller (1981) and Phillips & Perron (1988). The Augmented Dickey & Fuller (1981) test used based on the following regression:

$$\Delta Y_t = \alpha + \beta_1 Y_{t-1} + \sum_{i=1}^n \lambda_i \Delta Y_{t-i} + \varepsilon_t$$

Where Y_t is the variable under consideration, Δ is the first difference operator and α , β , γ , λ are the parameters to be estimated. The test of unit root involves testing

$\lambda=0$. The null hypothesis is that the variables have a unit root. Analyzing the result of Augmented Dickey & Fuller (1981) and Phillips & Perron (1988) test of stationarity, the test reveals that the selected variables are stationary at I (1) order of integration.

2. Autoregressive Distributed Lag' or ARDL Bounds Test for Cointegration

After unit root test, to examine the short-run as well as the long-run relationship between the select variables, the researchers have used the already well-known though relatively new cointegration techniques of ARDL. Cointegration is the existence of long-run relationship between two or more variables.

A team of work led by Pesaran & Shin (1996); Pesaran & Pesaran (1997) and Pesaran, Shin & Smith (2001) introduced an alternative cointegration technique known as the 'Autoregressive Distributed Lag' or ARDL bound test. It is argued that ARDL has several advantages over conventional Johansen cointegration techniques. To start with, the ARDL is a more statistically significant approach for determining cointegrating relationships in small samples (Ghatak and Siddiki, 2001), while the Johansen co-integration techniques still require large data samples for the purposes of validity (Johansen, 1991). As stated above, a further advantage of the ARDL is that while other cointegration techniques require all of the regress to be integrated of the same order, the ARDL can be applied whether the regressors are I (1) and/or I (0). This means that it avoids the pre-testing problems associated with standard cointegration, which requires that variables be already classified I (1) or I (0) Pesaran, Shin & Smith (2001).

In this study, to assess the presence of long-run relationship among the selected variables and their dynamics methodology suggests to apply the ARDL bound test approach of cointegration followed by the ECM-ARDL model, which is introduced by Pesaran, Shin & Smith (2001). The estimable form of ECM-ARDL model is stated below:

$$\Delta \text{L_GDP_G}_t = \alpha + \sum_{i=0}^n \beta_i \Delta \text{L_GDP_G}_{t-i} + \sum_{i=0}^n \gamma_i \Delta \text{EGS_G}_{t-i} + \sum_{i=0}^n \theta_i \Delta \text{GDS}_{t-i} + \sum_{i=0}^n \alpha_i \Delta \text{ME}_{t-i} + \mu_1 \text{L_GDP_G}_t + \mu_2 \text{EGS_G}_t + \mu_3 \text{GDS}_t + \mu_4 \text{ME}_t + \lambda \text{ecm}_{t-1} + \varepsilon_t$$

Where the parameter λ indicates error correction term or speed of adjustment to restore equilibrium, and 'n' is the optimum lag-length(s) chosen for the estimation. The parameters β , γ , θ and α indicate short-run multiplier, while parameters μ_1 , μ_2 , μ_3 and μ_4 stand for the long-run multiplier. In this model, the null

hypothesis of no cointegration implies $\mu_1 = \mu_2 = \mu_3 = \mu_4 = 0$ and the alternative hypothesis of cointegrating relation implies $\mu_1 \neq \mu_2 \neq \mu_3 \neq \mu_4 \neq 0$.

3. Short-Run Error Correction Model

As the bound test has given the favorable result to proceed with further analysis, the researchers have applied a short-run error correction mechanism or model (ECM) under the ARDL framework. The error correction term indicates the speed of the adjustment which restores equilibrium in the dynamic model. The ECM coefficient shows how quickly variables return to equilibrium and it should have a statistically significant coefficient with a negative sign. Bannerjee, Dolado & Mestre (1998) hold that a highly significant error correction term is further proof of the existence of a stable long-term relationship. If ECM is working in any model, then the long run relationship in the said model must be there.

4. Estimated Long Run Coefficients

As ECM is working, the long run equilibrium relationship has been estimated by long run coefficients between the variables in the model.

5. Stability Tests

Lastly, to analyze the stability of the long-run coefficients (calculated) together with the short-run dynamics, the cumulative sum (CUSUM) and the cumulative sum of squares (CUSUMSQ) are applied. CUSUM and CUSUMSQ test roughly support the stability of the estimated model (Samreth, 2008).

RESULTS AND DISCUSSION

Stepwise findings of analysis of data are discussed below:

Step -1: Unit Root Test

Table 2 and 3 both show the results of unit root tests under ADF and PP methodology. The results of Unit Root Test are as follows (Table 2 & 3):

Table 2: Results of Augmented Dickey-Fuller (ADF) Unit Root Test

Variables and Specifications	Level		First Difference		Order of Integration
	Statistic	Prob.	Statistic	Prob.	
GDP_G	-6.137	0.000			I (0)
EGS_G	-6.495	0.000			I (0)
GDS	-1.952	0.307	-8.500	0.000	I (1)
ME	-0.688	0.969	-7.990	0.000	I (1)

Source: Researchers' own estimate by using E-Views Software

Note: Test Critical Value has been checked at 1%, 5% and 10% level of significance, respectively.

Table 3: Results of Phillips-Perron (PP) Unit Root Test

Variables and Specifications	Level		First Difference		Order of Integration
	Statistic	Prob.	Statistic	Prob.	
GDP_G	-6.507	0.000			I (0)
EGS_G	-6.504	0.000			I (0)
GDS	-1.914	0.326	-9.369	0.000	I (1)
ME	-0.884	0.950	-7.983	0.000	I (1)

Source: Researchers' own estimate by using E-Views Software

Note: Test Critical Value has been checked at 1%, 5% and 10% level of significance, respectively.

Hence, both tests have given the same results. The variables considered in this study are mixed i.e. two variables are in I (0) series and other two variables are in I (1) series. For this reason, the researchers have adopted the ARDL modeling approach for cointegration analysis to identify the long-run

relationships between the above-mentioned sets of variables.

Step-2: ARDL Bounds Test for Cointegration

The result of the bound test of the model is as follows (table 4):

Table 4: Result of Autoregressive Distributed Lag Bound Test (ARDL ((1,0,0,0)) selected based on Schwarz Bayesian Criterion) (Dependent variable is GDP_G)

DW-statistic 1.7001				
Testing for existence of a level relationship among the variables in the ARDL model				
F-statistic 5.9394	95% Lower Bound 2.6275	95% Upper Bound 3.8030	90% Lower Bound 2.1061	90% Upper Bound 3.1778
W-statistic 23.7576	95% Lower Bound 10.5102	95% Upper Bound 15.2121	90% Lower Bound 8.4245	90% Upper Bound 12.7112

Source: Researchers' own estimate by using Microfit 5 Software

The results of the bound test indicate that the calculated F statistic is 5.9394 (refer to Table 4). In this model, the value of F statistic is above the upper bound, the null hypothesis of no level effect is rejected which implies that there is cointegrating relationship among the considered variables, in the examined period.

Step-3: Short-Run Error Correction Model

Table 5 shows the short-run coefficient estimates estimates obtained from the ECM version of the ARDL model.

Table 5: Short-Run Error Correction Elasticity Estimates (ARDL (1,0,0,0) selected based on Schwarz Bayesian Criterion)

Model 1: Dependent variable is GDP_G		
Regressor	Coefficient	T-Ratio [Prob.]
ECM (-1)	-0.73623	-7.0936 [0.000]

Source: Researchers' own estimate by using Microfit 5 Software

Table 5 shows that the error correction coefficient for the model is negative (-7.0936) and statistically significant (probability is 0.000), which demonstrates the long-run relationships between the variables. This confirms once again, the existence of the cointegration relationship among the variables of the model. This means that the adjustment takes place relatively quickly, i.e. the speed of adjustment is relatively high. The values indicate rapid adjustment processes, with almost the whole disequilibrium of the previous year's shock adjusting back to the long-run equilibrium in the current year.

Step-4: Estimated Long Run Coefficients

The necessary result of long-run estimations is shown in the following table (table 6):

Table 6: Estimated Long-Run Coefficients using the ARDL Approach (ARDL (1,0,0,0)) selected based on Schwarz Bayesian Criterion)

Dependent variable is GDP_G		
Testing for existence of a level relationship among the variables in the ARDL model		
Regressor	Coefficient	T-Ratio [Prob.]
EGS_G	0.43684	4.3464 [0.000]
GDS	0.13337	2.5356 [0.014]
ME	-0.040414	-1.4625 [0.150]

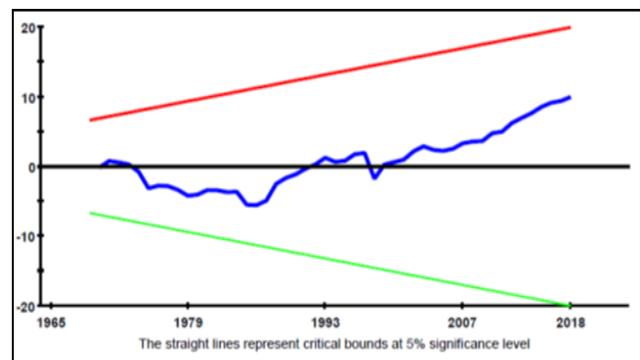
Source: Authors own estimate by using Microfit 5 Software

In the case of the long-run estimation, the model gives the favorable result. That means estimation result from the model reveals that performance of SME sector is having a long-run influence on Malaysian economic growth.

Step-5: Stability Tests

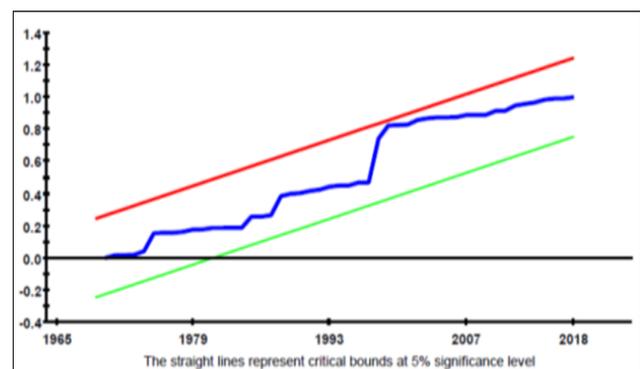
A graphical representation of CUSUM and CUSUMQ statistics are shown in figure 2 and 3.

Figure 2: Plot of Cumulative Sum of Recursive Residuals



Source: Researchers' own estimate by using Microfit 5 Software

Figure 3: Plot of Cumulative Sum of Recursive Residuals



Source: Researchers' own estimate by using Microfit 5 Software

It can be clearly stated from figures 2 and 3 that the plots of both the CUSUM and the CUSUMQ are within the boundaries and by that, it is confirmed that the long-run relationships exist among variables and it establishes the stability of the model.

CONCLUSION

From this study, it is found that there is a relationship between SMEs contribution and economic growth of Malaysia and the bound test has also given positive results. It can be concluded that the performance of SME sector is having positive influence on growth of Malaysian economy. In case of Malaysia, this result is very important because SMEs are dominating most of the business sectors. It may also be concluded, in terms of performance by economic sectors, the share of SMEs to GDP may be increased if Malaysian SMEs produces and exports more goods and services and by that SMEs could be played an important role in the job creation.

LIMITATIONS OF THE STUDY

All the indicators like employment etc. are not being considered in this study. Due to lack of time, it was not possible to take care of all the other relevant variables. Several other variables may be considered to get more robust results. Further research work on this area may be conducted.

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