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Impact of fiscal policies of the Philippines, Thailand, and Vietnam on MSMEs and their relative effects on GDP growth

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ABSTRACT

Over the years, countries from Southeast Asia have MSME sectors that play a vital role in the economic development of the region. Governments have their own strategies on how to deal with their economies, through fiscal policies, that serve the best interest of the condition of their states and citizens. As MSMEs in the Philippines, Thailand, and Vietnam continues to contribute employment of the vast majority of their populations, this study examines the effects of the fiscal spending of the aforementioned countries on their MSMEs and the relationship of the increase in the number of MSMEs to aggregate national economic outputs. By using panel regression analysis, this paper aims to prove that fiscal policies, as measured using annual government expenditures data, together with household consumption, and MSME employment as supporting variables, would positively affect MSME growth, leading to a favorable outcome to GDP growth. This led to this paper providing insights that government expenditure and HFCE have positive significant relationship to the number of MSMEs in the Philippines, Thailand, and Vietnam, while MSME employment is negatively significant to it. With the rise of MSMEs in the selected countries, the PLS and RE results concluded that the GDP growth of these countries can be influenced by their MSME growth. The outcome of this study could help policymakers and institutions to formulate sound government measures and recommendations to ensure that opportunities provided by the MSME in their economies are maximized.

Keywords:

MSME growth, GDP growth, Fiscal Policy, Philippines, Thailand, Vietnam

1. Introduction

The formation of the Association of Southeast Asian Nations (ASEAN) has strengthened the ties of its member states which contributed to a more dynamic and systematic trade and cultural



exchange in Southeast Asia. The rapid development of both rural and urban areas has been instrumental in the robust performance of the region. As the association grows from five members to currently ten member states and one observer state, many have been lifted from poverty, and more opportunities have been given to the vast majority of the people. With this, small businesses emerged, and more jobs were created.

Micro, small, and medium enterprises (MSMEs) are considered essential to the expansion of ASEAN economies. Based on the 2020 data from the Asian Development Bank (ADB), MSMEs comprise between 97 and 99 percent of the firms across Southeast Asia, which translates to around 71 million businesses. One of the implications of MSMEs in the region is their large contribution to the number of employed individuals which is between 60 and 80 percent of the total workforce of the ASEAN member states (ADB, 2021). These figures imply the significance of MSMEs as a driver of progress and prosperity in the region. In some ASEAN economies, MSMEs do not have adequate financial support and resources. They remain vulnerable to workers because of the lack of social security for them (International Labour Organization, 2020).

The major composition and contribution of MSMEs in the region project a general grasp of its importance to the economies notably of the three selected ASEAN countries in this study, the Philippines, Thailand, and Vietnam. In 2020, the Philippine MSMEs were able to generate 63 percent of the country's employment and accounted for 99 percent of the businesses that are operating in the country (ADB, 2021). MSMEs have also contributed to the country's total export revenue by 25 percent. It is also estimated that 60 percent of all exports belong to the MSME category (Department of Trade and Industry Philippines, n.d.). In the same year, Thailand's MSMEs were able to represent 99 percent of all businesses that are operating in the country. Thai MSMEs were also able to employ 71 percent of the total workforce. In 2019, Vietnam's MSMEs accounted for 97 percent of all businesses that were operating in the country. Subsequently, 37 percent of the workforce in the country was employed by this sector (ADB, 2021).

MSMEs became an important contributor to the economic development of ASEAN countries and constituted large shares of establishments that contribute significantly to the labor force of the ASEAN region. The contribution ranges from total employment to GDP and exports which make them the backbone and fundamental drivers of sustainable economic growth (Ahmad, 2020). During the global recession of 2008–2009, it was observed that the MSME sector was less affected and that there was a significant increase in investment in that sector.



Certainly, countries in the Southeast Asian region are known for their resiliency. They survived and recovered from the second world war devastation, the oil crisis in the 70s, to the two financial crises that hit the Southeast Asian market. Unlike larger companies, MSMEs are typically obstructed by larger and various financial constraints, such as more limited capital access, capacity for future investments, and resources for conducting human capital improvement. As a result, these are challenging times for many MSMEs in the ASEAN region and the global economy (Organisation for Economic Co-operation and Development, 2020; Asia-Pacific Economic Cooperation, 2020).

The global financial crisis of 2008–2009 and the COVID-19 pandemic are two of the biggest crises so far that have occurred in the twenty-first century. MSMEs during the global recession in the late 2000s were observed to be less affected and there was a significant increase in investment in that sector (Jain & Siddiqui, 2022). The 1997–1998 Asian financial crisis also showed that it created more domestic market opportunities for MSMEs in some industries because of the change in consumer behavior of most households and individuals. They tend to purchase more domestic goods than foreign ones because of the cheaper price (Tambunan, 2019). The uniqueness of the COVID-19 pandemic lies in the fact that it has gripped most of the globe by affecting health, livelihood, and economic growth simultaneously (Jain & Siddiqui, 2022). The success or failure of policies on MSMEs highly depends on their context or the design according to the sector or size of the MSME and the smallest and most fragile businesses may be able to benefit through employment subsidies (McCarthy, 2021). Although the currently prevailing pandemic has severely affected the global economy, Southeast Asia was not affected the same as the rest of the world. It was mostly because of the way the ASEAN countries handled the situation with draconian measures, with lockdown restrictions and travel bans. However, restrictions slowed down economic productivity because of the circumstances to avoid further harm to public health (Lahiri & Sinha, 2021).

The latest data from the Philippine Statistics Authority (PSA) has recorded that the Philippine economy was able to expand by 5.6 percent after recording 7.7 percent growth in the fourth quarter of 2021 regardless of struggling from the COVID-19 pandemic and natural disasters such as typhoons and earthquakes (Kabagani, 2022). Likewise, the Thai economy is expected to expand by 2.9 percent in 2022, supported by its private consumption and tourism recovery. In addition, the Thai economy is expected to gain momentum in the second half and reach pre-pandemic levels in the fourth quarter of 2022, featuring its resiliency (Kongrukgreatiyos, 2022). The economy of Vietnam has remained strong, growing by around 2.9 percent in 2020. It has one of the highest growth rates in the world, projected to be 6.5 percent in 2021 thanks to the strong economic fundamentals and decisive containment measures and the well-targeted



government support that the Vietnamese authority has done according to the IMF's latest annual assessment of the country's economy in 2021.

Fiscal policies were measured to be more effective in stimulating economic growth. (Adegoriola, 2018). Fiscal policy positively impacts output, and that fiscal policy also helps to lower inflation. Thailand specifically benefited more effectively in fiscal policies when lowering inflation (Tan et al., 2020). To further comprehend the aspects affecting the economic growth in the selected ASEAN countries in this study, there should be a better understanding of the key factors that influence the movement and the condition of the economy. As this study is intended to examine the overall impact of fiscal policies imposed by the governments of the Philippines, Thailand, and Vietnam on their MSME sectors, this paper also investigated the relevant effects of these policies on the growth of their MSME sector, while also establishing the relationship between MSME growth to GDP growth.

2. Literature Review

2.1 What is fiscal policy?

Fiscal policy is a major tool of economic management for any government around the world, primarily concerned with the public expenditures and revenues (Adegoriola, 2018). This has a substantial role to play as a tool of economic policy; one of the crucial factors that determine the performance of an economy through its impact on allocation, distribution, and stabilization (Arestis, 2011). There are two instruments in implementing fiscal policies, one being taxation and another being government expenditure. It can also be viewed as government spending policies catering to different macroeconomic conditions. These policies affect tax rates, interest rates, and government spending, whose objectives are to regulate the economy (Peter & Simeon, 2011).

2.2 Counter-cyclical fiscal policy as part of the government's economic toolkit

Conditions of different economies around the world dynamically change due to various factors, thus governments have important roles in adjusting and strengthening their economies. Moreover, approaches and strategy implementations should be based on current and future economic performance. (Arestis, 2011). A counter-cyclical fiscal policy is a government-implemented strategy used to act upon an ongoing economic crisis. It works against the boom or recession trend; thus, in an attempt to stabilize the economy (Jose, 2017). Counter-cyclical policies are influenced by both local and global economic conditions. An auxiliary government expenditure refers to an expansionary fiscal policy. This translates to more government spending



during contractionary periods due to the income and employment fluctuations that affect private spending, while spending can be reduced during the expansionary period where there is an increase in employment and income, thereby requiring the government to lessen its expenditure due to the general spending capacity of the consumers (Snell, 2009).

2.3 Relationship between fiscal policy and private sector

Fiscal policy is fundamental to an economy's strength, due the government's authority to impose taxes and to utilize revenue expenditures, from consumers and from the general business climate. Particularly, the association of government spending and the private sector productivity is of paramount importance. While public expenditure can contribute a positive impact to the growth of the private sector, it can also exert a detrimental effect if it brings about budgets deficits and results to financial resource scarcity in banks as the government also seeks to finance the deficits. In these situations, the private sector's surge in government involvement outweighs any short-term advantage of an expansionary fiscal measure. Therefore, pivotal fiscal management is key to having enough public spending outlays to meet the needs of the public sector and support growth without limiting the resources that the economic sector needs to invest and develop (Kareem et al., 2013).

2.4 MSMEs in the Philippines, Thailand, and Vietnam

Evidently, most countries around the world do have MSME-dominant economies. MSMEs are defined by most states as any company that is employing 10 to 250 employees, and any company that has less than 10 employees is defined as a micro firm. MSMEs in various countries cannot be effectively defined or measured as each nation has its distinctive definitions and considerations in categorizing MSMEs (World Trade Organization, 2016). In the ASEAN region, the definitions of MSMEs are quite different. Micro-enterprises consist of 1 to not more than 200 employees, small enterprises are usually composed of 1 up to not more than 300 employees, and medium enterprises are made up of 30 to 600 employees depending on each ASEAN country's categorization of this sector (ASEAN, 2021).

MSMEs are vital drivers of ASEAN countries' economic growth and development. They constitute the largest share of establishments and contribute significantly to the labor force of the region. The ratio of the composition of MSMEs to the total establishments in the ASEAN Member States (AMS) accounts for between 88.8 percent and 99.9 percent and is responsible for 51.7 percent to 97.2 percent of total employment. The contribution of these enterprises to GDP ranges between 30 percent and 53 percent and the contribution of MSMEs to exports is between 10 percent and 29.9 percent the data highlights the importance and role of MSMEs which



considerably makes them the backbone and fundamental driver of sustainable economic growth and development of ASEAN economies (Ahmad, 2020). Specifically, in 2020, the Philippines' MSMEs generated 63 percent of the country's employment and accounted for 99 percent of the businesses operating in the country (ADB, 2021). Furthermore, MSMEs contributed 25 percent of the country's total export revenue. It is also estimated that 60 percent of all exporters belong to the MSMEs category (DTI, 2022). In 2020, Thailand's MSMEs represented 99 percent of all businesses operating in the country and employed 71 percent of the total workforce. In 2019, Vietnam's MSMEs accounted for 97 percent of all businesses operating in the country and employed 37 percent of the workforce in the country (ADB, 2021).

2.5 Fiscal policies and MSMEs

Notably, MSMEs play a vital role in the development of the domestic economy and employment. This business sector is often the catalyst of an economy's introduction to new innovations. Various types of MSMEs exist. There are normal MSMEs that promote and drive competitiveness and market pressure due to their innovative aspects, and there are MSMEs that are driven by poverty, they are but a reflection of the high unemployment rates and breakdown of social and free enterprise (Herr, 2018). A study conducted in Ghana by Augustine and Aseidu (2017) concludes that MSMEs have a very significant impact on their economy, so the health and growth of small and medium enterprises are as important. Thus, fiscal policy instruments are implemented by the government to impact MSMEs as it is one of the key factors in impacting their operations, performance, and revenue generation (Augustine & Aseidu, 2017) reinforcing the findings of Gbande et al. (2020) which implies that fiscal policies drive the growth of MSMEs through the purposeful manipulation of government revenue and expenditure.

In the Kingdom of Bahrain, MSMEs contribute a huge part to the private sector, amounting to 95 percent of the whole sector. This shows their significance and how they influence the economy. The percentage composition of MSMEs solidifies their economic influence and how managing and organizing them with stimuli and regulations is vital in steering the economy in the direction the nations are moving towards (Thabet, 2021). Government intervention and government incentives help make it more likely for MSME organizational innovation by 18 percent and marketing innovation by 15 percent and also have a positive effect on product innovation (Quimba & Rosellon, 2021). Government gently affects MSMEs with their regulations and support and helps set the conditions for MSMEs to grow. An example of this are subsidy laws that change every few years, such as rent support packages for the first year of business (Thabet, 2021). Although MSMEs are key factors to growth, developing countries still deal with the informality problem of multiple MSME businesses, making them harder to provide stimuli with fiscal expenditure allocations. Also, in cases of fiscal policy implementations, it is important to



consider that MSMEs themselves have different structures and needs thus fiscal policy specifically government expenditure should be catered do their varying needs (McCarthy, 2021).

2.6 The effect of recessions on MSMEs

MSME in literature is measured through its output, labor productivity, capital productivity, number of employees, and contribution to national exports. To begin with, during the global recession in 2008 and 2009, it was observed that the MSME sector was less affected and that there was a significant increase in investment in that sector (Jain & Siddiqui, 2022). The statement is further reinforced by Trinh et al. (2020) that analyzed the data of listed Vietnamese firms, in which the paper reinforced MSMEs, which represented the majority of formally registered and informal firms in Vietnam, stating that the country's MSMEs had increased financial investment including investment in real estate assets, and decreased investment in equipment and other productive fixed assets for their own use during this crisis. It has been shown in the events of the Asian financial crisis of 1997-1998 that it has increased the opportunities for domestic market involvement for MSMEs in certain industries because most individuals or households changed their consumer behavior from purchasing foreign goods to purchasing local products at lower price points because of the crisis. This change in behavior stemmed a higher appeal for MSMEs (Tambunan, 2019). MSMEs have limited resources to navigate through rapid changes in government policies when reacting to the COVID-19 pandemic and they can struggle to adapt to new conditions. Urgent stimulus and backstop measures were implemented during the COVID-19 pandemic aiming to help MSMEs and preserve jobs and productivity (WTO, 2020). Additionally, the success or failure of policies for MSMEs is highly dependent on the context and the design according to the sector or size of any given MSME. The smallest and most fragile of businesses may benefit from employment subsidies (McCarthy, 2021).

2.7 Fiscal policies and economic growth

According to Horton and El-Ganainy (2009), governments impact economies through tax level adjustments and by adjusting the composition of spending. Counter-cyclical policies are regarded as key components of national responses when dealing with economic crises (Francis & Amirthalingam, 2019). Generally, arguments have advocated that high government expenditure will grow GDP sufficiently to stabilize the debt-to-GDP ratio. This would promote the restoration of fiscal sustainability (Burger & Calitz, 2020). Additionally, there have been journals on the effects of fiscal and monetary policies on economic growth.



An empirical study was conducted by Adegoriola (2018) to measure the effectiveness of fiscal and monetary policy instruments in stabilizing the Nigerian economy over the period of 1981 to 2015, using annual data collected from documentary archives. With the methods using the Johansen cointegration and the error correction model, findings indicated the existence of a positive relationship between government expenditure, money supply, and revenue while interest rate and budget deficit have a negative relationship with economic growth within the study period and fiscal policy is more effective than monetary policy in stimulating economic growth (Adegoriola, 2018). This was supported by several studies (Brahmasrene & Jiranyakul, 2007; Chatziantoniou et al., 2013; Mutuku & Koech, 2014; Ćorić et al., 2015; Nursini, 2017) stating that fiscal policy positively impacts output. In another empirical support, Bianchi & Ilut (2017) stated that a measure of monetary and fiscal policy mix changes in the US economy was measured. However, US monetary policy accommodated fiscal policy through the 1960s to 1970s and led to high inflation. Using the new Keynesian model, the US monetary policy changed with Paul Adolph Volcker, former US Federal Reserve chairman, but inflation dropped only when fiscal policy and agents' beliefs about fiscal backing switched; successful disinflations require fiscal backing (Bianchi & Ilut, 2017). If the monetary authority was confident about this switch, adverse inflation would not have occurred (Bianchi & Ilut, 2017). On the other hand, Tan et al. (2020) concluded that fiscal policies or government expenditures benefit Thailand in a more effective manner than monetary. Furthermore, significant effects of monetary and fiscal measures were also examined on the economic growth of Algeria using the cointegration test and vector error correction mechanism to analyze the collected data from 1970 to 2014 (Bokreta et al., 2016). Through running the econometric model, it was seen that government expenditure was positive, and tax posted a negative effect; inflation had minimal effects while exchange rates showed a relevant impact on economic growth, respectively. As such, a fiscal policy established a more powerful impact than a monetary policy on accelerating the pace of sustainable economic growth (Bokreta et al., 2016). Another study examined the impact of fiscal and monetary policies on the growth of Iran's economy by applying an Autoregressive Distributed Lag (ARDL) approach which is more appropriate for estimating small sample observations on a time series data covering the period of 1960 to 2006. Findings implied that there is a long-run relationship among the mentioned variables. To simplify, exchange rate and inflation have a negative impact on economic growth while government spending revealed a positive and significant impact on economic expansion, concluding that fiscal indicators are more effective in stimulating growth in Iran's economy given the observed time period (Khosravi et al., 2010). Related literature also determined that utilizing fiscal expansion on government expenditure had a greater response in revitalizing economic development when compared to the expansion of public investment or an income tax cut, however, public investment yielded the strongest impact on output recovery (Baldacci et al., 2009).



2.8 Impact of MSME growth on economic growth

In today's world, micro, small, and medium businesses are recognized as the main drivers of economic development (Obi, 2018). The role of these enterprises on real gross domestic product (GDP) growth, job creation, and poverty reduction is recognized on a global scale as discussed (Muller et al., 2014; Chowdhury, 2011; Luo et al., 2016). In terms of relationship, the growth of MSMEs has a direct impact on economic growth (Ardic et al., 2011), as the growth of MSME sectors was observed in countries that experienced growth in their GDP, while the same can be said for economies that experienced an economic downturn as MSME growth were much slower in those times (Karadag, 2016). Moreover, Adeoye (2015) mentioned that the Nigerian government acknowledges a tripartite relationship between entrepreneurship, industrialization, and economic growth. Entrepreneurship is commonly represented and measured by micro, small, and medium-scale businesses (Thaddeus, 2012). MSMEs therefore, have a meaningful contribution to economic growth, especially to developing economies (Agbeibor, 2006).

Although the positive implications of the growing MSMEs could be extensively seen in the economic activities in many countries, especially when considering the amount of people that are benefiting from more livelihoods established as a result of the expansion of MSMEs, nonetheless, there are empirical studies that have provided evidences that does not necessarily follow the general a priori expectation that substantiates MSMEs' positive impacts on economic growth (Taiwo et al., 2022). Moreover, Beck et al. (2005) examined the affinity between MSMEs and GDP growth while focusing on how such interplay affects poverty alleviation among a group of 45 economies. The study ascertained that even though a direct correlation exists between the importance of MSMEs and economic growth, however, their findings revealed that there was no causality to back up the positive relationship that was observed such that MSMEs cannot be said to have been instrumental in poverty reduction among the nation that they considered. Cravo et al. (2012) explain that the human capital of the MSME sector is of more relevance to growth than that of the measurement of the number of MSME establishments following their empirical study which concluded a negative relationship between MSMEs and economic growth in some Brazilian states. Another reasoning on why there could be a negative relationship is because of the government policies that were implemented that target unemployment, income inequality, and poverty have resulted in failure (Prasetyo, P., 2020). Governments should step in increasing the funding and training for MSMEs development in order to raise citizens' standard of living for these employees which will overall stimulate economic growth (Idehen, V. & Oriazowanlan, A., 2019). MSMEs generate more income through their increase in MSME employment and HFCE which help them to be more sustainable by getting an increase in their gross output (Yadav, A. & Kumar, Y., 2017).



2.9 Theoretical Framework

$$y = \beta_{0t} + \beta_{1t}x_1 + \beta_{2t}x_2 + \beta_{3t}x_3 + \mu_t$$

The variable y in the equation is the MSME growth. Variable x_1 is the MSME employment and the first independent variable. Variable x_2 is the Household Final Consumption Expenditure (HFCE) and the second independent variable. The variable x_3 is the government expenditure (fiscal policy) is the last independent variable to be observed. β_0 is the constant referring to the value of the independent variable (y) when x is 0. β_n is the degree of change in the dependent variable for every 1-unit of change in the independent variable. μ is the time-dependent error term. ω_i is the unobserved country-dependent error term variable. Lastly, ε is the error term. When the formula is integrated with the variables that are used in this study, the equation will now look like this:

$$\text{MSME Growth} = \beta_{0t} + \beta_1 \text{MSME Employment} + \beta_2 \text{Government Expenditure} + \beta_3 \text{Household Final Consumption Expenditure} + \mu_t + \omega_i + \varepsilon_t$$

After using the panel data analysis on HFCE, MSME employment rate, and Fiscal Policy to find the relationship of the independent variables to MSME growth, the researchers also utilized the same analysis to correlate MSME growth and GDP growth.

$$Y = \beta_{0t} + \beta_{1t}x_1 + \mu_t$$

The variable Y is the GDP growth. β_0 is the constant referring to the value of the independent variable (Y) when x is 0. β_1 is the degree of change in the dependent variable for every 1-unit of change in the independent variable. The variable x is the MSME growth and will be the independent variable in this equation. μ is the time-dependent error term. ω_i is the unobserved country-dependent error term variable. Lastly, ε is the error term. When the formula is integrated with variables the equation will now look like this:

$$\text{GDP Growth} = \beta_{0t} + \beta_1 \text{MSME growth} + \mu_t + \omega_i + \varepsilon_t$$

3. Method

The researchers analyzed the overall condition of the MSMEs in terms of growth in the Philippines, Thailand, and Vietnam with the implementation of several fiscal policies, measured through government expenditure, that addresses the implications of numerous economic events



that affect growth and activities within the economies of selected countries in Southeast Asia. Several tests and calculations, heavily based on secondary data, were conducted. Included also are the necessary information to satisfy the variables used, which were provided by well-established institutions in the said region. The researchers derived the economic model of Thabet (2021), and based on the initial model, the researchers have modified and opted to use the panel regression model to measure the collected panel data as it is best suited to achieve the objectives of the research. The nature of this study is quantitative and used economic tools and models such as the Panel data analysis, Hausman test, Chi-Square test, Breusch-Pagan test, and Durbin-Watson test to indicate which variables have significant impact on MSME growth and their relationships. Furthermore, panel regression was also utilized to test the correlation between MSME growth and economic growth to conclude whether the two variables have a significant positive or negative relationship.

To ensure the reliability of the acquired data in this study, the researchers have gathered statistical records from various credible institutions such as World Bank, ADB Data Library, OECD, PSA, and Asia Productivity Organization. 14 years' worth of annual data was used for the sample population of each variable. The time frame of 14 years is used in order to get the best result with the available data, keeping in mind the countries that are being measured are developing countries. The available data starts from the year 2007 to 2020, the independent variables MSME employment rate, Fiscal Policy (Government Expenditure), and Household Final Consumption Expenditure (HFCE) came from this time frame.

3.1 Model

This study mainly aims to quantify and measure the significant effects of fiscal policies on the MSMEs of the Philippines, Thailand, and Vietnam, and their relative effects on overall economic growth. To further make an assessment, this study selected three relevant independent variables to test their effects on a dependent variable using panel data analysis.

$$MSME\ Growth = \beta_{0t} + \beta_1 MSME\ Employment + \beta_2 Government\ Expenditure + \beta_3 Household\ Final\ Consumption\ Expenditure + \mu_t + \omega_i + \varepsilon_t$$

$$GDP\ Growth = \beta_{0t} + \beta_1 MSME\ growth + \mu_t + \omega_i + \varepsilon_t$$

where $\mu_t = \omega_i + \varepsilon_t$

The total number of employed workers in MSMEs shows how much labor resources were used for the year in MSME establishments. The researchers use total number of employments in MSMEs as an independent variable since it directly impacts MSME growth.



Fiscal policies are implemented and regulated by the government, mostly through government spending, in an effort to manage, stimulate, and control the entities that they are catering to, especially in the case of MSMEs as they are a major contributor in the development of ASEAN economies and fiscal policies affect most of the MSME sectors in the ASEAN region.

Household final consumption expenditure is used as a measurement of the citizens' disposable income. Based on the researchers' findings, all ASEAN countries have more than 50 percent of establishments under the MSMEs category in their economies. The researchers assume that most of these expenditures are for MSMEs' products or services, therefore would be an excellent variable to be measured for MSMEs' growth.

MSME growth will be measured by gathering the total number of MSMEs per country that were registered for the year. GDP growth is the positive or negative change in the economic output of a country. The data's time frame will be from 2007 to 2020 to be in line with the time frame of other data.

As the researchers adhere to academic integrity, all information gathered were carefully checked for validity and credibility. The data needed for all variables used in this study are extracted from multiple reliable sources such as national statistics records and central bank databases of different countries involved.

3.2 Panel OLS

Considering the panel regression model, where Z_i represents the unobserved time-variant heterogeneity across the regions $i = 1, \dots, n$.

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 Z_i + u_{it}$$

The goal is to estimate β_1 which is the effect of X_i on Y_i . Letting $\alpha_i = \beta_0 + \beta_2 Z_i$, the researchers obtain,

$$Y_{it} = \alpha_i + \beta_1 X_{it} + u_{it}$$

Possessing individual specific intercepts α_i , $i = 1, \dots, n$, where every one of these can be understood as the fixed effects of entity i , which is the fixed effects model as shown below,

$$Y_{it} = \beta_1 X_{1,it} + \dots + \beta_k X_{k,it} + \alpha_i + u_{it}$$



where the $i = 1, \dots, n$ and that $t = 1, \dots, T$. The α_i are the entity-specific intercepts that catch heterogeneities across countries. That is,

$$MSME\ growth_{it} = \beta_1 MSME\ emp_{1,it} + \beta_2 Gov't\ exp_{1,it} + \beta_3 HFCE_{1,it} + RegionFixedEffects_i + u_{it}$$

$$GDP\ growth_{it} = \beta_1 MSME\ growth_{1,it} + RegionFixedEffects_i + u_{it}$$

where *MSME growth* is the total number of registered MSMEs per country, *HFCE* is the household final consumption expenditure per country, *MSME emp* is the MSME employment per country, *Gov't exp* is the government expenditure per country, *GDP growth* is the positive and negative changes of gross domestic product per country, and *RegionFixedEffects* is an entity-specific intercepts that will capture heterogeneity across the three countries. The fixed effects (FE) model will eliminate the effect of the unobserved heterogeneity. However, the different levels of engagement in MSME growth and the different sizes in the countries, it is necessary to examine heteroskedasticity problems and autocorrelation. If heterogeneity is present, random effects or RE (variance components model) provide an option that will consider heterogeneity across regions in the regression coefficients, referred to the equation below as *RegionRandomEffects*. That is,

$$Y_{it} = \beta_0 + \beta_1 X_{1,it} + \dots + \beta_k X_{k,it} + \alpha_i + u_{it}$$

$$MSME\ growth_{it} = \beta_0 + \beta_1 MSME\ emp_{1,it} + \beta_2 Gov't\ exp_{1,it} + \beta_3 HFCE_{1,it} + RegionRandomEffects_i + u_{it}$$

$$GDP\ growth_{it} = \beta_0 + \beta_1 MSME\ growth_{1,it} + RegionRandomEffects_i + u_{it}$$

3.3 Hausman test

The Hausman test is used because of the assumptions of OLS that there is no correlation between the predictor variable, error term, and instrumental variables. The utilization of the Hausman test for endogeneity helped the researchers to choose whether to use RE or FE models in an effort to find the best panel data model.

3.4 Chi-Square test



The Chi-Square test is utilized by the researchers to quantify the discrepancies between the expected results in the linear regression model used in this study and its actual results drawn from the independent variables.

3.5 Durbin-Watson test

The researchers used historical data from past years intending to create a data set for this study. Therefore, the Durbin-Watson test is used to check for autocorrelation in the researcher's regression model to know which predictors are significant.

3.6. Standardized residuals

This study used standardized residuals to measure the strength of the difference between observed and expected values and to quantify how large the residuals in standard deviation units are.

3.7. Residual cross-section dependence test

The residual cross-section dependence test is utilized by the researchers in order to decide on which model has no spillover effects from unobserved factors for a more accurate result.

4. Results and Discussion

Table 1. Panel least squares of Government Expenditure, MSME Employment, and HFCE to MSME Growth

Variable	Coefficient	Prob.
Constant	12.90683	0.0000
Government Expenditure	6.20E-14	0.0000
MSME Employment	-6.14E-15	0.0000
HFCE	1.63E-07	0.0000
Dependent variable: log MSME Growth		
R-squared		0.941414
F-statistic		203.5390
Durbin-Watson statistic		1.424433

As displayed in Table 1, government expenditure, MSME employment, and HFCE are



significant to MSME growth. Government expenditure has a direct relationship with log MSME Growth as government support and regulation gently impact the conditions where it helps MSME growth (Thabet, 2021; Brahmašrene & Jiranyakul, 2007; Chatziantoniou et al., 2013; Mutuku & Koech, 2014; Ćorić et al., 2015; Nursini, 2017), an example of this are subsidies that can offer rent support packages on their first year of business (Thabet, 2021). The results are also reinforced by Gbande et al. (2020) with the implication that fiscal policies act as a growth driver through the purposeful allocation of government revenues and expenditures. HFCE and MSME employment are significant to MSME growth by affecting growth through increasing its gross output (Yadav, A. & Kumar, Y., 2017) MSME employment has a negative relationship with log MSME Growth because of training costs and high turnover rates which yield lower profits (Ogyeman, C. & Ponniah, V.M., 2014).

Table 2. Fixed effects model of Government Expenditure, MSME Employment, and HFCE to MSME Growth

Variable	Coefficient	Prob.
Constant	13.30116	0.0000
Government Expenditure	3.02E-15	0.6186
MSME Employment	5.09E-17	0.9338
HFCE	3.02E-08	0.2686
Dependent variable: MSME Growth		
R-squared		0.996172
F-statistic		332.5135
Durbin-Watson statistic		0.684592

Table 3. Random effects model of Government Expenditure, MSME Employment, and HFCE to MSME Growth

Variable	Coefficient	Prob.
Constant	13.04333	0.0000
Government Expenditure	1.83E-15	0.7080
MSME Employment	1.78E-16	0.7201
HFCE	6.55E-08	0.2686
Dependent variable: MSME Growth		
R-squared		0.994643
F-statistic		1336.770
Durbin-Watson statistic		0.790078



As shown in Table 2 and Table 3, the independent variables Government Expenditure, MSME Employment, and HFCE are insignificant. Both fixed effects and random effects models show the independent variables resulted in a positive relationship with the dependent variable MSME growth. However, these models cannot be used because they have resulted as insignificant. The researchers will use the Panel least squares models for the conclusion.

Table 4. *Standardized residuals of Government Expenditure, MSME Employment, and HFCE to MSME Growth*

Jarque-Bera	4.355280
Probability	0.113309

The table above shows that the Jarque-Bera has a result of 4.355280 which means that the data that was used is not normally distributed. The probability is 0.1133, consequently having no significance.

Table 5. *Residual cross-section dependence test of Government Expenditure, MSME Employment, and HFCE to MSME Growth*

Variable	Coefficient	d.f.	Prob.
Breusch-Pagan LM	3.625785	3	0.3048
Pesaran Scaled LM	0.255476		0.7984
Bias-corrected scaled LM	0.140091		0.8886
Pesaran CD	-0.379588		0.7043

Null hypothesis: **No cross-section dependence (correlation) in residuals**

Cross-section effects were removed during the estimation

Illustrated above are the results of three tests, since the period used by the researchers are greater than the number of cross-sectional variables, the researchers will use the Pesaran CD as a basis. The result of Pesaran CD is -0.379588 and is lower than the p-value, therefore, the researchers will accept the null hypothesis stating that there is no cross-section dependence present residuals.

Table 6. *Panel Least Squares of MSME and GDP Growth*

Variable	Coefficient	Prob.
Constant	0.063480	0.0000
Total MSMEs	-1.36E-08	0.0056



Dependent variable: GDP Growth

R-squared	0.176616
F-statistic	8.579998
Durbin-Watson statistic	1.542980

Table 7. *Fixed effects model of MSME and GDP Growth*

Variable	Coefficient	Prob.
Constant	-0.033541	0.5336
Total MSMEs	5.63E-08	0.1564

Dependent variable: GDP Growth

R-squared	0.798361
F-statistic	6.186515
Durbin-Watson statistic	1.706584

The results of table 6 and 7 have different results from one another. The independent variable of panel least squares resulted to Total MSMEs resulted to -1.36E-08, which means that it has a negative relationship with the dependent variable which is GDP growth. The p-value is 0.0056 which results to it being significant. Table 7's fixed effects model resulted to the independent variable Total MSMEs having an outcome of 5.63E-08 which is a positive relationship with the dependent variable GDP Growth. The p-value is 0.1564 and is insignificant. The researchers will not use the tables 6 and 7 because the Hausman test resulted to the random effects model being the choice of model.

Table 8. *Random effects model of MSME and GDP Growth*

Variable	Coefficient	Prob.
Constant	0.062288	0.0000
Total MSMEs	-1.28E-08	0.0001

Dependent variable: GDP Growth

R-squared	0.798361
F-statistic	6.186515
Durbin-Watson statistic	1.706584



As shown in table 8, the random effects model of the independent variable Total MSMEs and the dependent variable GDP Growth resulted in having a significant negative relationship. This is because small and medium businesses are recognized as the main drivers that can stimulate economic development (Obi, 2019), with that being said, MSMEs have a contribution to economic growth especially in developing economies (Agbeibor, 2006). Total MSMEs and GDP Growth have a negative relationship can be because of unproductive entrepreneurship, this can take forms such as tax evasion and avoidance efforts (Cravo et al. 2012). Another reason why there is a negative relationship is because of government policies that are targeting income inequality fail (Prasetyo, P., 2020).

Table 9: Hausman test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.585437	1	0.4442
Period random	0.000000	1	1.0000
Cross-section and period random	3.236159	1	0.0720

Perion test variance is invalid. Hausman statistic set to zero
Estimated cross-section random effects variance is zero

As displayed in table 9, the Hausman test resulted in the cross-section and period random probability statistics being more than 0.05. Therefore, the researchers will use the hypothesis which is using the random effects model.

Table 10: Standardized Residuals of MSME and GDP Growth

Jarque-Bera	200.6355
Probability	0.000000

The table above shows that Jarque-Bera has resulted to 200.6355 which means that the data used is not normally distributed. The probability is 0.000, consequently having significance.

Table 11: Residual cross-section dependence test of MSME and GDP Growth

Variable	Coefficient	d.f.	Prob.
Breusch-Pagan LM	0.234451	3	0.9718
Pesaran Scaled LM	-1.129031		0.2589
Pesaran CD	-0.056293		0.9551



Null hypothesis: **No cross-section dependence (correlation) in residuals**

Cross-section effects were removed during the estimation

As illustrated in table 11, the period that the researcher used are greater than the number of cross-sectional variables, the researchers will use the Pesaran CD as a basis. The result of Pesaran CD is -0.056293 and is lower than the p-value, therefore, the researchers will be using the null hypothesis which is no cross-section dependence in residuals

5. Conclusion and Policy Implications

5.1. Conclusion

For many years, governments around the globe have focused to improve their fiscal policies by continuously increasing their expenditures to establish an economy that is strong and resilient to different economic shocks and challenges such as the 2008–2009 global financial crisis and the recent COVID-19 pandemic. Along with this is the growth of the micro, small, and medium enterprises which have been an integral part of the economic success of many countries in the Southeast Asian region. MSMEs thrived and have produced job opportunities and livelihoods for the vast majority of labor forces in several ASEAN states. To further understand the relationship of fiscal policies to the MSME sector, this study investigated the effects of fiscal policies of the Philippines, Thailand, and Vietnam on the growth of their respective MSME sectors, whether the impact is substantial or not. Also, the researchers attempted to undertake supplemental discussions on the outcomes of MSME growth in relation to the expansion of the economies of the said countries.

As proven by the results using the Panel Least Squares method, the researchers concluded that government expenditure, as supported by household consumption and MSME employment, are significant value factors in the growth of MSMEs in the Philippines, Thailand, and Vietnam. Government expenditure established a positive significant effect on MSME growth as fiscal policies through government spending positively affects MSME growth through subsidies and incentives which also lessens an enterprises cost. HFCE, also significantly influenced MSME growth directly. Household consumption, as the main consumer base of MSMEs, contributes to the gross sales of MSMEs which translated to the increase of MSMEs by numbers. Subsequently, MSME employment resulted in having a significant negative relationship on MSME growth as the increase in MSME employment does not equate to an increase in the employment of effective human capital needed by the MSME enterprises. Employing inadequately trained human capital is a cost that a business incurs not only through training and education expenses but also in costs due to inefficient output production. Also considering that



MSMEs garner a high turnover rate in which hinders the growth of businesses in this sector. Using the PLS and RE model, MSMEs constituted a significant inverse effect on GDP growth. This is due to failed government policies that tackle unemployment, poverty, and income inequality. Adding to this statement, tax avoidance and tax evasion could be a reason for this negative relationship.

5.2 Policy Implications

Even though fiscal policy on the growth of MSMEs, measured through government expenditure, yielded significant correlation, MSMEs are still a diverse sector with different structures, definitions, needs, and economic restrictions, it is recommended that the implementation of fiscal policies specifically government expenditure, for the overall growth and health of MSMEs should be targeted towards the specific needs of each sector considering also that the processes and needs of the micro, small, and medium enterprises vary and that a general policy may not be effective nor efficient for stimulating the growth of the MSME sector overall. MSMEs contribute to a large portion of employment and economic output, but developing economies such as the Philippines, Thailand, and Vietnam still have limitations when it comes to maximizing MSME outputs as many still belong to the informal sector, making it harder for governments to reach. Other than expenditure, it is also important to note that governments must also address the informality problem in order to have wider accessibility towards the unregistered MSMEs which would make incentivizing/subsidizing their needs easier, translating to a more effective stimulation of their output, also affecting the growth of their respective economies. Also, it is important to not only use fiscal spending as a sole instrument in boosting the MSME sectors, taking into consideration the tax side of fiscal policy such as tax reforms for businesses should also be utilized to lessen the costs incurred by MSMEs and increase their sustainability, without compromising their contribution to overall government tax revenues (McCarthy, 2021). Also, fiscal policy, specifically through government expenditure, must be optimized by allocating more expenditure on human capital development, education, and training for MSME employees as MSME employment negatively affects MSME growth. With regard to MSMEs and GDP growth, the PLS and RE results concluded a significant negative relationship between the two, it is important to focus not only on the generation of new businesses, but also and most importantly, governments must focus their allocation on the health and well-being of human capital overall, especially in the MSME sector as they contribute largely to the output generated in an economy. Considering also that the Philippines, Thailand, and Vietnam are MSME dominant economies, the contribution to the overall employment comes from this sector thus addressing the policies to resolve the income disparity, poverty, and unemployment must be a priority.



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