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# A study on the impact of economic freedom on economic growth in ASEAN countries

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**Abstract:** We examine the impact of economic freedom on economic growth using data of ASEAN countries over the period of 2000-2017. To capture the characteristics of ASEAN liberalization purposes, we use different proxies documented in prior literature such as trade freedom, labor freedom and financial freedom as proxies of economic freedom. We document that higher economic freedom and higher labor freedom lead to higher economic growth. However, more trade freedom appears to inhibit economic growth in ASEAN countries. We find no significant relationship between financial freedom and economic growth. These findings survive robustness tests.

**JEL Classifications:** O15, O17

**Keywords:** Economic freedom, labor freedom, trade freedom, financial freedom, economic growth

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## 1. Introduction

Stimulating economic growth is central to any country's economic policies. This is why the determinants of economic growth are widely investigated in the world by academics. Policymakers in ASEAN economies have switched their attention to policies that boost economic freedom as preparation for higher integration by 2020. ASEAN countries are in the process of achieving an integrated financial market. The integrated market is defined as the region where goods, services, investment, skilled labor and capital can freely move among ASEAN countries (Asian Development Bank, 2013). The main purpose of a comprehensive integration market is to boost economic development and reduce poverty and socio-economic disparities in the ASEAN region (Guerrero, 2010). This is because the increased capital flows, trading activities, and skilled labor are important factors of economic growth. Economic freedom boosts capital flows from trading and investment activities in the economy by removing financial obstacles and export and import tariffs (Wu, 2011). Economic freedom also leads to the higher movements of high-skilled workers, which improves the quality of human resources and hence stimulates economic growth (Keho, 2017).

While these studies clearly point out that positive effects of the higher economic freedom, some recent empirical studies show the negative side of economic freedom. The integrated market is associated with higher levels of economic freedom and financial liberalization, which might have a detrimental impact on economic growth. This is because the removal of financial protectionism in an integrated market can expose low- and low-middle income countries to higher volatility and economic shocks (Almekinders et al., 2015). Hatfield & Kosec (2013) argue that higher competition levels from foreign

enterprises can threaten the domestic manufacturing and financial market, which results in lower economic growth in developing countries.

It is clear that previous studies show the inconsistent view of the implications of economic freedom on growth. Filling this literature gap is one of the main contributions of this study. Moreover, recent studies tend to focus on the effects of economic freedom on growth rate in worldwide economies (Hussain & Haque, 2016; Azman-Saini et al., 2010) or developed countries (Compton et al., 2011). The effects on ASEAN economic growth is less discussed. Therefore, this study aims to investigate the effects of economic freedom on growth in ASEAN economies.

Economic freedom is, however, a general term. There is a range of factors that can be used to proxy economic freedom. They are called the Heritage economic freedom indices, and the dataset is provided by the Heritage Foundation/Wall Street Journal (HF/WSJ). This study uses the trade freedom, financial freedom, and labor freedom to proxy for economic freedom as they are appropriate to the aim of ASEAN countries in creating a region where goods, services, investment, and skilled labor can freely move among ASEAN countries (see Asian Development Bank, 2013). Guerrero (2010) point out that stronger capital flows, trading activities, and skilled labor movements are vital for ASEAN economic development in the integration market. In particular, following Miller et al. (2018), higher financial freedom is associated with more capital flows by removing financial obstacles. Trading freedom removes a number of tariffs and non-tariffs, leading to higher export and import activities. Labor freedom encourages the movements of high-skilled labor among ASEAN countries. Hussain & Haque (2016) also employ the indices of financial freedom, trade freedom, and labor freedom to proxy for economic freedom.

This study follows Hussain & Haque (2016) to use financial freedom, trade freedom, and labor freedom to proxy for economic freedom because these freedom indicators are consistent with the general aims of ASEAN integration policies. The aim of this study is to examine economic freedom factors that are the most important to the ASEAN integration process. Therefore, economic freedom used in this study implies financial freedom, trade freedom, and labor freedom. Moreover, this study also includes an overall economic freedom index which covers twelve different indicators of economic freedom to capture the influence of the overall economic freedom to economic growth in ASEAN. However, this variable is not in the main focus of this study as it refers to a board range of economic freedom. While this study aims to examine the most important economic freedom factors that are expected to be highly influenced during the ASEAN integration process, namely financial freedom, trade freedom, and labor freedom.

This study reports interesting findings on the relationship between economic freedom and economic growth. Firstly, this study finds a positive and statistically significant relationship between economic freedom and economic growth. This means that ASEAN countries with higher levels of economic freedom have higher economic growth. Secondly, this study finds that higher trade freedom appears to foster economic growth in ASEAN countries. Finally, this study reports robust evidence that more trade freedom inhibits economic growth. Financial freedom, however, exerts an insignificant influence on economic growth.

The results of this study suggest that policymakers in ASEAN should further promote economic freedom and labor freedom to foster economic growth. Moreover, they should enhance the competitive power and efficiency of domestic firms to reduce the detrimental impacts of trade freedom on economic growth. The findings are valuable as ASEAN

countries are in the periods of liberalizing their economies to create an integrated market by 2020.

The remainder of this study is organized as follows. Section 2 reviews the literature. Section 3 provides information about data and variables. Section 4 provides empirical models. Section 5 presents an analysis of data. Section 6 reports empirical findings and discussions. Conclusions are offered in Section 7.

## **2. Literature review**

This section reviews the previous findings on the relationship between economic freedom and economic growth. The definitions of economic freedom are also clarified to build a theoretical framework of economic freedom and growth. Based on the empirical findings, hypotheses are also provided to test the effects of economic freedom on economic growth.

### **2.1. Definition of economic freedom**

Economic theories are unable to provide a full picture of the determinants of economic growth. Smith (1776) was among the first who argue that economic freedom is a vital factor fostering economic development. Smith (1776) suggests that government support plays an important role in maintaining a well-functioning market. The idea has been a cornerstone of economic theory relating to economic freedom and growth. In recent decades, the concept of economic freedom has also been proposed as a condition and effective mean to stimulate economic growth (Borovic, 2014). As defined by Gwartney & Lawson (2003), economic freedom refers to people's choice and freedom to decide their lives and the right to protect their property. Based on that, people can freely decide how to use their time, assets and talents. This is why Nikolaev & Bennett (2016) suggest that people tend to achieve more when people have more freedom to decide on their lives.

Gwartney & Lawson (2003) suggest institutions and government policies are closely related to economic freedom because they directly provide protections to people's property and rights and allow people to do the right things. Higher economic freedom means that the government provides an appropriate legal framework and a strong legal enforcement system to protect people's property and rights. In contrast, lower economic freedom is recognized when the government issues a number of taxes, policies or expenditures against people's choice, freedom, and market coordination.

To examine how economic freedom relates to economic growth, the next sub-section reviews the theoretical framework for the relationship between economic freedom and economic growth.

### **2.2. Theoretical framework of the association between economic freedom and economic growth**

Economic freedom refers to the different aspects of the economy. It measures how a country interacts with the world economy such as financial liberalization, freedom of trade and investment, or government effectiveness and integrity. More importantly, the index of economic freedom assesses the liberty of labor and financial markets (Miller et al., 2018).

More economic freedom is achieved when people face minor government constraints and interventions. This implies that economic freedom lowers the interventions of the government to the economy. This does matter as government actions tend to rise beyond the minimal necessary level through a number of constraints on economic activities that infringe people or personal freedom. As a result, the government may divert firm resources and productive activities to unearned benefits, leading to the decline of a country's prosperity.

Examining the nature of economic freedom, Nikolaev & Bennett (2016) suggest that when people have greater control over their lives they tend to better pursue a passion and yield more achievements. Economic freedom theoretically improves a country's growth and prosperity by letting people decide for their lives. The self-directed people can work alone or in a company, generate goods and services that best meet the needs of the market (Miller et al., 2018). Individuals can freely work, consume or invest in any channel that benefits them. This, in turn, increases market efficiency and economic growth (Wu, 2011). These studies highlight that the freedom of people to decide and control their lives improve living standard and hence strengthen economic growth. This, in turn, allows people to work alone or in a company, and to generate goods and services that meet the needs of the market (Miller et al., 2018). When people have the freedom to work, consume or invest in any channel that benefits them, market efficiency and economic growth will be elevated (Wu, 2011).

Moreover, higher economic freedom would exert a positive effect on a country's institution by lowering the misappropriate aid funds and improve market transparency which in turn translates the funds to beneficial activities to stimulate economic growth (Dutta & Williamson, 2016). Government support can distort market efficiency by channeling funds to inefficiency projects of state-owned companies or private companies with strong politically-connected relationships (Cali & Velde, 2011). Heckelman & Knack (2008) report that political leaders may support state-owned enterprises and allocating financial resources of inefficient investment projects for private benefits. Theoretically, higher economic freedom will lower state ownership and the influence of the government on the economy, thereby enhancing market efficiency and institutional quality, leading to higher economic growth.

Furthermore, economic freedom is associated with more foreign entry because it lowers or removes a number of obstacles. Dreher & Gehring (2012) argue that foreign aid can theoretically stimulate economic growth through three channels. Firstly, a higher foreign entry will associate with more international investments and direct money transfer, leading to the stronger development of the economy. Higher money pumped into the economy would provide sufficient funds for stronger economic development. Secondly, foreign entry improves international standards of domestic markets. This is because government policies and domestic products and services have to meet certain requirements for deeper integration. The improvement in government policies, as well as product quality, would exert a positive effect on economic growth. Finally, foreign aid leads to a higher knowledge transfer. Domestic firms will benefit from higher technology transfer from foreign companies. This can improve firm efficiency and profitability. The effect could be more pronounced in emerging countries where firms tend to have low technology and management experience.

On the other hand, some studies clearly show the benefits of economic freedom, some existing arguments point out the negative influence of economic freedom on growth.

Sturm & De Haan (2001) argue that increased economic freedom will increase domestic competition, which can reduce firm performance. They suggest that domestic firms with poor operating efficiency, international standards as well as technology are more likely to left behind in their markets. Ryan et al. (2011) point out the economic freedom lead to higher interconnection among economies. This means that systematic risk can spread out of the world and freeze the international financial system during a short time period, thereby reducing economic growth. Moreover, it is worth stressing that the government's role in leading and controlling the economy is important. Less government interventions may increase the vulnerability of the economy to economic shocks and systemic risk (Compton et al., 2011).

To proxy for economic freedom, this study uses the indices of financial freedom, trade freedom, and labor freedom. They capture the characteristics of economic freedom policies, which aim to create a region where goods, services, investment, skilled labor, and capital can freely move among ASEAN countries. The next subsections review recent empirical findings on the impact of financial freedom, trade freedom, and labor freedom on economic growth.

### **2.3. Financial freedom and economic growth**

The slow economic growth in some developing countries can be attributable to the low financial freedom policies. Wu (2011) and Hye & Yeap (2017) suggest that low levels of financial freedom inhibit capital flows from trading and investment activities to the economy. This sheds light on the argument of Dreher & Gehring (2012) which states that the increased direct money transfers and foreign investments can significantly fill the insufficient funds for developments in the host countries. Borovic (2014) indicates the importance of financial investments to the domestic financial markets such as stock and bond markets. This provides funds for domestic firms to develop and hence increasing economic growth. The higher financial freedom is achieved when a country removes or lowers financial obstacles for businesses to attract more investments from foreign economies.

Investigating financial sectors, Hafer (2013) highlights that the contributions of the sector to economic growth are much higher than in other sectors. The stability and efficiency of the financial sector are closely related to economic performance. Hafer finds that financial liberalization reduces the likelihood of a banking crisis and hence stimulates economic growth. This is because banking crises are always associated with a sharp decline in economic growth (Borovic, 2014). The same finding is reported in the study of Akinsola & Odhiambo (2017) in Sub-Saharan Africa countries. Moreover, higher financial freedom can also increase the transparency and efficiency of the financial sector (Chortareas et al., 2013; Bumann et al., 2013), which significantly contributes to the economic growth rate. This could be due to the fact that regulations on the domestic financial system have to change for higher liberalization and international standards, leading to a higher quality of financial institutions. Lopes & Jesus (2015) consider a sample of 77 countries and find that increased financial liberalization has a positive effect on economic growth. They argue that the change in financial policies allows financial institutions to improve their efficiency and quality as well as credit provisions to the economy.

However, existing literature also points out the negative implications of financial freedom on economic growth. While Lopes & Jesus (2015) find that financial freedom can increase

economic growth, the positive effect can only exist in countries with a high democratic system. In restricted countries, higher financial liberalization can shrink economic growth. They point out that the poor quality of the domestic institutions and financial sector will be vulnerable to changes in liberalized policies. This could be attributable to the low skilled management of financial institutions and policymakers (Azmeah et al., 2017).

In addition to the low quality of domestic financial institutions, higher financial freedom also leads to a more intense systematic risk. Akinsola & Odhiambo (2017) warn that elevated financial freedom increases the risk spread-out effects when economies are highly intercorrelated. The authors employ the linear generalized methods of moments to consider financial freedom in sub-Saharan Africa countries and find that financial freedom increases the likelihood of the banking crisis and the financial crisis in emerging countries and hence reduces economic growth. The finding is consistent with Chang & Mendy (2012) who argue that more financial openness increases the overall insolvency risk and the probability of a financial crisis, which lower economic growth in Africa.

Examining the performance of domestic financial institutions, Mian (2003) suggests that domestic financial institutions tend to have lower resilience to risk and competitive power than foreign competitors. Mian suggests that higher financial freedom could lead to more inefficient competition, which could be harmful to economic growth. Using a meta-analysis study on financial liberalization and economic growth, Bumann et al. (2013) report a negative link between them during the 1970s. However, the findings are too old to reflect the current characteristics of financial freedom.

While these findings provide conflicting views of the implications of financial freedom on economic growth, this current study conjectures that increased financial freedom can reduce economic growth by lower management and risk control in domestic countries (Azmeah et al., 2017) and institutional quality (Lopes & Jesus, 2015), higher risk spread-out effects and the likelihood of financial crisis (Borovic, 2014), and inefficient competition (Mian (2003)). Therefore, the first hypothesis suggests a negative relationship between financial freedom and economic growth.

***H1: Higher financial freedom reduces economic growth***

## **2.4. Trade freedom and economic growth**

There is an ongoing debate about whether trade freedom with respect to economic growth nexus is positive or negative. On the one hand, investigating trade liberalization in Southern African Custom Union countries, Manwa & Wijeweera (2016) find that higher levels of trade freedom positively and significantly affect economic growth in the long run. This could possibly take place when trade liberalization removes a number of tariffs and reduces taxes, leading to the more benefits of healthy competition (Manwa & Wijeweera, 2016). The authors suggest that increased competition is associated with more technology transfer, product variety, and economies of scale, which in turn improves economic growth. In other words, domestic firms can apply advanced technology from foreign peers to enhance their efficiency and profitability. This could have a positive influence on economic growth.

Krugman (1990) suggests two channels through which trade freedom fosters economic growth in emerging economies. The first channel relates to the expansion of domestic producers to international markets. Krugman suggests that production pattern in emerging countries is highly orientated and focused on labor-intensive services,

agriculture, and manufacturing. However, the volume of goods and services is lower than the potential of producers because of the limit of domestic demand. Trade freedom allows low-cost producers to expand their markets to the world and provide goods that exceed domestic demand. This is translated into the higher country outputs and hence economic growth. The second channel relates to the removing of government protections on domestic producers. Krugman argues that larger foreign competitor forces domestic firms to restructure and improve efficiency to enhance competitive advantages. This will certainly exert positive effects on economic growth.

Manni & Afzai (2012) and Hye & Yeap (2017) consider the effects of trade openness in emerging countries and find robust evidence that greater trade openness leads to higher exports and fosters economic growth. Manni & Afzai (2012) also find that higher trade freedom also increases imports. However, the effects are statistically insignificant, and they clearly show the positive link between trade freedom and economic growth. They find that one-third of emerging countries in the world achieve strong economic growth and poverty reduction over the last two decades when they experience a significant increase in trade freedom with lower tariff and non-tariff barriers.

Foster (2008) in the study of 75 liberalizing countries finds that low-income countries would benefit most from trade liberalization in the long run even though they tend to suffer from negative effects of trade liberalization in the short run. Foster suggests that trade liberalization negatively affects domestic firms because of the increased competition in the short run. However, domestic firms would gradually improve their operations and then lead to higher efficiency. This is translated into higher economic growth in the long run.

Using Granger causality tests, Keho (2017) finds strong evidence of a positive link between trade liberalization and economic growth in both the long run and short run.

On the other hand, using a panel causality approach to examine trade freedom and economic growth in African countries, Menyah et al. (2014) argue that more trade freedom can exert a detrimental impact on economic growth. Domestic firms with lower experience, technology and funds would suffer from the increased competition. However, foreign firms also face some international problems such as agency costs and international obstacles. This coupled with inefficient competition resulting in lower economic growth and higher overall risk (Kim et al., 2012). Kneller et al. (2008) use both theoretical and empirical works to examine the effects of trade freedom on economic growth and find inconsistent results. They suggest that the heterogeneous outcomes could be attributable to a number of omitted variables in regression models.

Although the effects of trade freedom on economic growth are heterogeneous across countries, this study posits that higher trade freedom can significantly increase economic growth because of the benefits of healthy competition (Manwa & Wijeweera, 2016), international market access (Krugman, 1990), higher export activities (Manni & Afzai, 2012). Therefore, the second hypothesis can be proposed as follows:

***H2: Higher trade freedom increase economic growth***

## **2.5. Labor freedom and economic growth**

Gwartney & Lawson (2003) suggest that when people can freely decide how to use their time, assets and talents, this will generate strong motivation for economic development.



This is why Nikolaev & Bennett (2016) suggest that when people tend to achieve more when people have more freedom to decide on their lives. Higher labor freedom refers to more freedom for people to determine their lives.

In the literature, some arguments in favor of labor freedom tend to suggest that improving the quality of the labor market exerts positive effects on economic growth. A country with more labor freedom can better attract high-skilled labor and tends to have a lower unemployment rate, which in turn stimulates economic growth (Wu, 2011).

Keho (2017) uses Granger causality tests to examine the effects of labor freedom and economic growth and finds that higher labor freedom is associated with lower economic growth. Keho suggests that the more freedom of human resources movements would transfer high-skilled labors to more attractive countries. This means that countries providing more benefits to those labor would benefit most. Keho also shows that innovative labor contributes around 17% of GDP for Cote d'Ivoire. These findings refer that the effects of labor freedom depend on the attractive policies of high-skilled workers. The main purpose of labor freedom is to improve the quality of the domestic labor market and attract more quality labors.

While some countries issue laws on minimum wage to protect labor rights, this lowers the labor freedom. The new minimum wage laws can prevent low-skill workers to enter the labor market because entrepreneurs are unable to pay lower than the required rate for those workers. This raises the rate of unemployment and lowers a country's output, leading to lower economic growth (Compton et al., 2011). Thus, higher labor freedom policies can balance the demand and supply in labor of the market, leading to lower unemployment, efficiency and economic growth.

Examining the liberalization of the labor market, Hye & Yeap (2017) find that the skilled labor market plays a vital role in improving economic growth. They argue that more labor freedom increases the competition in the labor market, which is associated with a higher quality of labor force. This eventually has a positive effect on economic growth by improving a country's output and efficiency.

Nelson & Phelps (1966) are among first who consider labor force quality as a source of productivity growth because it directly relates to the innovative technologies, which improves the efficiency of the economy and boosts economic growth. The finding sheds light on the study of Bumann et al. (2013) who argue that higher labor freedom attracts high-skilled labor and improves the quality of the domestic labor market. This encourages technology innovations and hence improves economic growth.

As these findings all suggest positive effects of labor freedom on economic growth, this study conjectures that higher labor freedom can increase economic growth by encouraging innovation (Nelson & Phelps, 1966), improving the competition of labor market (Hye & Yeap, 2017), and attracting more skilled labor from other countries (Wu, 2011). Therefore, the third hypothesis is given as follows:

***H3: Higher labor freedom increases economic growth***

### 3. Data and variables

#### 3.1. Data

Data for economic freedom is collected from the Heritage Economic Freedom Database. Some recent papers also use the Heritage freedom database to proxy for economic freedom (see Borovic, 2014; Hye & Yeap, 2017; Akinsola & Odhiambo, 2017). Data of macroeconomic factors (inflation, unemployment, foreign direct investment, credit to the private sector, and exports of goods and services) are available in the World Development Indicators of the World Bank. In addition, this study uses the annual GDP growth rate and GDP per capita growth rate to proxy economic growth (dependent variables), consistent with the economic-development indicators presented in the studies of Azman-Saini et al. (2010), Hussain & Haque (2016). The data for GDP growth and GDP per capita growth are also available in the World Development Indicator dataset of the World Bank.

The sample data of this study includes 10 ASEAN countries over the period 2000-2017. However, as economic freedom data is unavailable for Brunei Darussalam and Myanmar, they are taken out of the sample. The other eight countries include Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, and Vietnam. Moreover, data for labor freedom is only available from 2005 to 2017, resulting in the lower observations of labor freedom compared to other economic freedom variables. Regression models of this study, therefore, include each time one economic freedom indicator to avoid observation loss.

#### 3.2. Economic growth measurement

Following the recent literature on the determinants of economic growth (see e.g. Keho, 2017; Manni & Afzai, 2012; Hye & Yeap, 2017), this study uses the annual percentage growth rate of GDP per capita as a proxy for economic growth.

#### 3.3. Economic freedom measurement

Economic freedom indicators in this study are chosen from the Heritage Economic Freedom database. The indices' values vary between 0 and 100 with higher values denoting a higher degree of economic freedom. The measurement methods are clearly highlighted in the annual report of the Heritage Economic Freedom (see Miller et al., 2018).

##### 3.3.1. Labor freedom measurement

The index of labor freedom is measured based on a range of legal and regulations of a country's labor market such as regulations on minimum wages, restraints on higher and hours worked, inhibiting layoffs, or severance requirements. In particular, the index covers seven areas in labor market including (1) ratio of minimum wage to the average value added per worker; (2) hindrance to hiring additional workers; (3) rigidity of hours; (4) difficulty of firing redundant employees; (5) legally mandated notice period; (6) mandatory

severance pay; and (7) labor force participation rate (see Miller et al., 2018). Each component has equal weights to construct the index and is converted to a scale of 0 to 100. Each sub-factor is calculated as follows:

$$Subfactor\ Score_i = 50 \times \frac{SubFactor_{average}}{SubFactor_i} \quad (1)$$

Where the value of a sub-factor score for country  $i$  is the relation of sub-factor value in the country to the world average and then multiplied by 50. The score of each country is the average value of seven sub-factors.

### 3.3.2. Trade freedom measurement

The index of trade freedom refers to the degree of a country's tariff and non-tariff barriers imposed on the export and import activities. The calculation of the index is based on the inputs of the trade-weighted average tariff rate and nontariff barriers (NTBs). As different goods and services have different tariff rates, the tariff degree of a country is simply the average value of all types of tariffs. The calculation is trade freedom index can be given as follows:

$$Trade\ freedom_i = 100 \times \frac{(Tariff_{max} - Tariff_i)}{(Tariff_{max} - Tariff_{min} - NTB_i)} \quad (2)$$

Where  $Tariff_{max}$  and  $Tariff_{min}$  refer to the upper and lower bounds for tariff rates in percentage, respectively;  $Tariff_{min}$  normally is equal to zero;  $Tariff_i$  refers to the weighted average tariff rate in percentage in a country  $i$ . With respect to nontariff barriers, the base score is then subtracted based on the degree of nontariff barriers. In particular, the maximum subtraction is 20 when NTBs are extensive across a wide range of goods and services. The subtraction is 0 when NTBs are not used to limit international trade. There are five main areas that NTBs cover: (1) quantity restrictions such as import quotas, export limitations, countertrade, etc; (2) price restrictions such as anti-dumping duties or border tax adjustments; (3) regulatory restrictions such as licensing, packaging, labeling, or sanitary and phytosanitary standards; (4) customs restrictions such as advance deposit requirements, customs clearance procedure, or customs classification procedures; and (5) direct government intervention such as subsidies and other aid, government monopolies, government procurement policies or government industrial policies.

### 3.3.3. Financial freedom measurement

The index of financial freedom measures the degree of bank efficiency, the independence of the financial sector from government controls and interventions. The index also takes into account government ownership in financial institutions and capital market. Higher economic freedom is achieved when financial market is less influenced by the

government, credit is allocated based on market demand, low levels of government ownerships in financial sector, banks are free to extend their credit and deposits, the central banks are independent of government influence, and foreign financial institutions are free to operate in domestic financial sector without any discriminations. The index of financial freedom particularly covers five main areas including: (1) the extent of government regulation of financial services; (2) the levels of government on financial sector through direct and indirect ownership; (3) the extend to which credit allocation in the economy is influenced by the government; (4) the development levels of financial and capital market; and (5) the levels of financial liberalization for foreign competition.

Miller et al. (2018) clearly provide criteria of levels of financial freedom, which can be specified as follows:

- Levels from 70 to 90 refer to the limited to minimal government interference. In other words, government ownership is small, regulations of financial institutions are minimal, credit allocation is less influenced by the government, etc.
- Level of 60 refers to the moderate government influence where banking and financial regulation may be considered as a burden, the government has a significant share in the financial sector, and financial institutions are subject to a range of restrictions.
- Level 50 refers to considerable government interference, where credit allocation is significantly influenced by the government, the government's ability to enforce contracts is weak, and government ownership in the financial sector makes up a large share of total financial sector assets.
- Level 40 refers to the strong government interference, where the central bank has low freedom for making decisions, the ability to prevent fraud is weak, and the government's share in the financial sector is very high relative to total financial assets.
- Levels of 20 to 30 refer to the heavy to extensive government interference, where credit allocation is extensively influenced, the central bank is not independent, and foreign institutions are prohibited.
- Level 10 refers to the near-repressive where credit allocation is controlled by the government, bank information is restricted, and foreign institutions are prohibited.
- Level 0 refers to the repressive level, indicating that the private financial sector is nonexistent and financial institutions are fully restricted by regulations.

### **3.3.4. The overall economic freedom index**

The overall index of economic is the average value of twelve indicators of economic freedom in the Heritage Economic Freedom database including property rights, judicial strength, government integrity, tax burden, government spending, fiscal health, business freedom, labor freedom, monetary freedom, trade freedom, investment freedom, and financial freedom. The overall index covers different aspects of economic freedom and might not reflect the characteristics of economic freedom in ASEAN economies.

In addition to economic freedom variables, this study adds a number of control variables into the regression models to reduce the probability of the endogeneity problem. The next subsection reviews the impact of control variables on economic growth.

### **3.4. Control variables**

In addition to economic freedom variables, this study also examines the effects of some macroeconomic factors on economic growth.

#### **3.4.1. Foreign direct investment (FDI)**

Using a sample of 140 countries over the period 1970-2009, Iamsiraroj & Ulubasoglu (2015) find strong evidence that higher FDI positively affects economic growth. They suggest that significant foreign direct investments generate an important source of savings and capital accumulation in a country. Also, higher FDI improves the quality of the labor market and the connections among sectors in the economy. The improvement in labor quality is the main motivation for economic growth (Hye & Yeap, 2017). Baldwin et al. (2005) also find that higher FDI is associated with broader access to international markets for the host countries.

There is another strand of literature reporting that higher FDI boosts technology transfer and hence stimulates economic growth. Baldwin et al. (2005) find that higher FDI directly increases economic growth by providing newer technology. This, in turn, improves the managerial skills, infrastructure, human capital, and hence economic development. Foster (2008) mentions that the technology spillover effect allows domestic firms to approach high technology from foreign competitors. This improves the efficiency of domestic firms, leading to higher outputs, profitability, and economic growth.

On the other hand, some studies point out the negative effects of FDI on economic growth. Borensztein et al. (1998) suggest that higher FDI inflow might not reflect the higher efficiency but profit opportunities, which can distort market activities. Gorg & Strobl (2002) argue that emerging countries can be more dependent on foreign direct investment and have lower incentives for economic development. Examining the relationship between FDI and economic growth in Spain, Carbonell & Werner (2018) report no statistically significant relationship between them.

#### **3.4.2. Inflation**

Empirical findings on the association between inflation and economic growth are mixed, resulting in a long-standing debate. On the one hand, Valdovinos (2003) uses Baxter and King filter to investigate the effects of inflation on economic growth and finds that lower inflation is associated with higher economic growth in the long run. Hye & Yeap (2017) find that a lower inflation rate benefits the employment and productivity of the economy, leading to higher levels of capacity utilization and the lower output gap. This results in higher economic growth. In the same vein, Kneller et al. (2008) point out that a significant increase in the inflation rate can hurt the profitability of foreign companies. They can withdraw their capital to protect their profitability, resulting in the problem of capital flight and lowering economic growth.

On the other hand, Lopez-Villavicencio & Migon (2011) report a U-shape on the relationship between inflation and economic growth. They suggest that inflation harms economic growth only at high levels of inflation. At the lower inflation levels, the effect is unambiguous. This is in line with the study of Burdekin et al. (2004) who also report that a

high level of inflation can hurt economic growth. However, they argue that at low levels of inflation, an increased inflation rate or deflation can benefit the economy. This is because a slight increase in the inflation rate encourages domestic firms to increase their outputs for higher profitability, resulting in a lower degree of unemployment and higher economic growth (Gregorio, 1993)

### **3.4.3. Private sector credit**

Private sector credit is the domestic credit to the private sector by banks as a percentage of GDP. Using system GMM methods to examine the relations between private sector credit and economic growth in Sub-Saharan Africa, Mbate (2014) finds that more credit to the private sector increases the development of the private sector, leading to the higher country's output and growth. Bumann et al. (2013) argue that the private sector is more efficient than the public sector. Higher credit channeled into the private sector improves market efficiency and significantly boost economic growth. Azman-Saini et al. (2010) also find a strong relationship between private sector credit by banks and economic growth. This reflects the higher development of the financial intermediary sector, which plays a vital role in stimulating economic growth. In the same vein, Gorg & Strobl (2002) report that higher credit by banks to the private sector indicates a higher demand for credit of the economy. The more expansion and increased output of domestic firms will, in turn, stimulate economic growth.

However, it is worth stressing that higher private sector credit by banks might be associated with lower economic growth. Menyah et al. (2014) point out that most firms in the private sector of emerging economies are small and medium-sized. Providing more credit to them can be risky and can raise more non-performing loans, which are harmful to economic growth in the long run. Oluitan (2012) examines bank credit and economic growth in Nigeria and finds that higher bank credit to the private sector only benefits economic growth in the short run. However, economic growth can be lower in the long run due to the negative influence of risk in the financial sector.

### **3.4.4. Unemployment**

Recent literature shows a consensus finding on the negative relationship between the unemployment rate and economic growth. It is important to consider the effects of the unemployment rate on economic growth as the labor force is vital for economic growth (Wu, 2011). Hye & Yeap (2017) suggest that a lower unemployment ratio reflects good economic conditions and a strong economic growth period. Neely (2011) suggests that unemployment rate is very sensitive to economic growth as the changes in firms' output can easily lead to lay off workers. Thus, the reduction in the unemployment rate indicates a high performance of domestic firms, which in turn translates into higher economic growth. Moreover, Hussain & Haque (2016) argue that lower unemployment rates can reflect an appropriate economic policy that fosters economic growth. They find that the decrease in the unemployment rate by 1% can lead to an increase in more than 3% of economic growth. Wu (2011) also reports that lowering the unemployment rate is one of the most important targets of the government. Furthermore, Krueger & Lindahl (2001) suggest that a lower unemployment rate can be attributable to higher quality and

education of human capital. This improves social stability, consumption, and country's outputs, leading to higher economic growth.

Bean & Pissarides (1993) suggest that the relationship between unemployment and economic growth is ambiguous and depends on the economic structure across countries. Lopes & Jesus (2015) also mention in their study that the effects of unemployment on economic can be affected by laws, social customs, technology, and demographics.

### **3.4.5. Export of goods and services**

The purpose of trade freedom is to remove a number of tariffs and non-tariffs to boost export and import activities. It is important to determine whether higher export activities are associated with higher economic growth. Manni & Afzai (2012), Hye & Yeap (2017) find robust evidence that higher exports significantly foster economic growth. One explanation for this is that higher exports of goods and services reflect the higher quality and standards of domestic goods and services. This results in the higher performance of the economy (Dreher & Gehring, 2012). Moreover, a higher value of export increases a country's net export value, which is directly related to economic growth. The improvement in export activities allows domestic firms to access international markets, which can benefit them due to the effects of the technology spillover effect (Manwa & Wijeweera, 2016). Higher performance and efficiency of domestic firms could be associated with higher economic growth.

While these studies clearly show the benefits of exports of goods and services on economic growth, few studies point out some conflicting views. Gabriele (2006) suggests that higher export-oriented services activities in emerging economies tend to be under the control of some foreign companies. The benefits of these activities tend to be poor and uncorrelated to the economic growth of the host countries. This is in line with Serena et al. (2016) who argue that the reliance on the export value of FDI enterprises can hurt economic growth in host countries because it shows the smaller contributions of domestic firms' export value on GDP.

## **4. Research method**

To investigate the relationship between economic freedom and growth in ASEAN countries, this study employs a fixed effects estimator. The rationale behind the method is its ability to address the problem of unobservable variables. This study aims to employ fixed effects estimator to address the problem and provide consistent regression estimates. A recent study of Ivanovic & Stanisic (2017) also uses fixed effects model to examine the effect of economic freedom on growth. The use of fixed effects model in panel data can particularly address the biased coefficient estimates which are attributable to unobservable factors. However, in the case that unobservable factors are not time-invariant and their movements are in a way that correlates with independent variables, the use of random effect would produce more reliable coefficient estimates. This study employs the Hausman test to determine whether the use of fixed effects estimator is valid across all regression models. The test bases on the random hypothesis which indicates the use of the random effect is more appropriate. If the p-value of the Hausman test is less than 0.05, we have sufficient evidence to reject the hypothesis. Moreover, period-effect problem can

arise when the intercept changes uniformly for all cross-sectional units over time. To remove the problem, this study includes a year fixed effect dummy variable to the model.

The model of this study is given as follows:

$$EGrowth_{i,t} = \alpha_0 + \beta_1 FFreedom_{i,t} + \beta_2 TFreedom_{i,t} + \beta_3 LFreedom_{i,t} + \beta_4 Macro_{i,t} + \gamma_{i,t} + \varepsilon_{i,t} \quad (3)$$

where  $i$  and  $y$  are country and time, respectively,  $EGrowth$  is economic growth,  $FFreedom$  is financial freedom,  $TFreedom$  is trade freedom,  $Macro$  is macroeconomic control variables (foreign direct investment, inflation, private sector credit, unemployment, and exports of goods and services),  $\gamma$  is year fixed effect, and  $\varepsilon$  is error term.

## 5. Data analysis

### 5.1. Descriptive statistics

Table 1 reports the descriptive statistics of the data sample including 10 ASEAN countries over the period 2000-2017.

TABLE 1. DESCRIPTIVE STATISTICS

Variable	Obs	Mean	Std. Dev.	Min	Max
GDP growth	162	5.26	2.90	-2.47	15.24
GDP per capita growth	162	3.73	2.89	-3.77	13.22
Economic freedom	148	61.05	12.28	33.50	89.40
Labor freedom	108	65.98	15.97	43.60	98.90
Trade freedom	148	72.59	10.40	47.60	90.00
Financial freedom	148	45.41	16.92	10.00	80.00
Foreign direct investment	158	5.25	5.84	-2.76	26.52
Credit to private sector	154	62.73	40.12	5.67	130.67
Unemployment	162	3.11	1.99	0.16	8.06
Inflation	162	4.91	6.47	-22.09	29.02
Exports of goods and services	161	73.08	50.26	19.12	231.19

In terms of economic growth proxied by both GDP per capita growth and GDP growth, Table 1 shows that the average economic growth rates of those indicators are 3.73% and 5.26%, respectively. While the world average values make 1.651% for GDP per capita growth and 2.9% for GDP growth (Data of The World Bank) for the same examined period. In other words, ASEAN countries achieved high levels of economic growth compared to the world average performance. However, the minimum column shows negative values, indicating that ASEAN countries experienced an economic recession during the 2000-2017 periods. This could be attributable to the recent Great Recession in



2008. The maximum average economic growth rates show strong periods of economic growth. Due to the large gap between maximum and minimum average values of economic growth indicators, the levels of economic growth in ASEAN are volatile on average, which could be reflected by the high standard deviations.

With respect to economic freedom indicators, which are scaled of 0 to 100, financial freedom appears to have the lowest value. At the average of the value of 45.41, financial freedom in ASEAN on average is strongly interfered by the government. In particular, the central bank's decisions are influenced by the government, the legal framework to prevent fraudulent activities and enforce contracts is weak, and the government highly controls the financial sector through direct and non-direct ownership. The average values of other economic freedom variables are all higher than 60, indicating a moderate degree of economic freedom. Section 5.2 provides more details of economic freedom in ASEAN countries.

Table 1 also reveals some interesting points of macroeconomic factors in ASEAN countries. Foreign direct investment to GDP in ASEAN countries in average is relatively high compared to the average world performance at 2.97% (World Bank). This means that the ASEAN region is a good place to attract foreign direct investments. However, the negative values in the minimum column imply a number of sharp declines in FDI, which may negatively influence economic growth. Moving to credit to the private sector, the average value over the examined period is 62.73%, while the figure of the world is 80.88% (World Bank) for the same period. This could be caused by the low economic freedom discourages the development of the private sector, resulting in lower credit and credit demand in the private sector. For example, while the public sector benefits from government support, the private sector faces more financial obstacles, tariffs or activity restrictions, resulting in the lower development of the sector.

Turning to the unemployment rate, the average rate is only 3.11% compared to the average world value, 5.76% (World Bank). Reducing the unemployment rate is one of the main annual targets of a country. The lower unemployment rate may indicate better performance of the economy, as reflected by the higher economic growth, and the success of the government in maintaining the unemployment rate at low levels. More impressive, the exports of goods and services to GDP of ASEAN (73.08%) is much higher than the world average (around 28%). This shows the higher contribution of export activities to economic growth in ASEAN. However, ASEAN economies experienced high inflation. The average value is higher than the world average by approximately 1% (World Bank). Moreover, the large gap between minimum and maximum values of inflation indicates the high volatility of inflation in ASEAN.

## **5.2. Economic freedom in ASEAN**

Figure 1 reports the average values of economic freedom indicators in ASEAN countries by year. It is clear that economic freedom and its indicators in ASEAN slightly increased over the period 2000-2017. However, there was no significant improvement in any economic freedom indicators. Looking at the index of economic freedom, which is constructed from 12 economic freedom indicators, the value only increased from 60 to around 63. This is equal to the average economic freedom of the world at 61.1 in 2017 (see Miller et al., 2018). In other words, economic freedom in ASEAN is relatively the same as the average economic freedom of the world. Despite the aims of deeper

integration to the ASEAN common market, there was no significant progress in economic freedom in ASEAN countries. This means that the liberalization process in ASEAN is very slow and needs more improvements. Moving to labor freedom, the index remained unchanged over the period shown, indicating no improvements in regulations on minimum wages, working hours, inhibiting layoffs or severance requirements. Achieving a deeper liberalization in 2020 which allows the free movements of labor within ASEAN countries with the lower restrictions on labor regulations would significantly elevate the degree of labor freedom.

FIGURE 1. ECONOMIC FREEDOM IN ASEAN BY YEAR

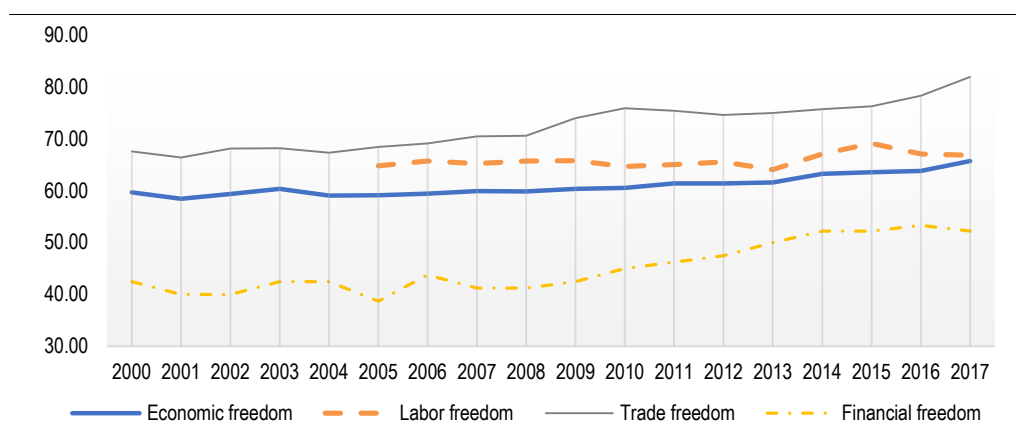
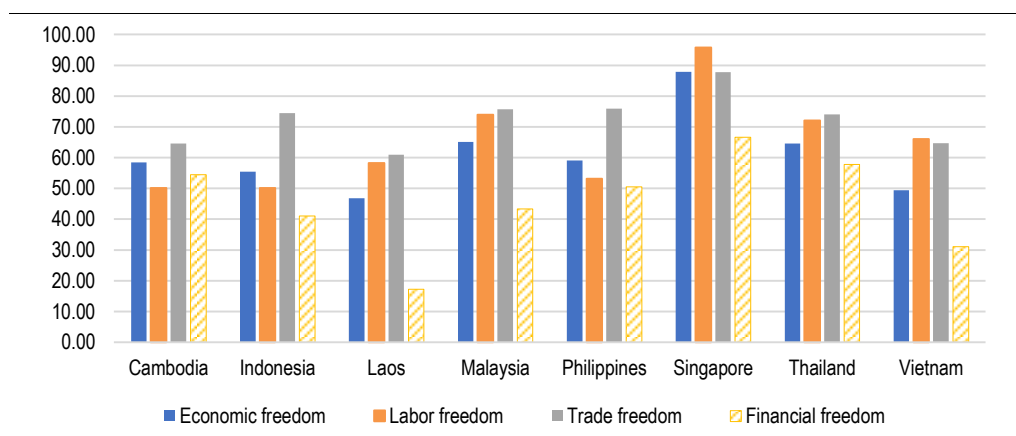


FIGURE 2. ECONOMIC FREEDOM IN ASEAN BY COUNTRY



Trade freedom appeared to slightly increase from 70 in 2000 to 80 in 2017. The increase of 10 is higher than 3 of the overall index of economic freedom. This means that the governments of ASEAN members pay more attention to trading activities by removing a number of tariffs and non-tariffs. However, at the levels of 70 and 80 per 100, ASEAN

countries have high levels of trade freedom. This indicates the low levels of tariff and non-tariffs imposed on exports and imports of goods and services in ASEAN countries.

Turning to the level of financial freedom in ASEAN, the index increased from 40 in 2000 to 50 in 2017, indicating a slow improvement in financial freedom. Based on the classification of Miller et al. (2018), the financial sector in ASEAN on average is strongly interfered by the government. In particular, the central bank's decisions are influenced by the government, the ability to enforce a contract and prevent fraudulent activities is poor, the government exerts have controls on the financial sectors through significant shares of direct and indirect ownerships, and foreign competitors face some restrictions in operating and entering the domestic market.

While Figure 1 shows the average economic freedom level in ASEAN countries, Figure 2 reports the degree of economic freedom in each ASEAN country over the same period. Brunei Darussalam and Myanmar are removed because of the lack of economic freedom data. It is clear that Singapore has the highest values of economic freedom indices, while the figures for Laos are the lowest. The average figure for economic freedom in Singapore is around 80/100, which is much higher than in other countries in the community. Financial freedom is expected to significantly increase since 2020 when investments and financial resources can freely move within the countries. Apart from Singapore and Laos, the other six countries have relatively the same levels of economic freedom. This refers to the small gaps in economic freedom among ASEAN countries.

## 6. Empirical findings and discussions

### 6.1. The impact of economic freedom on growth in ASEAN

This section presents the results of fixed effects methods used to investigate the impact of economic freedom on economic growth in ASEAN countries from 2000 to 2017. The findings of fixed effects models control the problem of an unobservable variable in panel data (Ivanovic & Staniscic, 2017). Robust standard errors and year effects are incorporated in each regression model to address the problems of heteroscedasticity and period-effect. Each result table includes 5 regression models. The structure of these models follows the recent papers (see e.g. Menyah et al., 2014; Hye & Yeap, 2017), which can be presented as follows. To begin with, Models (1) to (4) focus on the individual effects of economic freedom, labor freedom, trade freedom and financial freedom on economic growth, respectively. In Model (5), this study includes all these 3 components of economic freedom to observe the consistency of the effects of economic freedom on growth. To be more specific, Models (1) to (4) include each time one indicator of economic freedom and five control variables. Including all variables in the same regression model can drop a large number of observations. Model 5 includes three economic freedom indicators (labor freedom, trade freedom, and financial freedom) and the same five control variables.

Table 2 reports the implications of economic freedom on economic growth in ASEAN countries between 2000 and 2017 using the fixed effects estimator. The use of fixed effects models removes time-invariant unobservable variables and therefore produces more consistent results (Ivanovic & Staniscic, 2017). Model (1) reports a positive association between economic freedom and growth. This means that higher economic freedom exerts a positive impact on economic growth. When people have greater control over their lives, they tend to better pursue a passion and yield more achievements.

Our results are in line with cited findings of Miller et al. (2018), Wu (2011), Miller et al. (2018). Wu (2011) also finds that economic freedom enhances market efficiency. This is because higher economic freedom can adjust misappropriate aid funds and improve market transparency, which plays an important role in stimulating economic growth (Dutta & Williamson, 2016).

TABLE 2. ECONOMIC FREEDOM AND ECONOMIC GROWTH IN ASEAN COUNTRIES

	(1)	(2)	(3)	(4)	(5)
Overall economic freedom	0.0919* (0.0462)				
Labor freedom		0.0868*** (0.0179)			0.0955*** (0.0235)
Trade freedom			-0.0954** (0.0354)		-0.179** (0.0554)
Financial freedom				0.0478 (0.0281)	0.0264 (0.0445)
Foreign direct investments	0.260*** (0.0758)	0.305** (0.131)	0.276** (0.0844)	0.280*** (0.0617)	0.342*** (0.0930)
Credit to private sector	-0.0498*** (0.0113)	-0.0754*** (0.0147)	-0.0397** (0.0123)	-0.0453** (0.0168)	-0.0432** (0.0149)
Unemployment	0.830** (0.320)	0.850** (0.282)	1.117*** (0.326)	0.881** (0.296)	0.940*** (0.243)
Inflation	-0.0268 (0.0536)	-0.0749 (0.0843)	-0.0593 (0.0559)	-0.0391 (0.0543)	-0.108 (0.0710)
Exports goods and services	0.0126 (0.0132)	0.00239 (0.0161)	0.0249 (0.0139)	0.0211 (0.0152)	0.0472 (0.0258)
Constant	-2.586 (3.238)	-0.839 (1.117)	7.192** (2.648)	-0.168 (2.302)	4.228 (5.497)
Observations	137	97	137	137	97
R-squared	0.541	0.567	0.559	0.550	0.644
Year effect	Yes	Yes	Yes	Yes	Yes

Note: The table reports the impact of economic freedom and economic growth in ASEAN (2000-2017) using fixed effects method. The use of the fixed effects method is justified by the Hausman test. The dependent variable is GDP per capita growth. \*\*\*, \*\*, \* - are significant levels at 1%, 5%, and 10%, respectively. Robust standard errors are in parentheses.

Moreover, empirical findings also point out three channels through which economic freedom can foster economic growth. Firstly, the higher financial liberalization is associated with higher international investments and direct money transfer, which in turn stimulates economic growth. Secondly, economic freedom allows domestic countries to access the international market, leading to increased international standards of domestic markets. Thirdly, higher technology transfer can improve the market efficiency of the domestic market, leading to a higher performance of the economy.

Models (2) and (5) show robust evidence that higher labor freedom appears to increase economic growth. The positive relationship is statistically significant at 1% levels. This means that when a country has lower regulations on minimum wages, working hours, worker limits, mandatory severance pay, labor force participation rate, it will have higher economic growth.

As mentioned, Keho (2017) suggests that the more freedom of human resources movements would transfer high-skilled workers to more attractive countries. Moreover, higher labor freedom allows people to decide their lives, leading to higher innovation.

Keho (2017) reports that innovative labor can contribute to around 17% of economic growth.

Nelson & Phelps (1966) also point out that labor force quality is an important source of productivity growth because it directly relates to the innovative technologies, which improves the efficiency of the economy and boosts economic growth.

As mentioned, Hye & Yeap (2017) argue that more labor freedom increases competition in the labor market, which is associated with a higher quality of labor force. Furthermore, labor freedom can also correct the mismatch between demand and supply of labor in the market. This is because entrepreneurs and workers can meet their demand without facing any restrictions on labor regulations.

With respect to trade freedom, Table 2 shows that higher trade freedom appears to reduce economic growth in ASEAN countries. The finding means that a country with lower tariffs and nontariff as well as trade restrictions tend to have higher economic growth. The outcome can be explained well by already discussed findings of Manwa & Wijeweera (2016), Krugman (1990), Afzai (2012), Foster (2008), Hye & Yeap (2017). In particular, Hye & Yeap (2017) suggest that trade freedom allows low-cost producers to increase expand their markets to the world and provide goods that exceed domestic demand. This is translated into higher exports and country outputs, elevating economic growth. In other words, trade freedom allows for better access to the international market.

The results also show an insignificant relationship between financial freedom and economic growth in ASEAN. The positive coefficient in Model (4) might refer to that higher financial liberalization increases economic growth but is statistically insignificant. Recent studies in developed countries such as Hye & Yeap (2017); Borovic (2014); Bumann et al. (2013) clearly show a positive and statistically significant relationship between financial freedom and economic growth. The coefficients reported in Models (4) might also imply a positive association between them. However, the association is insignificant, which could be because ASEAN countries did not fully open their financial sector over the examined period. The average level of financial freedom is only 45.41/100 (Table 1), indicating strong government interference to the economy and a weak legal framework to prevent fraud as well as significant government ownership in the financial sector (Miller et al., 2018). The effect could turn out to be significant when ASEAN countries significantly liberalized their financial sector for deeper integration.

Examining the effects of control variables on economic growth, Table 2 also reveals some interesting findings. This study finds robust evidence that higher foreign direct investment significantly increases economic growth. One possible reason is that higher FDI generates important sources of savings and capital accumulation, which may have positive effects on economic growth (Iamsiraroj & Ulubasoglu, 2015). Moreover, higher FDI can reflect more opportunities for domestic firms to access international markets (Baldwin et al., 2005). The authors also suggest that technology transfer from foreign firms can benefit domestic firms, leading to significant improvements in skills, infrastructure, human capital, and economic growth. This is in line with Foster (2008) who mentions that the technology spillover effect allows domestic firms to approach high technology from foreign competitors. This improves the efficiency of domestic firms, leading to higher outputs, profitability, and economic growth.

Table 2 also reports that the higher credit to the private sector appears to reduce economic growth. This is possible because most firms in private companies are small and

medium-sized as ASEAN countries mostly focus on the public sector. Thus, those firms may have poor financing performance as well as risk controls. The increased credit to the private sector can be risky and is associated with a higher overall risk of the economy. This, in turn, could be harmful to economic growth in the long run (Menyah et al. (2014). This is in line with Oluitan (2012) who points out that more credit provisions to the private sector only foster economic growth in the short-run. Then the effects turn into negative in the long run due to the higher risk in the financial market.

To further confirm the results of the fixed effects estimator shown in Table 2, this study employs a robustness check to examine the impact of economic freedom on economic growth.

## 6.2. Robustness check

To provide a further check on the main findings of this study, Table 3 uses an alternative measurement of economic growth, which is the annual gross domestic product (GDP) growth rate. This study follows Simonoff (2008); Borovic (2014) to use the annual GDP growth rate as an alternative measurement of economic growth.

TABLE 3. ECONOMIC FREEDOM AND ECONOMIC GROWTH (GDP GROWTH) IN ASEAN COUNTRIES

	Fixed (1)	Fixed (2)	Fixed (3)	Fixed (4)	Fixed (5)
Overall economic freedom	0.118** (0.0495)				
Labor freedom		0.120*** (0.0252)			0.126*** (0.0255)
Trade freedom			-0.0768** (0.0262)		-0.181*** (0.0440)
Financial freedom				0.0291 (0.0384)	0.0143 (0.0474)
Foreign direct investments	0.235*** (0.0632)	0.269** (0.116)	0.252** (0.0788)	0.254*** (0.0641)	0.306*** (0.0813)
Credit to private sector	-0.0586*** (0.0169)	-0.0911*** (0.0187)	-0.0503** (0.0188)	-0.0556** (0.0233)	-0.0603*** (0.0143)
Unemployment	0.674** (0.210)	0.953*** (0.264)	0.934*** (0.266)	0.746*** (0.219)	1.042*** (0.222)
Inflation	-0.0335 (0.0463)	-0.0771 (0.0797)	-0.0665 (0.0546)	-0.0506 (0.0543)	-0.111 (0.0679)
Exports goods and services	0.0353** (0.0129)	0.0293** (0.0103)	0.0452*** (0.0133)	0.0404** (0.0149)	0.0718*** (0.0206)
Constant	-2.917 (3.365)	-3.017** (1.180)	7.524*** (1.950)	2.187 (3.089)	3.192 (5.187)
Observations	137	97	137	137	97
R-squared	0.561	0.611	0.561	0.550	0.682
Year effect	Yes	Yes	Yes	Yes	Yes

Note: The table reports the impact of economic freedom and economic growth in ASEAN (2000-2017) using fixed effects methods. The use of fixed effects method is justified by the Hausman test. Dependent variable is annual GDP growth. \*\*\*, \*\*, \* - are significant levels at 1%, 5%, and 10%, respectively. Robust standard errors are in parentheses

It is consistent with Table 2, Table 3 clearly shows a positive and statistically significant relationship between economic freedom and economic growth (Model 1). Based on the

definitions of Miller et al. (2008), the findings indicate that when the government lowers their influence on the economy and people's lives, it exerts positive effects on economic growth.

It is also important to highlight that the lower government influence due to higher economic freedom can significantly improve the efficiency of the economy. This is because government's supports and interventions can distort market activities by channeling funds to inefficiency projects of state-owned companies or private companies with strong politically-connected relationships (Cali & Velde, 2011). In particular, political leaders may support state-owned enterprises and allocating financial resources of inefficient investment projects for private benefits.

With regard to labor freedom, its effects on economic growth are positive and statistically significant (Model 2). This is in line with the cited findings of Nikolaev & Bennett (2016), Gwartney & Lawson (2003), Wu (2011), Keho (2017), Bumann et al. (2013), Nelson & Phelps (1966).

Turning to the relationship between trade freedom and economic growth in ASEAN countries, this study finds robust evidence across different regression tables that the higher trade freedom appears to reduce economic growth. This could be due to the detrimental impact of inefficient contributions. In particular, domestic firms with poor management, experience, technology and capital may not be able to compete with foreign peers. This reduces their performance and may negatively influence economic growth (Menyah et al., 2014). Moreover, the overall risk of the economy can significantly increase in a more intense competitive environment (Kneller et al., 2008). When borrowers fail in the domestic market, the non-performing loans in the banking system will increase and threaten economic stability and growth. Domestic firms in ASEAN countries have low international standards with poor technology and management can suffer from increased competitive levels, resulting in lower economic growth.

The results of control variables except for exports of goods and services yield consistent findings with Table 2. Table 3 reports a new finding that higher exports of goods and services increase ASEAN economic growth (see Models 5 to 10). This is in line with the findings of Manwa & Wijeweera (2016). Moreover, a higher degree of exports of goods and services can reflect the higher quality and standards of domestic goods and services (Manni & Afzai, 2012; Hye & Yeap, 2017).

## 7. Research limitations

One limitation of this study is the lack of economic freedom data for Myanmar and Brunei Darussalam. The sample data, therefore, covers only eight out of ten ASEAN countries. Secondly, we chose trade freedom, labor freedom, and financial freedom to proxy for economic freedom as they better meet the purposes of ASEAN countries in creating an integrated market where goods, services, investment, skilled labor and capital can freely move among them. However, it is clear that there are other important indicators of economic freedom such as property rights, business freedom, or investment freedom.

## 8. Conclusions

The liberalization process in ASEAN countries has strongly taken place in recent years toward a deep integration by 2020. The process aims to achieve high levels of economic freedom across various aspects of the economy. While the increased economic freedom could exert strong influence on the economy, its impact is less discussed. Moreover, recent empirical findings on the implications of economic freedom, trade freedom, labor freedom, and financial freedom on economic growth are inconclusive debates. This study aims to examine the effects of economic freedom, trade freedom, labor freedom, and financial freedom on the economic growth of ASEAN countries over the period 2000-2017.

By using fixed effects model to control for the problem of unobservable variables, this study finds evidence that higher economic freedom appears to increase economic growth. This theoretically implies that the more freedom of people on controlling their lives and the less influence of the government on the economy will lead to higher economic growth. Empirical findings suggest that higher economic freedom allows for the more presence of foreign competitors and ownership. This will lead to improvements in competition, transparency, efficiency, technology transfer, international standards, and the quality of the labor force. They are fundamental for higher economic development and growth.

By decomposing economic freedom to trade freedom, labor freedom, and financial freedom to meet the aim of ASEAN community, this study finds that more labor freedom is associated with higher economic growth. In other words, the relaxation of regulations on minimum wages, restraints on higher and hours worked, inhibiting layoffs, or severance requirements can boost economic growth. This is because labor freedom can correct the mismatch between the demand of entrepreneurs and the supply of workers. Moreover, labor freedom allows for the free movements of high-skilled workers among the ASEAN community. This promotes the labor force quality of countries with better attractive policies. A higher degree of labor freedom can also enhance experience, competition, and technology transfers, leading to a higher quality of domestic labor force. The improvements in the quality of human resources will significantly improve economic growth.

This study also finds robust evidence that higher trade freedom reduces economic growth in ASEAN countries. One explanation for this is the poor management, technology and capital of domestic firms. They are obstacles to them to compete with foreign competitors. The performance of both foreign competitors and domestic firms can be negatively influenced in a more intense competitive market, resulting in lower economic growth.

These findings are valuable to policymakers of ASEAN countries in understanding the effects of economic freedom, trade freedom, and labor freedom on their economic performance. The countries should further elevate the degree of economic freedom or particularly labor freedom for higher economic growth. They should also encourage the development of private sectors and the improvements in domestic competitive power for better competing with foreign peers. The findings also contribute to the mix evidence on the implications of economic freedom, labor freedom, and trade freedom on economic growth in the world.



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## Appendix

### APPENDIX 1. CORRELATIONS BETWEEN VARIABLES

	<i>GDPG</i>	<i>GDPCG</i>	<i>EF</i>	<i>LF</i>	<i>TF</i>	<i>FF</i>	<i>FDI</i>	<i>CTPS</i>	<i>UNE</i>	<i>INFL</i>	<i>EGS</i>
<i>GDPG</i>	1										
<i>GDPCG</i>	0.97	1									
<i>EF</i>	-0.20	-0.30	1								
<i>LF</i>	-0.28	-0.35	0.78	1							
<i>TF</i>	-0.37	-0.44	0.71	0.58	1						
<i>FF</i>	-0.20	-0.18	0.68	0.29	0.43	1					
<i>FDI</i>	0.23	0.14	0.67	0.52	0.32	0.35	1				
<i>CTPS</i>	-0.23	-0.21	0.52	0.66	0.49	0.32	0.35	1			
<i>UNE</i>	-0.20	-0.27	0.11	0.08	0.37	-0.10	-0.21	-0.22	1		
<i>INFL</i>	0.36	0.39	-0.47	-0.37	-0.46	-0.46	-0.11	-0.21	0.04	1	
<i>EGS</i>	-0.01	-0.13	0.84	0.80	0.55	0.35	0.79	0.63	-0.03	-0.22	1

Notes: *GDPG* is annual GDP growth rate, *GDPCG* is GDP per capita growth, *EF* is economic freedom, *LF* is labor freedom, *TF* is trade freedom, *FF* is financial freedom, *FDI* is foreign direct investments, *CTPS* is credit to private sector, *UNE* is unemployment rate, *INFL* is inflation rate, and *EGS* is exports of goods and services to GDP.