"ARE ASEAN COUNTRIES INVOLVED IN MIDDLE INCOME TRAP ?"
LESSON LEARNED FROM THAILAND, INDONESIA, MALAYSIA,
VIETNAM AND PHILIPPINES

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"ARE ASEAN COUNTRIES INVOLVED IN MIDDLE INCOME TRAP ?" LEARN FROM THAILAND, INDONESIA, MALAYSIA, VIETNAM AND PHILIPPINES

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ABSTRACT

Middle income Trap is the situation in which a middle income countries falls into economic stagnation and becomes unable to advance its economy to a high income level. Main purpose in this research is to examine the influences of secondary education, patent, productivity (TFP) and control of corruption to the GDP Per Capita in avoiding middle income trap for the five ASEAN countries by using panel data regression during 2002-2013. The five ASEAN countries are Thailand, Indonesia, Malaysia, Philippines and Vietnam. The method used to investigate the best model for panel data were Chow Test and Hausman Test. The result showed that secondary education and patent have positive relationship and significant to the GDP Per Capita, but productivity has negative relationship and significant to the GDP Per Capita and control of corruption has positive relationship but insignificant to the GDP Per Capita. The conclusion is that secondary education and patent can contribute more in increasing GDP Per Capita.

Keywords : Middle income countries, Middle income trap, GDP Per Capita, Education, patent,

productivity, corruption

A. INTRODUCTION

The level of global economic competitiveness seems to be getting tense. Free trade allows the flow of goods and services between countries without any major obstacles. This condition prosecutes the readiness for each country in order to keep on competing in global economic. For most countries, the ideal path of economic development is the transition from low income level to achieve high income level. There are several countries which remain in the middle income level for a certain period amount of time. Though, they are formulating some sectors in order to boost its economy to get an excellence development. Regarding to Matthew J. Bock (2014), as government struggles to find policy solutions to balance economic growth, wealth distributions, poverty reduction and access of service, societies are seeking the appropriate discourse to make sense of perceived injustices.

Felipe (2012) determined that the number of years of a country has to be in the lower and upper middle-income trap groups to fall in to the middle income trap : more than 28 years in the lower middle income group and more than 14 years in the upper middle-income group. Some countries in the lower middle-income trap will most likely leave it in the next few years if they maintain their recent income per capita growth performance. Most of the countries, however, will likely remain there for a long time (and a few might never be able to leave) if their lackluster growth performance of recent years persist.

Table 1 : The Number of Years in Experienced Middle Income Trap During 2000-2010

Country	Region	Year country turned LM (Y_{LM})	Year country turned to UM (Y_{UM})	No. of Years as LM	No. of years as UM	Ave. GDP per capita growth rate (%) (Y_{LM} to Y_{UM})
Thailand	Asia	1976	2004	28	7	3.6
Philippines	Asia	2010		34	35	2.5
Malaysia	Asia		2010	27	15	2.6
Indonesia	Asia	2010		25	3	3.9
Vietnam	Asia	2010		9	19	6.1
South Korea	Asia	1988	1995		7	6.5

Sources : Felipe (2015) calculated as (28 years-Number of years until 2010), No. of years to reach $7,250 for Philippines

Table 1.1 shows the number of years each has stayed as a lower-middle-income and upper middle income country, as well as the country's annual average income per capita during the period 2000-2010. Malaysia has been upper middle income countries for 15 years to attain high income status if the income per capita continues to grows. Vietnam attained lower-middle-income status only during the last decade. On the other hand, Indonesia has been in the same category for over two decades. Thailand was trapped in the lower middle income class before they attained the upper middle income status. The differences between the number of years spent as upper middle income country by South Korea before graduating to high income is smaller than in the case of lower middle income before graduating to upper middle income.

Otherwise, ASEAN countries will fall into middle-income trap if they can not move from middle income to high income level. As said in ADB (2012), many countries experience a growth slowdown after achieving middle-income status. More than 15 countries globally have been "middle income" for at least the past 50 years, including three in Asia - Malaysia, the Philippines, and Thailand. To avoiding middle income trap, it is necessary to understand the factor that can stimulate the symptoms of stagnation happens. Middle Income Trap as stated by Vivarelli (2014), this can be caused by the existence of growth slowdown due to slowdown productivity factor rather than capital accumulation. The factor of productivity in Indonesia is still weak as realizing how incapable the societies competing to other ASEAN countries. The industrial sector must be raised and carry out a competent labor force.

Even so, Thailand as the upper middle income is still facing several matters, the most likely reasons are lacking of skill training for labor, unable to prepare graduates for a labor market, low levels of innovation, etc. Moreover, the economic condition of Vietnam which is the one of the world's poorest country 25 years ago and already to be the lower middle income country. Vietnam must bear a heavy burden as the beginner in this middle status in which there is an existence of unskilled labor force, higher fertility rate, low quality of policy keep along the growth.

According to Felipe (2012), at some point, if firms need workers for their new industries so it will be more productive than agriculture, the transfer of labor from agriculture to industry and services exists, productivity starts increasing. In order to increase GDP per capita, it needs to encourage productivity, innovation and the change of structure. Basically, as several countries have achieved quite significant growth lately, they gradually entered middle-income countries, such as Vietnam, Indonesia, Thailand, Malaysia and Philippines (Egawa, 2013). These ASEAN countries are still lower than South Korea which is having the same starting point in getting independency. One of the reasons why Korea relatively runs smooth transition from middle to high-income countries at a time when many other countries were facing many difficulties, is because its strong persistence in facing economic conjuncture

According to the Solow-Swan theory is that economic growth depends on the availability of production factors (population, labor and capital accumulation) and the rate of technological progress, based on his studies Solow (1956) states that the role of technological progress in economic growth is predominant. Solow showed that US economic growth reached 2.75 percent annually in the period 1909 to 1949, more than half (1.5%) is the contribution from technological progress, while the rest are caused by the increase of production factors.

South Korea successfully moved to high income countries by using the R&D and increasing Total factor productivity (Kasenda, No year). South Korea is often to be the figure of development models by the researches since the growth is excellently improved. Furthermore, Mariana (2015) also defined that Education has the long-run relationship between economic growth in Romania during 1980-2013 as well as Baro (2013) who found that education significantly influence to economic growth which measured by secondary and tertiary education in 100 countries. Other interesting matter is control of corruption has strong positive causal relationship to the economic outcomes in more than 150 countries (Kauffman et al, 1999).

The writer choose middle income trap as the topic since other East Asian Countries are greatly success to achieve high income level like Japan and South Korea while ASEAN countries are getting in the trap. Therefore, this research is considered as an important matter to know the factors in order to avoid the middle income trap in the scope of ASEAN.

The research aim to examine whether education, control of corruption, productivity, and R&D give contribution to increase the GDP per capita in Indonesia, Malaysia, Philippines, Vietnam, and Thailand.

B. LITERATURE REVIEW

Middle Income Countries

The worldwide middle class occasion nowadays is being concerned. Basically, this matter can be analyzed into 2 types of study which are based on consumer level or country level analysis. Even so, it will be easier to criticize based on country-level view. Firstly, defining four groups of GDP per capita in 1990 PPP dollars, it can be described as follows, low-income below $2,000; lower-middle-income between $2,000 and $7,250; upper-middle-income between $7,250 and $11,750 and high income above $11,750 (Felipe, Jesus, 2012).

In achieving the upper stage of income, Tran Van Tho (2013) on the ADBI working paper declared that further growth of middle-income countries must therefore increasingly rely on high skill-intensive industries and a deeper stock of physical and human capital. Middle income countries are squeezed between low-wage, low-income competitor countries that dominate labor-intensive mature industries and the high income country innovators that dominate industries undergoing rapid technological rapid change. In other words, middle income countries must successfully climb the development ladder and catch up with advanced countries in the transition to the high-income level. That also means that the comparative advantage structure of the country must change over time. Such dynamic comparative advantage is enabled only by changes in factor endowments, which are increasingly characterized by relative abundance of human capital and increasingly availability of technological and managerial resources.

Middle Income Trap

The middle income trap refers to the countries which experience a growth slow-down when they achieve middle-income status (Eichengreen, Barry et al, 2013). The situation in which an MIC falls into economic stagnation and becomes unable to advance its economy to a high income level for certain reasons specific to MICs (Egawa, 2013). Concretely, middle income trap is used to describe a situation where a country lacks the human capital and state vision to upgrade from the stage of industrialization where technology is absorbed through foreign investment (classically represented by FDI-driven, low cost, low wage, labor intensive manufacturing), to the stage where a domestic private sector emerges that can create technology (Ohno, 2009). Felipe (2012) determined that the number of years of a country has to be in the lower and upper middle-income trap groups to fall in to the middle income trap : more than 28 years in the lower middle income group and more than 14 years in the upper middle-income group. According to Ozturk (2015), middle income trap can be measured using these following variable :

GDP per capita

Per capita output or GDP per capita is the output per person in the economy. If the population of a country is growing as the same rate as output, then the per capita output is not growing. Not everyone in a country worked, so output per worker is not equal to the output per person. Output per worker is larger than output per person and it is called productivity. One measure of the economic welfare of a country is its per-capita output. Per capita output can increase because productivity increases, as each worker now produces more than he or she did previously, or because there are more workers relative to non-workers in the population (Case et al, pp 452).

Regarding to Bureau of Labor Statistics (2012), GDP per capita is a basic indicator of a country's economic well-being. GDP measures the value of all final goods and services produced within a country. GDP per capita is calculated as GDP divided by population and is a rough measure of a population's economic well being. In order to make international comparisons of GDP per capita level, There are two primary reasons for using PPPs rather than market exchange rates to convert GDP into a common currency. To see the level of welfare, it can be used as the economic standpoint by level of income. According to Todaro (2004), the growth of per capita income is a measure of development progress. Development aims to increase people's income so per capita income will be a development benchmarks. Income per capita is a measure of a country's ability to expand output faster than the rate of population growth.

Education

Education is a conscious and deliberate effort to create a learning atmosphere and learning process so the learners are actively developing the potential to have the spiritual power of religion, self-control, personality, intelligence, character, and skills. Education includes teaching special skills, and also something, that can't be seen but deeper, is like the provision of knowledge, judgment and discretion. One of the main basic of education is to teach the culture passed down through generations. Education aims to create a high quality human resources and characterless so they have a broad view of the future to achieve expected purpose and able to adapt correctly and appropriately in a variety of environments. Education itself is to motivate humans to be better in all aspects of life.

Barro (2013) has revealed through his research that education significantly influence economic growth using a cross section of countries. Baro showed that there is a direct causality relationship from education measured by schooling rates to economic growth. If people have a higher aware of education, the country will be easier to build a nation. It is because they have learnt the skills, knowledge and technology by its human resources, as the result the government is easier to mobilize national development.

Productivity

Productivity sometimes called as labor productivity, is defined as output per worker hour. If output is Y and the number of hours worked in the economy is H, productivity is Y/H. it is simply stated that productivity measures on how much output an average worker produces per hour.

Solow Growth Model production function derives an increase of labor input (L), stock of capital (K) and multi factor productivity (A) which is including the rate of technological progress discusses the long-run economic implications of the growth accounting framework. The Solow Growth Model is defined as:

$$Y_t = A_t \, K_t^{\propto} \, L_t^{1-\propto}$$

where is :Y= the amount of output, A= technological constant, K= the amount f capital used as input, L= the amount of labor used as input, t= time, α = parameter whose value is between 0 and 1

Engelbrecht in Situmorang (2007) concluded that human resources are useful to improve individual income and as an engine of economic growth. Improvements in education provide opportunities to higher economic growth in the future. According to Sitepu (2009), increasing investment in human resources directly gives impact on improving labor productivity that drives increased revenue (GDP).

Patent

According to United States Patent and Trademark Office (2014), a patent for an invention is the grant of a property right to the inventor, issued by the United States Patent and Trademark Office. Generally, the term of a new patent is 20 years from the date on which the application for the patent was filed in the United States or, in special cases, from the date an earlier related application was filed, subject to the payment of maintenance fees. U.S. patent grants are effective only within the United States, U.S. territories, and U.S. possessions. What is granted is not the right to make, use, offer for sale, sell or import, but the right to exclude others from making, using, offering for sale, selling or importing the invention. Once a patent is issued, the patentee must enforce the patent without aid of the USPTO.

Moreover, another key factor underlying the success of the East Asian Economies that were able to transition from middle to high income status was their ability to push the technological frontier and move from imitating and importing foreign technologies to innovating technologies of their own. Strong intellectual property rights' protections have been a major factor in facilitating this home-grown innovation (Agenor et al, 2012). According to the World Bank's Doing Business Database, intellectual property rights in economies such as Hongkong (SAR) China, Korea, Singapore, and Taiwan, China, are rival in those in place in Japan, the United States and other high income countries.

Control of Corruption

Corruption is often succinctly defined as the misuse of public office for private gain. Activities frequently identified as corrupt include bribery; the stealing, misappropriation, or other misuse of public funds or assets; illegal fines, duties, taxes, or charges; vote rigging; the abuse of privileged information; miss-procurement; the manipulation of regulatory and licensing authority; campaign financing abuses; influence peddling and favor-brokering; the acceptance of improper gifts; cronyism; and nepotism.

The control of corruption index is a complementary measure. It has been prepared biennially since 1996 with the support of the World Bank and is based mostly on non–World Bank sources. Furthermore, Gill and Kharas (2007) argued that As Economies become wealthier and more complex, citizens are demanding better government. Growth success translates into less tolerance for corrupt governments.

Murphy et al. (1991) demonstrated that rent-seeking by government officials is likely to hurt innovative activities more than everyday production. This is because rent-seeking is likely to target the innovation sector, which is more vulnerable than already established producers. This argument finds support in Rivera-Batiz (2001), who concluded that corruption undermines the profitability of innovations, lowers the rate of return to capital and reduces the rate of technological change.

Pellegrini and Gerlagh (2004) examined the effects of corruption on investment, schooling, trade policy and political stability, and estimate the contribution of the various channels to the overall negative effects of corruption on growth. They concluded that the effects of corruption on growth are both direct and indirect through its impact on investment, schooling, trade openness and political stability. Political corruption works through different channels but all these go to the reducing growth (Hillman, 2004). In this tradition, Mauro (2004) provided evidence that corruption changes the composition of government spending through biases that provide more lucrative opportunities for personal gains through corruption.

Conceptual Framework

Conceptual framework created as showed in figure below in order to analyze the factor that stimulates middle income trap:
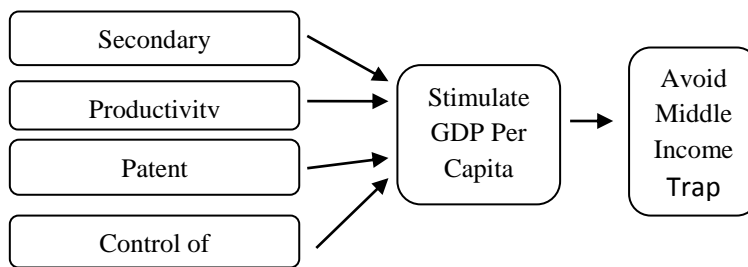
Hyphotesis

Based on the research background, the research problem, and the literature review which has been told before, so the hypothesis for this research are:

H1 : the research proved that secondary education significantly gives impact to the GDP per capita as measured of middle income trap

H2 : the research proved that patent significantly gives impact to the GDP per capita as measured of middle income trap

H3 : the research proved that productivity significantly gives impact to the GDP per capita as measured of middle income trap

H4 : the research proved that control of corruption significantly gives impact to the GDP per capita as measured of middle income trap

C. RESEARCH METHODOLOGY

Research design used in this study was descriptive quantitative. Types of data used in this study is secondary data. The time series data includes 2002-2013 were obtained from official website as well as cross section data for Thailand, Malaysia, Indonesia, Vietnam and Philippines. The dependent varibele is GDP per capita (US$ constant PPP) and independent variable are secondary education, patent, productivity (TFP growth) and control of Corruption index.

The data used in this research are published by World Bank, U.S Patent and Trademark Office (USPTO), World Governance Indicators (WGI), Central Bureau of Statistics, and United Nations Industrial Development Organizations (UNIDO).

This study used panel data analysis (pooled data) with Fixed Effect Model (FEM) approachment as an instrument to process the data by using Eviews 7 software applications. the model equation is as follows:

$$LogY_{it} = \alpha + \beta_1 LogX_{1it} + \beta_2 LogX_{2\,it} + \beta_3 LogX_{2\,it\,+} \beta_4 LogX_{2\,it} + \epsilon_{it}$$

So, the research model equation is:

$$Log\ HDI_{it} = \alpha + \beta_1\ Log\ Secondary\ Education\ _{it} + \beta_2\ Log\ Patent\ _{it} + \beta_3 ProductivityX_{2\,it\,+}\ \beta_4 Log\ Control\ of\ Corruption\ _{it\,+} \epsilon_{it}$$

D. FINDING AND DISCUSSION

This study uses panel data analysis or pooled data. The estimation process variables of the model equations that have been set using the application program by Eviews 7. To determine which approach is carried out using panel data, it would require some tests. Selection of the three models are Chow Test and Hausman Test. Chow Test is used to determine the Pooled Least Square (PLS) or Fixed Effect Model (FEM), while Hausman Test is used to determine the Fixed Effect Model (FEM) or Random Effect Model (REM). The estimation result of Eviews as follows :

Table 4.2

The Estimation Result of Fixed Effect Model

Variable	Coefficient	t-statistic	Prob.	Decision
C	-7.919474	-2.355505	0.0226	**significant**
SED	1.025355	4.485544	0.0000	**significant**
PT	0.182982	4.304091	0.0001	**significant**
PRO	-0.376161	-2.957985	0.0048	**significant**
COC	1.017590	1.987434	0.0526	**Not significant**
R-Squared	0,954432			
Prob(F-statistic) 0,00000				

*significant in $\alpha = 5\%$
Sources : secondary data, proceed, 2016

Several steps have done in order to choose the appropriate model among common effect model, fixed effect model and random effect model. The last estimation concluded that fixed effect model has been chosen to understand the influence of independent variable to the dependent variable. The estimation output of panel data regression with fixed effect model is :

$$LOG(GDP_{it}) = -7.919474 + 1.025355\ (SED_{it}) + 0.182982\ (PT_{it}) - 0.376161\ (PRO_{it}) + 1.017590\ (COC_{it}) + s_{it}$$

In which:
GDP   = GDP per capita or Per Capita Income (U.S Dollar)
SED   = Secondary Education (Pupils)
PT   = Patent (Number)
PRO   = Productivity (Percentage, %)
COC   = Control of Corruption index (-2,5 to 2,5)

According to the equation above, the value of degree of freedom is 5% ($\alpha = 0,05$). the result showed that the increasing 1 unit of secondary education (X_1) will effect to the increasing 1 unit of GDP per capita (Y_1) by 1.025355 in average, with cateris paribus assumption. Then, Increasing 1 unit of patent (X_2) will effect to the increasing 1 unit of GDP per capita (Y_1) by 0.182982 in average, with cateris paribus assumption. But it showed reverse direction for productivity because the increasing 1 unit of productivity (X_3) will effect to the decreasing 1 unit of GDP per capita (Y_1) by 0.376161 in average, with cateris paribus assumption. There fore, it also proved that increasing 1 unit of corruption control (X_4) will effect to the increasing1 unit of GDP per capita (Y_1) by 1.017590 in average, with cateris paribus assumption.

Discussion
Secondary Education to the GDP Per Capita
Based on the result of the panel data regression, secondary education has marked positive coefficient and the value of t-statistic showed significant. It has positive relationship between independent variable and dependent variable. This means that the increase in secondary education will affect to the increasing in GDP per capita. This illustrates that the variable secondary education does contribute a lot in increasing GDP per capita variable.

Figure 4.7
The Percentage of Employed People Aged 15 years in Thailand during 2003-2007
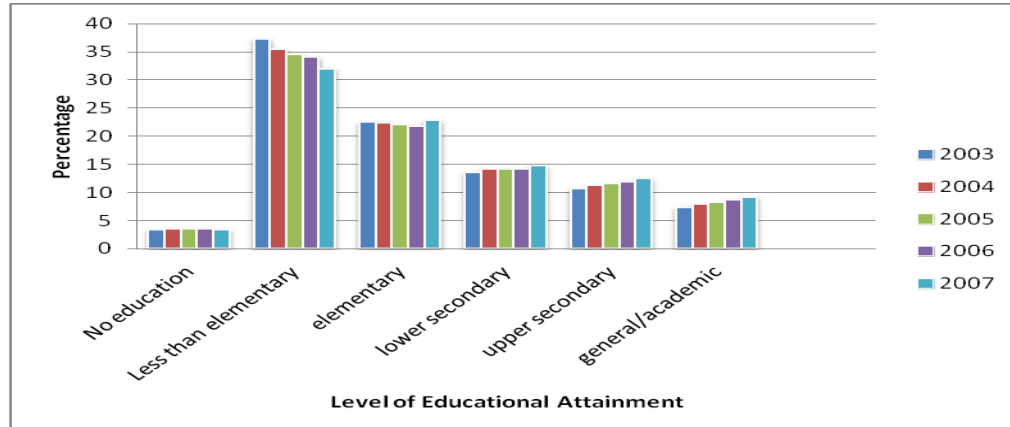
Sources : National Statistical Office

Based on the figure 4.7, The percentage of less than elementary is the highest among other education level. Lack of high quality human capital helps to explain why Thailand became synonymous with the middle income trap. In contrast, the rapid expansion of secondary and then tertiary education helps to explain Korea's successful transition from middle income to high income status. Countries are accumulating high quality human capital and moving into the production of higher tech exports stand a better chance of avoiding the middle income trap. Indonesia is actually also low in education level, instead of its population growth, Indonesia has the third largest education system in the Asia region and and the fourth largest in the world yet low student performance based on World Bank. Government should focus on increasing secondary enrollment, student learning achievement and the allocation of government spending to create a better education.

Based on Iskandar (2009), Malaysia has launched "Malaysia's National Higher Education Strategic Plan (NHESP) in 2007, expected to be achieved by the years 2020. The rationales of the

NHESP are to make Malaysia a "Hub of Higher Education Excellence" in the region and internationally, to development human capital with "first-class mentality" and to reposition the country's higher education to meet current and future challenges. That plan is such a great movement in order to increase higher education.

then, Philippines is currently implementing the 'Medium-term Development Plan (2004-2010) and developing the 'Long-term Development Plan' for 2010-2020. As for the Medium-term Development plan, it focuses on broadening the access of disadvantaged groups to higher education, redistribution of some public resources to students to promote greater purchasing power and freedom of choice of educational opportunities, expanding alternative learning systems/modalities of higher learning, improving the quality of HEI (Iskandar, 2009). Moreover, Thailand and Vietnam manage a certain education development strategy for higher education in supporting national competitiveness

Patent to the GDP per capita

Based on the result of the panel data regression, patent has marked positive coefficient and the value of t-statistic showed significant. It has positive relationship between independent variable and dependent variable. This means that the increase in the number of patent will affect to the increasing in GDP per capita. This illustrates that the patent variable contributes a lot in increasing GDP per capita variable.

The higher results of R&D activities must be supported by the availability of high quality human resources. Van Tho (2013) stated that high quality of human resources involves not only improving education level of the labor force but also increasing the supply of labor needed by firms. In other words, for sustained growth to attain high-income country status, middle-income countries need more tertiary graduates who are interested in engineering and industrial technical training.

Trying to examine the thing that Korea has done in innovation-intensive experience at the case of thin film translator (TFT) liquid crystal displays (LCDs). By the mid-1990s, Samsung, Hyundai, and LG in collaboration with the Korean ministries in charge of promoting technological innovation had succeeded in entering the TFT-LCD industry, providing a challenge to Japanese Hegemony. At present, many Korean Firms such as Samsung and LG are among the top five suppliers of such high-tech electronics products (Kasenda, No year). The average patent grant of Korea during 2002-2013 had achieved 21.476 patent. The strength reflected the dynamic transformation to innovation-intensive products and demonstrates that Korea had successfully overcome the middle income trap and become a high-income country.

Comparing to the five ASEAN countries that only gain less than 100 patent grant during 2002-2013. Malaysia was in a relatively strong position in gaining averagely 335 patent. The problem for high middle-income countries such as Malaysia and Thailand is in promoting innovation oriented policy to maintain international competitiveness to avoid trap. Then, for Vietnam which is just entering low middle-income level, the trap may get closer soon. So managing economic factor for efficient use of land, capital and other resources is to be the first concern before facing the early pace of middle income trap. Indonesia is very lacking in supporting the innovation originally made by its citizen. Many innovations involve in import activity to be sold in other country which is more gaining appreciation than the country itself. Indonesia should have more respects and provide more facilities to the people who have made an effort on creating technological innovated product. If this still continues, then the research and development growth will remain the same.

## Productivity to the GDP per capita

Based on the result of the panel data regression, productivity has marked negative coefficient and the value of t-statistic showed significant. This means that the increase in productivity will affect the decline in GDP per capita in five ASEAN countries. This illustrates that the variable productivity does not contribute a lot in increasing GDP per capita variable. This is possible because there are other sectors in economic activities play a major role in increasing GDP per capita.

Nevertheless, the output of estimation in panel data showed the reverse direction. Productivity has a negative relationship with GDP per capita. It concurs to the research conducted by Yanrui (2013) who stated that productivity has played an important role in economic growth in high income countries while its role is trivial or even negative in middle income trap countries. The contribution of productivity to economic growth in the middle income trap or "trapped" group is negative. In addition, it is noticed that all income groups but low income one have made significant technological progress. However, the high income economies have on average improved their efficiency modestly while efficiency has deteriorated in middle income groups. For the middle income trap, efficiency deterioration has overwhelmed technological progress over time. As a result, the net contribution of productivity to economic growth is negative.

According to Cette (2007), the negative relationship between productivity and GDP per capita is due to the fact that GDP per capita is not only affected by labor productivity, but also by labor intensity – more precisely by the employment to population ratio. The change in the employment to population ratio is positively related to the level of labor productivity in the Europe and U.S. TFP growth defined by GDP divided by employed population. Employed people are all those who had a job or business though those people give less value added. Everyone had a job along with the increasing of total population, employed population will be increased too. So that the negative relationship showed that the growth of employed population is faster than GDP growth.

Regarding to W. Arthur Lewis theory which focuses on mechanism to transform from agricultural sector to industrial sector stated that agricultural sector is traditional sector in which the marginal productivity of labor is zero. Mostly, people in emerging countries work in agriculture, forestry, small trading, and fisheries. The sector is still relying on natural resources. Activity in the manufacturing sector and the service is still lacking. This is because the technology is still low and only rely on the traditional way to process existing resources. It is also supported by Solow Growth Model Theory that technology assumes as exogenous variable which creates labor efficiency. This means the increasing total employed population without technological improvement will not increases the output. Moreover, the rapid population growth in emerging countries makes government out of control in managing labor efficiency. The higher population growth will have low GDP per capita (Mankiw, 2011).

Figure 4.8
The Percentage of Employed People by Major Ecconomic Sector in 2013
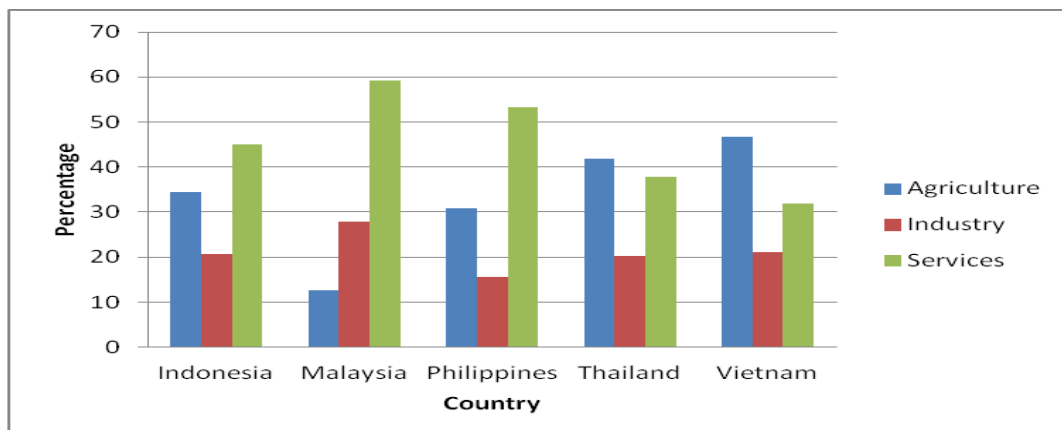
Sources : ADB, 2014

Regarding to the figure 4.7, the condition of Thailand and Vietnam showed that Agricultural is the highest among other sector with amount of 40% in average. It means the number of pupil who have less than secondary education is also high. This must be hard for Thailand and Vietnam in order to moved from agricultural to industrial sector. This is one of the reason to explain why Thailand and Vietnam only stuck in middle income countries and hardly moved to high income. The percentage of agricultural sector in Indonesia is also high which is 34,4% and Philippines is around 30%. Malaysia in agricultural sector is lowest among others that is 16%.

Then, if the total employed population is not under control, the law of diminishing return will happened. The condition where the beginning production point is gradually increase since the additional capital/labor will give impact to the hiher output per employed, but at some point, the additional capital/labor will not creates higher ouput or even declining. The informal firm such as SMEs get easily to absorbed all the people into company which make it innefficient. Automatically, much people get a work in informal firm and calculated it into employed population. As if the increasing number of employed population showed a higher productivity, whereas it does not give much contribution to the economy. So that the productivity does not reflect the actual activity. The marginal productivity is increased whereas the GDP growth is decreased.

Furthermore, even the productivity is getting higher or lower, it will not giving much contribution to the increasing in GDP per capita because per capita will stay high even though the productivity is low. However due to difficulty in data collection, a complete discussion of productivity of the five ASEAN countries from the economic point of view is still lacking.

Control of Corruption to the GDP Per Capita

Based on the result of the panel data regression, control of corruption has marked positive coefficient and the value of t-statistic is not significant. This means that the control of corruption significantly does not give impact to the GDP per capita in five ASEAN countries. This illustrates that the corruption does not contribute a lot in increasing GDP per capita variable. This result is also supported by the research of Huynh and Jacho-Chavez (2009) which revealed that control of corruption significantly does not give impact to economic growth.

Corruption occurs in all countries, especially developing countries. Corruption is most likely to occur when the public sector and the private sector met and in particular where public authorities have a direct responsibility for the provisions on public services or the application of a special regulation. In the economic sector, corruption makes economic development going slow down as corruption may increase the cost for their illegal payments and risk of cancellation of the agreement and the lack of investigations. Corruption disrupt economic activity by distorting the efficient allocation of resources in the economy. Corruption is one of the causes of low income and plays an important role in causing poverty.

Whereas the output of estimation stated that corruption does not give impact to the per capita income. It means that even the corruption is getting worse but the per capita income will keep giving an movement. This matter can be explained in the principles of economics by Case and Fair (2012) which stated that the government can affect the macro economy through two specific policy channels that is fiscal policy and monetary policy. Fiscal policy refers to the government's taxing and spending behavior and monetary refers to the behavior of the federal reserve concerning the nation's money supply. According this theory, corruption only gives impact to the fiscal policy which is including government expenditure.

$$Y = AE = C + I + G + (X-I)$$

The equation explains macro economic equilibrium condition. Consumption spending by households (C), planned investment spending by firm, government spending on goods and services and also net export contribute to GDP. The corruption itself is only include in government spending (G) so that GDP will keep growing even though there is the existence of corruption since it does not give impact to the GDP. There are still others factor to stimulate the economic growth through consumption, investment and net export. Indeed, corruption is one of the barrier to economic development, measuring levels of corruption can be difficult and inefficiency. Furthermore, Government should make more assertive policy in dealing with corruption.

This research concluded that the existence of corruption can not directly make the economy collapse. As seen in Indonesia, the economy continued to experience high growth in the midst of massive corruption undertaken by many parties from all levels. But regrettably, rapid economic development has not been followed by the productivity that reflect on their real economic development but it is followed by exploitation, destruction of natural resources and over flowing foreign public debt and private.

Aidt at al. (2008) The model allows for threshold effects distinguishing between high and low quality governance "regimes", defined by the quality of their governance institutions. The

quality of the governance regime is proxied by the "Voice and Accountability"(V&A) indicator from the World Bank's WGI data bank, which tends to be highly correlated with other indicators of governance quality. Test the model by estimating the impact of corruption on growth, treating both corruption and growth as endogenous variables in a framework that allows for threshold effects. The empirical results reveal two governance scenarios: In the regime with high quality political institutions, corruption has a significant negative effect on growth; while in the regime with low quality institutions, the estimated corruption coefficient is not statistically significant

E. CONCLUSION AND SUGGESTION

Conclusion

1. Secondary education has positive relationship and significant to the GDP per capita. This means the increasing one unit of secondary education will be followed by the increasing one unit of GDP per capita.
2. Patent (as measured of R&D) has positive relationship and significant to the GDP per capita. This means the increasing one unit of patent will be followed by the increasing one unit of GDP per capita.
3. Productivity has negative relationship and significant to the GDP per capita. This means the increasing one unit of productivity will be followed by the decreasing one unit of GDP per capita.
4. Control of corruption has positive relationship but not significant to the per capita GDP. This means the increasing one unit of corruption control will be followed by the increasing one unit of GDP per capita.
5. Based on the analysis of test results, Secondary education (X1), patent (X2), productivity (X3) and control of corruption(X4) able to explain GDP per capita (Y) accurately, it is proved by the value of R^2.

Suggestion

Based on the conclusion above, so the suggestions are :
1. The Government should cooperate with all parties to organize formal education and non-formal education, so that secondary education be directed at improving the dexterity and insight in doing real work in the real world later. One of the method is giving more chance to conduct a study until graduated from secondary education which is to improve the capacity and skills in order to increase R&D and the quality of human capital.
2. Research and development through patent grant is the best way in increasing GDP per capita. Improved technology manufacturing industry is very important since R&D in most ASEAN countries is relatively low. This has implications on added value and total factor productivity (TFP) which is not competitive compared to other countries. Strategy and policy of science and technology needs to be further clarified and sharpened. The government spending for research and development should be increased in order to increasing the R&D activity in doing a research, assessment, strategy development, and utilization of the national industry as well as mastery science and technology. Also, The country should have an authorized national innovation system to coordinate and protect existing-product innovated. Through this system, which is already applicable in many countries can be integrated and synergized the potentials and resources to improve the capabilities of knowledge and technology in the economic and industrial countries.
3. For the future research, the writer advised to ensure and explore again the estimation results in productivity to the GDP per capita in middle income trap countries due to the lack of data collection. Moreover, explain deeper causes of the negative relationship between productivity and GDP per capita.

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