

THE DYNAMIC CONFIGURATION OF GLOBAL COMPETITIVENESS IN ASEAN

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ABSTRACT

Competitiveness is one important indicator of the country to know whether a country to get the economic aim or not. Through competitiveness we can know which the countries level. Discuss about competitiveness automatically discuss about productivity, too. Productivity is a requirement factor that determines the level competitiveness of the countries. If countries do not find out their level of competitiveness it would be difficult to know which pillar should get a recovery and which the main pillar can compete with others countries. This paper to aim about 12 pillar's in global competitiveness on 7 countries during 7 years. Especially to aimed the competitiveness in Singapore, Indonesia, Malaysia, Cambodia, Vietnam, Thailand and Philippines. The dynamic configuration of global competitiveness in ASEAN obtained visualization using a density distribution non-parametric. The data was taken from World Economic Forum since 2008 until 2014 and World Bank. We can conclude that has a competitiveness through a years, index and countries that is according to the result from two-way ANOVA. Particularly, on the correlation between the pillars, all showed positive results but did not in labor market efficiency and market size. Both of negative result, it was proved as evidenced by the discontinuity between market size, GDP, and the labor market efficiency in ASEAN. Besides that, being a main pillar in ASEAN still focus in health and primary education. Due to was made a labor market efficiency in ASEAN at the lower level, ASEAN do not focus in efficiency factor but still focus on the basic requirements factor. That result giving us the illustration to improve the accomplishment in ASEAN especially in human resources, efficiency and increased innovation.

Key words: Competitiveness Index, ASEAN, Growth, Kernel Densities

Introduction

Globalization is a condition in which the mutual integration between one region to another regardless of existing boundaries anymore. Some agreements require countries in ASEAN to be involved such as the GATT (General Agreement Tariffs and Trade) which will be implemented in 2020, AFTA (Asian Free Trade Area), which was organized in 2003 and ACFTA (ASEAN China Free Trade Area) which was held in 2011. In particular, for the subject of economic activity, these agreements have to be heeded by actively participating role in the competition.

Many ways can be done by a country to achieve the prosperity. One of them is competition in economy globalization. Particularly in South East ASEAN countries will perform the ASEAN Economic Community (AEC) in 2015 or commonly referred to as free trade among ASEAN countries. The establishment of a single market which is termed the ASEAN Economic Community (AEC), which has been in more than a decade agreed by leaders of ASEAN countries it will allow the country to sell goods and services easily to other countries throughout Southeast Asia so that competition will be increasing strictly.

Since the 1980s, many developing countries have started to become more liberalized in their economy policies. Privatization, improving the market economy, financial liberalization and other efforts began interesting to achieve the country's economy objectives. Developing countries have been becoming more connected to each other these are increased competition in the world. All of these developments generates to increase in the volume of world trade and opens the way for the acceleration of competitiveness and globalization. In this case, the concept of "international competitiveness" is increasingly important in the world.

The competition also has been becoming an indicator of prosperity for country. In other words, each country must have a power in competition on international scale. Competition is "the ability of a country to produce goods and services and can be accepted in the international scale sustainable and generate income and improve the welfare for the people" (Haque, 1995).

ASEAN countries consisting of Malaysia, Brunei, Singapore, Philippines, Thailand, Laos, Myanmar, Vietnam, Cambodia, and Indonesia will establish a single market that will be integrated and easier to do the cooperation. All countries in ASEAN have to know where the level of global competitiveness of their countries itself is located, which sector might be capable supporting, and what should they were improved. AEC not only performs in the side of goods but also in services. Basically, the AEC will be more opportunities of foreign workers to fill a variety of positions and professions in Indonesia were closed or minimal foreign power.

Recent research from the International Labor Organization (ILO) presents that the opening of the labor market will get more advantages. The ILO notes besides being able to create millions of new jobs, this scheme can also improve the welfare of 600 million people living in Southeast Asia. In 2015, the ILO specifies that the demand for professional workers will increase by 41 percent or about 14 million. While the demand for labor middle class will be increase 22 percent or 38 million, the labor force increased by 24 percent a low level or 12 million.

Since 1979, the World Economic Forum has published the Global Competitiveness Index (GCI) annually to determine the achievement of national economy growth and long-term prospects of a country. WEF has also made GCI since 2005 which consists of 12 pillars. GCI is due to it can be further examined on the level of competitiveness of each country.

The existence of AEC later certainly raises some questions for us whether it would be able to overcome inequality or even economic disparities in ASEAN countries further away. The Global Competitiveness Index Report shows that inequality occurs in across ASEAN countries. ASEAN countries especially Malaysia, Singapore, Thailand, Indonesia, Vietnam, Cambodia and Philippines are countries that have a tight competition with each other. This paper aims to assess the level of global competitiveness in ASEAN, especially in the country for 7 years 7 through 12 pillars.

Literature Review

The concept of competition can be seen through micro and macro-economy aspects. From the macro side can be seen from the national income, while on the micro side we can see from the characteristics of producers which are competing at the market (market share), the advantages of production and export.

According to the Global Competitiveness Report from the World Economic Forum, that thought competitiveness as a set of policies, institutions, and factors that determine the level of productivity of a country (Schwab, 2010). GCI captures this dimension by providing a weighted average of various different components, each aspect can reflecting a complex reality and that was we called competitiveness (Schwab, 2009).

Schwab (2010) grouping all of these components into 12 pillars of economy competitiveness: Institutions, Infrastructure, Macroeconomic environment, Health and Primary Education, Higher Education and Training, Goods Market Efficiency, Labor Market Efficiency, Financial Market Development, Technology Readiness, Size Market, Business Sophistication, and Innovation. The analysis of global competitiveness index has been done as to discuss some of the pillars of the existing linkages in the GCI. One of them is the existence of a positive and significant relationship between the efficiency of the labor market and business sophistication (Seyed et al., 2013).

Brempong et al. (2006) also found that the main basic of human capital that is the level of education, human resources and higher education positively and statistically significant at the level of per capita income growth in African countries. Research on the pillar of education was also assessed by Greiner and Semmler. (2010) they found that the model of growth through investments in physical capital showed positive externalities that can accumulate knowledge capital. It shows that a country should provide space for education. Because externalities associated with investment requires higher education to increase the stock of knowledge capital.

In the pillar infrastructure and technology has been reviewed by Irura et al. (2013) they found that the infrastructure and technology development significantly linear, illustrated by the research on the growth of wood companies, also found (1) the positive relationship between infrastructure development and the growth of wood companies and (2) there is linier relationship between technology development and growth in timber companies. However, the relationship between efficiency and growth in timber companies collectively takes in the form of logarithmic growth. It also seems that the relationship between collective efficiency and technological development is also in a logarithmic form.

Kuncoro (2012) also showed that there is a high degree of persistence in the relative position index of local government, according to the lower level of mobility in the distribution of the index implies the implementation of district/city in Indonesia is quite weak. These results indicate that if the implementation of local government is weak then it will have an impact on regional development that will ultimately slow economic growth, in addition to the same method to measure the competition index contained in GCI will generate additional knowledge for each country to focus against the pillars which should receive attention. Furthermore, a research conducted by Arslan and Tathdil (2012) found that there are differences in the variables and indicators used to define and measure the competitiveness (comparative analysis of Turkey with 11 potential rival). From that study it is shown that to measure the competitiveness index is not only from GCI but also of IMD's World Competitiveness Yearbook and IFC's Business Competitiveness- Ease of Doing Business Report.

Economies have many problems with competitiveness in the long term starting from the municipal level up to the national level (Krugman, 1994; Urwin, 2006). There is illustrated competition even in the small scope areas moreover in the larger area the competitiveness is also higher.

Tan and Amri (2013) found that is a high level of competitiveness in the provinces where the main urban areas which the state capital was located, as well as in a high population area. Like a Singapore as a regional trade center, the province has abundant natural resources also have the opportunity to be competitive, but it does not common if they can improve in aspects such as governance and quality of life.

The most problem arises often in the competition is about productivity. Productivity becomes a main factor at the competition. Competition can be seen from the GDP of a country in which there is cooperation and direct investment will significantly contribute to the growth (Aziz, 2014). Besides that, productivity also impacted by institution like public-private partnerships has led to the creation of a number of national competitiveness councils and enabled the forum to work with countries in every region of the world, putting in place the long-term determinants for productivity and prosperity (Hanouz, 2015).

One important thing that we can conclude is the relationship among competitiveness measures. Technically, the World Economic Forum develops an index to accommodate the concepts of competition very greatly into 12 pillars:

1. Institution
2. Infrastructure
3. Macroeconomic environment
4. Health and Primary education
5. Higher education and training
6. Goods market efficiency
7. Labor market efficiency
8. Financial market development
9. Technological readiness
10. Market size
11. Business sophistication
12. R & D Innovation

Basically, when a country conducted the activities within the international scale automatically they have to consider many aspects from simple things to the complex in order to attain the objectives to be achieved. As stated by Ohlin and Samuelson (1930) in The Theory Factors Proportion or better known as the HOS Theory, namely in international trade should consider K/L ratio as a proportion.

Based on some explanation, one thing that can be concluded is that the competitiveness index is a measure of a comprehensive review by micro and macro foundations of competitiveness of a country. It can be regarded as a set of institutions, policies and factors that influence and productivity of a country, here seen productivity of prosperity achieved in the economy. Therefore, the ability of the government in the economy will have an impact on all areas. Competitiveness in each country becomes important to know what the policy should be taken, what would be the risks faced and the improvement of international relations.

Methodology

The method used in this paper from the point of view to practical aims and used the methods of data collection and descriptive analysis of correlation. ANOVA was used to investigate whether there is a difference on average between three or more groups of the population. This study used two-way ANOVA, because it will analyze two factors. Analysis of variance is the squared differences of values and the average, which can be derived from the difference in total average and average of column or row.

The first variance is the total number of square (SST). The second variance is the sum of the columns square (SSC) and the number of lines square (SSR). To get the SST, the differences of each value and the amount of the average value of its (μ) squared.

$$SST = \sum [X_i - \mu]^2 \quad (1)$$

To get the SSC, the differences of each column value and the average in column (μ_c) and the same logic is applied to get the SSR.

$$\begin{aligned} SSC &= \sum [X_i - \mu_c]^2 \\ SSR &= \sum [X_i - \mu_r]^2 \end{aligned} \quad (2)$$

Therefore, the sum of squared errors (SEE) is the remainder of the two variances gets.

$$SSE = SST - SSC - SSR \quad (3)$$

Each value variance must be corrected with degrees of freedom. SST value divided by N-1, SSC value is divided by C-1, and values of SSR divided by the R-1, and the values of SSE divided by [(C-1) x (R-1)].

At this step, ANOVA executed by comparing a column and row variances for variance defined:

$$F - \text{statistic (1)} = \frac{SSC/(C-1)}{SSE/[(C-1) \times (R-1)]}; F - \text{statistic (2)} = \frac{SSR/(R-1)}{SSE/[(C-1) \times (R-1)]} \quad (4)$$

N = the number of data; C = the number of columns; R = number of rows

It would be better to understand the shape of the distribution relative global competitiveness index, or how things have progressed over the last 7 years in ASEAN, global competitiveness index relative to the Kernels different periods measured so that the shape and inter-temporal dynamics can be studied. Observation tools estimator can be described mathematically as follows:

$$F(x) = 1/Nh \sum_{j=1}^N K[(x-X_j)/h]$$

Where,

X_j = Data

N = number of data points

h = window width/smoothing parameter

K = Kernel/weighting function (normal distribution is assumed in this paper)

Kernel density measurement requires several steps (look at Silverman, 1986) in Kuncoro (2012). The first step, each year, an index of global competitiveness in ASEAN-scale over so that distribution is limited to be at a positive value. Because of through the construction, global competitiveness index on the average in ASEAN always equals to 1 (100 percent).

The next step, for a large number of points which is in the interval, relative frequency, for example uncertainties, which each value can only exist, has been measured. In the third step, the relative frequency of these points is filtered for noise by using a procedure Silverman (1986). The collection of the relative frequency was filtered would be shaping a competitiveness in the Kernel at those years. The distribution area is normalized by 100 (percent).

Kernel estimator thought us what kind of assessment of global competitiveness on average, a certain fraction of average global competitiveness ratings of ASEAN in particular.

As noted above, the Kernel density distribution is very helpful to identify a shape of the distribution of global competitiveness index relative or how things have progressed over the years. This study uses data competitiveness index published by the WEF Report from 2008 to 2014 through the 12 pillars of the seven countries in ASEAN and data from World Bank in 2013.

Result and Discuss

Since 2005, the WEF has made 12 pillars about competitiveness index of each countries based on the following criteria below. Due to not all countries was listed every years, such as Brunei Darussalam, which in 2014 was not registered because it has out of the criteria. According to the WEF, global competitiveness index consist of 12 indicators:

- | | | |
|----------------------------------|---|--------------------------|
| 1. Institution | } | <i>Factor Driven</i> |
| 2. Infrastructure | | |
| 3. Macroeconomic environment | | |
| 4. Health and Primary education | | |
| 5. Higher education and training | } | <i>Efficiency Driven</i> |
| 6. Goods market efficiency | | |
| 7. Labor market efficiency | | |
| 8. Financial market development | | |
| 9. Technological readiness | } | <i>Innovation Driven</i> |
| 10. Market size | | |
| 11. Business sophistication | | |
| 12. R&D Innovation | | |

Table 1 shows the descriptive statistics on global competitiveness index of 12 pillars in ASEAN during the last 7 years. The result was interested it has the average index of Health and Basic Education (P4) to be the highest that is equal to 5.67. That is give us the illustration about the main focus index in ASEAN captured in health and primary education, due to the main basic to growth the economy development as long as they growth. With basic education a person will be able to read and write and added their skills (Greiner and Semmler, 2002). Looking at the coefficient variation (CV, the standard deviations from the mean ratio), all indexes were varied from the average point.

Two lower indexes it is on Innovation (P12, 3.67) and the Technology Readiness (P9, 3.82). Both the two pillars (P9 and P12), the innovation is still relatively low in ASEAN countries indicated by the lack of readiness in the side of technology. The countries which have lower human resources would have an impact on innovation progress of technology.

Greiner and Semmler (2002) also thought that the level of education also becomes important where the country which has a lower level in human capital or human resources (HR) is low producing output as well relatively. The main capital in economic growth is human resources that can be viewed through the knowledge and the standard of living are differentiation from each country (Lucas, 1993; in Brempong et al. 2006).

P11 and P12 also showed that innovation and business sophistication in ASEAN are still low. They can be seen which the second pillar was called *Innovation Driven*, where they should synergize between suppliers both in quantity and quality, satisfaction of production process, marketing and control of international distribution. In addition, R&D is also needed the ability of firms in R&D, collaboration between universities and companies, and the availability of technicians and researchers.

Table 1 also shows the shape of the distribution. Almost all indices slightly tilted to the right, the slope is indicated by positive values (except P2/Infrastructure, P4/Health and Primary Education, and P10/Market Size). Related on the sharpness, frequency polygon shaped like *platikurtic* as presented by the value of kurtosis is less than 3. (P1, P4, P7, P9 and P10) is an exception. Highest kurtosis value is 4.07, showing leptokurtic form of frequency polygons.

Table 1 : Descriptive Statistic of Global Competitiveness Index in ASEAN on 2008-2014

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
Mean	4.22	4.20	5.12	5.67	4.25	4.61	4.65	4.56	3.82	4.55	4.35	3.67
Median	3.86	3.75	5.24	5.66	4.25	4.46	4.63	4.37	3.56	4.66	4.30	3.38
Maximum	6.19	6.54	6.22	6.73	6.09	5.83	5.92	5.94	6.10	5.34	5.25	5.39
Minimum	3.14	2.70	3.40	4.27	2.66	3.86	3.81	2.96	2.42	2.96	3.38	2.19
Std. Dev.	0.90	1.21	0.63	0.56	0.84	0.55	0.57	0.77	0.95	0.64	0.56	0.84
CV	0.21	0.29	0.12	0.10	0.20	0.12	0.12	0.17	0.25	0.14	0.13	0.23
Skewness	1.19	0.60	-0.54	-0.05	0.36	0.88	0.80	0.46	1.29	-1.42	0.08	0.68
Kurtosis	3.14	2.13	2.97	3.20	2.85	2.58	3.06	2.17	3.68	4.07	1.99	2.35
Jarque-Bera	11.60	4.48	2.35	0.10	1.13	6.65	5.27	3.10	14.48	18.83	2.14	4.60
Probability	0.00	0.11	0.31	0.95	0.57	0.04	0.07	0.21	0.00	0.00	0.34	0.10
Sum	206.58	205.65	250.84	277.70	208.03	225.73	227.91	223.52	187.34	222.95	213.04	179.79
Obs.	49	49	49	49	49	49	49	49	49	49	49	49

Table 2 presents the simple pair wise matrix correlations among global competitiveness indices. The results shows that there was *overlapping* in some pillar, proved from some pillars resulting the value it does not difference and has a similarity in criteria. As in P1 until P5, there are institutions, infrastructure, macroeconomic environment, health and primary education, higher education and training as well as the fifth pillar that were a main factor in to drive the economy (*basic requirements/driven factor*) from measurements of the competitiveness in each country.

The most interesting thing is the negative relationship labor market efficiency (P7) and market size (P10). Properly, when the labor market efficiency at the high level it will make the positive effect to produce the output but in this case it does not make sense. That is shows for us if ASEAN have the lower level labor so it is the reasons why ASEAN labor so difficult to move to another sector, moreover to move to others countries.

For instance, according to the Ministry of Manpower and Transmigration Republic of Indonesia, labor does not move to another sector because almost 53 % the majority only at the lower level education, they do not have a high skill. Whereas, if the labor in Indonesia have a high skill and innovation it can be increasing the competitive ability for the ASEAN due to Indonesia is a high market size if we are comparing with others countries. Besides that, for the developing countries has a problems as less institution, levels of corruption, difficulties access to financial sector and government efficiency and accountability. Like as the institution, in competitiveness it is play an important role in maintaining economic health and keeping public-private collaboration on track. To improve their economic performance, that is not so much out of intellectual curiosity, but to create a practical guide that will help countries make informed decisions about how to improve. As we know, the institution will be influenced the productivity and the fact is national institutional frameworks have had a pivotal influence since we began measuring competitiveness in 1979 (Hanouz, 2015).

Table 2 : Pair Wise Correlation between Global Competitiveness Index in ASEAN on 2008-2014

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12
P1	1.00	0.92	0.53	0.82	0.86	0.95	0.86	0.91	0.94	0.19	0.85	0.93
P2	0.92	1.00	0.66	0.87	0.90	0.92	0.76	0.91	0.91	0.36	0.85	0.87
P3	0.53	0.66	1.00	0.64	0.79	0.59	0.21	0.57	0.62	0.62	0.72	0.56
P4	0.82	0.87	0.64	1.00	0.87	0.82	0.62	0.82	0.86	0.48	0.80	0.84
P5	0.86	0.90	0.79	0.87	1.00	0.87	0.59	0.87	0.92	0.54	0.90	0.85
P6	0.95	0.92	0.59	0.82	0.87	1.00	0.80	0.93	0.91	0.24	0.88	0.89
P7	0.86	0.76	0.21	0.62	0.59	0.80	1.00	0.74	0.79	-0.16	0.54	0.72
P8	0.91	0.91	0.57	0.82	0.87	0.93	0.74	1.00	0.91	0.30	0.91	0.87
P9	0.94	0.91	0.62	0.86	0.92	0.91	0.79	0.91	1.00	0.24	0.82	0.89
P10	0.19	0.36	0.62	0.48	0.54	0.24	-0.16	0.30	0.24	1.00	0.52	0.36
P11	0.85	0.85	0.72	0.80	0.90	0.88	0.54	0.91	0.82	0.52	1.00	0.87
P12	0.93	0.87	0.56	0.84	0.85	0.89	0.72	0.87	0.89	0.36	0.87	1.00

Table 3 presents that the labor market efficiency comparing with the market size still not sustainable. This illustrates that labor in ASEAN has not reached good efficiency thus maximizing both in the domestic and foreign market does not be fulfilled. The labor market must have the flexibility to shift the workers from one economic activity to another with a quickly and at low cost and to allow the wage fluctuations without causing disruption (*disruption*). Because indirectly that is lower labor flexibility will affected the economic growth, which would lead to unemployment as happened in large numbers as in the Arab States due to the labor market is still rigid (World Economic Forum, 2014).

That is also illustrates for us if higher education and training (P5), goods market efficiency (P6), labor market efficiency (P7), financial market development (P8), technological readiness (P9) and market size (P10) is still yet efficient on the countries in ASEAN. Specifically, on market size (P10) has the lowest total index among others that only by 4.07. Besides that, the empirical evidence that shows that openness trading is positively associated with growth. However, several studies have recently expressed an uncertainty about that relationship, there is a common understanding that trade has positive effects on growth, especially for countries with small domestic markets. (World Economic Forum, 2014).

In addition, to measure the indexes of global competitiveness according to Arslan and Tathdil (2012) also found differences in the variables and indicators used to define and measure the competitiveness of the comparative analysis of Turkey with 11 potential rivals. As presented in Table 3 to support the findings above that is a negative correlation between the labor market efficiency with market size can be seen through the GDP approach in ASEAN in 2013, seen the lower level in labor market efficiency especially which countries with a high GDP (i.e Indonesia) although the market size showed at the high level. It shows the economic focus in ASEAN countries does not on increasing GDP but must be followed by an increase in efficiency. Conversely, Cambodia with a low GDP instead has a high level of labor efficiency at maximum there is 1.80 percent. It has become one of the factors that led to the second pillar shows a negative result when correlated. Singapore with the small difference in the lowest number would be able to compared to other countries like the United States (World Economic Forum), this is due to the number of labor in Singapore were well distributed and Singapore also clearly in employment policies because that is important thing to get the attention.

Table 3 : Percentage of Labor Market Efficiency and Market Size in ASEAN on 2013

No.	Country	GDP (US\$)	Market Size (%)	Labor Market Efficiency (%)
1	Singapore	\$ 297,941,261,088	0.13	1.62
2	Malaysia	\$ 313,159,097,401	0.13	1.62
3	Indonesia	\$ 868,345,652,475	0.37	1.21
4	Thailand	\$ 387,252,164,291	0.17	0.34
5	Vietnam	\$ 171,390,003,299	0.07	1.05
6	Philippines	\$ 272,066,554,886	0.12	1.73
7	Cambodia	\$ 15,238,689,686	0.01	1.80
Total		\$ 2,325,393,423,127	1.00	9.37

Source : World Bank (processed)

The labor market efficiency in ASEAN also looked through the comparison between total population and number of workers in a country such as in table 4. Dependency ratio (DR) support the previous negative results which appear Vietnam as the country with the greatest DR compared to other ASEAN country. These results support the findings of a negative correlation between the labor market efficiency and market size it was seen inconsistencies between the economy with the total population, labor, market size and the level of labor market efficiency.

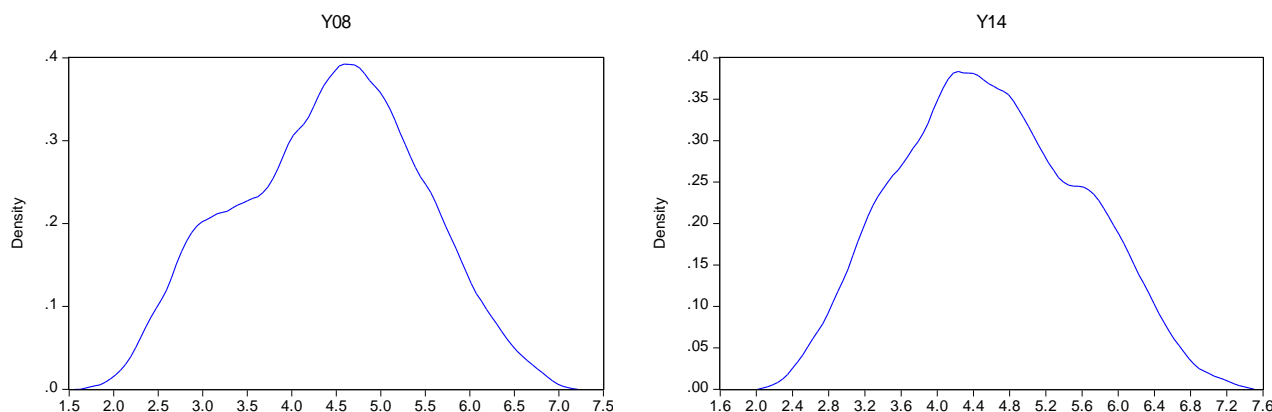
Table 4 : Total Population and Labor in ASEAN on 2013

No.	Country	Population	Labor	Dependency Ratio
1	Singapore	5,399,200	3,072,691	0.57
2	Malaysia	29,716,965	13,043,599	0.44
3	Indonesia	249,865,631	120,289,413	0.48
4	Thailand	67,010,502	39,654,276	0.59
5	Vietnam	89,708,900	53,740,954	0.60
6	Philippines	98,393,574	42,250,282	0.43
7	Cambodia	15,135,169	8,605,270	0.57
Total		555,229,941	280,656,485	3.68

Source : World Bank (processed)

In general, the entire competitiveness index in ASEAN tends to stagnate during the period 2008-2014. Visual inspection through the Kernel density as in Figure 1 was supported this preliminary conclusion. Non-parametric density was calculated using the Gaussian kernel, using the optimal bandwidth that is selected for each case. At the beginning of the year, the probability density slightly tilted to the right. Might be attention in the peak reflects the existence of polarization in 2008 and 2014. At first glance looks like a contrast graph model although is not exactly, when this happens it can be said that the level of global competitiveness in ASEAN shows a good results.

Figure 1 : Kernel Distribution of Total Competitiveness Index in 2008 and 2014



In 2014, a good progress that is felt at the highest part of the very real because of the probability distribution has shifted to right. Two peaks appear indicating that some degree of polarization higher competitiveness this year also occurred. Overall, almost all normal distribution indices as indicated by the Jarque-Bera test as presented in Table 1.

Based on the results of such calculations are presented in Table 4, it can be seen that there is a competitiveness across index, cross-country, and across the year. This is evident from the significance in the show in Table 3. In general, can be seen that the index tends to remain and main focus in the higher education and training (P5) index which shows the highest due to do increasing in competitiveness in ASEAN countries through the higher level and training should be easier to improve the human capital. It also relates to the flexibility of the labor market as discussed earlier.

Table 5 : Test of Between Subject Effect
Dependent Variable:index

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	Hypothesis	3669.611	1	3669.611	10366.234	.000
	Error	21.100	59.605	.354 ^a		
kcountry	Hypothesis	183.008	1	183.008	598.104	.000
	Error	153.908	503	.306 ^b		
kindex	Hypothesis	155.731	11	14.157	153.191	.000
	Error	6.099	66.000	.092 ^c		
kyear	Hypothesis	3.279	6	.547	5.914	.000
	Error	6.099	66.000	.092 ^d		
kindex * kyear	Hypothesis	6.099	66	.092	.302	1.000
	Error	153.908	503	.306 ^b		

a. .200 MS(kyear) + .800 MS(Error)

b. MS(Error)

c. 1.000 MS(kindex * kyear) - 1.54E-007 MS(Error)

d. 1.000 MS(kindex * kyear) - 2.64E-007 MS(Error)

From the seventh highest ASEAN countries obtain the index numbers namely the State Singapore. That was a British colony able to compete with the United States in competitiveness. Singapore capable of being ranked second overall in the last 4 years due to exceptional and has a stable performance in all dimensions of GCI. Once again in this year, Singapore is the only one capable of reaching the top 3 with 7 economic pillars of 12 pillars and achieve in the top 10 of two other pillars.

Singapore is also faster in the increased goods market efficiency, labor market efficiency and financial market development. Added again with the best institutional framework (3rd) in factor-driven/basic requirements of Singapore have very high achievement. Such economy can also rely on the macroeconomic environment and fiscal management (15th) that a budget surplus of 6.9 percent of GDP in 2013. Furthermore, Singapore with a strong focused on education, business sophistication and innovation sector is the key to the prosperity of Singapore in the future.

It does not rule out other ASEAN countries were able to follow the Singapore's steps with a focus on education, labor market efficiency and the provision of space to improve the skills and innovation as seen these indices tend to remain and *interconnection* that does not stand one by one, all pillars have a related either directly or not. If the countries in ASEAN focus on main pillars it will be automatically strengthen the other pillars. As in higher education and training pillar (P5) when the pillars are high level it will automatically increase the country's economic growth (Brempong et al., 2005).

As in the HOS theory are discussed previously, we know that the countries in ASEAN have to know earlier what field an advantage and disadvantage of the country, after that each country doing a cooperation to full fill the disadvantages. Especially focus in ASEAN, countries are rich in labor, it can cooperate with countries rich in capital so as to eventually reach convergence on the economy.

So far, we have discussed about the competitiveness index in ASEAN within the framework of static comparative. Which with the competitiveness index and the start of the ASEAN Economic Community (AEC) would strengthen the ASEAN economy or even going on a tough competition between countries in ASEAN? With the AEC, ASEAN countries should focus on education, labor efficiency and market size with a 3-dimensional strengthened the flexibility of the workforce will be created, not only across sectors but across country, which it will be strengthen the economy in ASEAN.

Conclusion

This paper tries to observe the competition in ASEAN countries through the global competitiveness index in seven years. Observations through of 2008 until 2014 showed significance in cross indexes, cross-border, and cross-years. Overall, all the pillars was changed every year but not so big. However, the emphasis focus on the index of labor market efficiency and market size indicates a negative result when correlated. Labor market efficiency and the market size are still at the lowest level, which indicates that in the ASEAN countries have not been able to achieve maximized efficiency driven. To improve the results, ASEAN countries must increasing the macro economy stabilized and labor flexibility by stimulating youths in ASEAN to innovate and continue to learn in order to compete in a variety of sectors.

Although the results of the 12 pillars of competitiveness separately, keep in mind that these pillars are not independent, all pillars tend to reinforce each other, and weakness in one of the pillars will have an impact on the others. Particularly in ASEAN, competitiveness becomes important things which most countries are still at the level of developing countries that needed focus on certain pillars. With the expected AEC countries in ASEAN are able to make the same policy as in the case of tax rates, antitrust law, labor regulation, environmental regulation and the other in order to strengthen the economy in ASEAN.

This paper uses a seven-point sample data. Further searches can be done using more sophisticated devices. The use of the latest time series data and applying, for example, using the Kernel is strongly recommended that a change in ASEAN's competitiveness is more accurate for policy makers to resolve related problems. According to this research, there are some policy might be invent for ASEAN countries are increasing the quality of education (i.e. targeting for increasing the amount of the magister and doctor every years), training for a labor force, and escorting the small and medium enterpreises (SME's) to produce an innovative product.

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