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THE BALANCE OF PAYMENTS AND INTRA-REGIONAL IMBALANCES OF THE ASEAN COUNTRIES

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ABSTRACT

This paper mainly criticizes the ideology of economic liberalization that has been embedded in ASEAN since its birth. The first critique was on the explanation of how free trade could result in economic growth. After some appropriate econometric techniques were applied, the Balance of Payments Constrained Growth (BPCG) can explain nine out of ten ASEAN countries’ economic growth. This leads to the conclusion that the major constraint of an open economy is her balance of payments. The second critique was on the economic consequences of free trade in Southeast Asia. It finds that even though economic openness may result in faster economic growth, it may yield some adverse outcomes - the intra-regional imbalances. The paper finds that intra-regional imbalances persist in Southeast Asia, and this may be lead to unequal development among the ASEAN countries in the future.

Key Words: ASEAN, Intra-Regional Imbalances, Balance-of-Payments-Constrained Growth Model, Unequal Development

JEL Codes: F14, F43
1. INTRODUCTION

The Association of Southeast Asian Nations (ASEAN) was founded in 1967. The founding members were composed of five Southeast Asian countries: Indonesia, Malaysia, The Philippines, Singapore, and Thailand. According to the ASEAN Declaration of 1967, one of the association’s major purposes was “to accelerate economic growth”. However, it was well known that, at the time of birth, the foundational agenda of ASEAN was not to boost economic performances, but it was rather to enhance political stability and regional security against communism. The initial agenda was more or less achieved. Amid the Cold War, ASEAN strongly supported its members’ anti-Communism regimes, and Communist revolution was not successful in the founding members of ASEAN. However, during this founding stage, ASEAN countries’ economies were relatively undeveloped and still grew slowly, so it can be said that the goal “to accelerate economic growth” was not yet achieved. The important action to “accelerate economic growth” appeared in the second decade of the association, as the ASEAN Preferential Trading Arrangements (APTA) was launched in order to promote intra-regional trades in 1977. Nevertheless, the scheme was not successful (Devan 1987). The reason behind the unfavorable outcomes of the scheme was rooted mainly on wide differences in various characteristics and hence opinions on economic policies of the member countries. Singapore was the only one that fully supported APTA and economic openness, but other member countries, such as Thailand and Indonesia, had different perceptions on economic development policies. That is, they, at the time of industrialization, thought that immature economic openness would yield some negative impacts on their economic development, because it could jeopardize market opportunities and chances to develop of some growing domestic industries. For example, lowering tariff would lead to an influx of some cheap foreign products, so a new domestic industry, which did not yet earn advantages from economies of scale in its production process, would not be able to compete with foreign firms. As a result, the new domestic industry could no longer operate due to its lack of demand, so the country would miss an opportunity to domestically develop a new industry. That is, the view of economic protectionism was still held in these countries. Based on this idea, they were hesitant to follow APTA and lower their tariffs.

However, the economic growth in the region during in the middle of the 1980s led the protective member countries to consider that trade expansion is necessary for their
economic growth. Brunei agreed so, and joined ASEAN right after her independence in 1984. The official milestone of moving towards the path of economic liberalization occurred in 1992 when the member countries agreed to form the ASEAN Free Trade Area (AFTA).¹ According to Yue (1998), one of the main factors leading to the emergence of AFTA was that the former inward-looking countries reformed their economic development strategies by leaning more toward the outward-looking policies.² Regardless of the economic outcomes resulting from AFTA, the significance is that economic liberalization has since stood firmly as the main ideology for economic development in the region.

The great expansion of ASEAN took place in the middle of the 1990s. Vietnam joined ASEAN in 1995, followed by Lao PDR and Myanmar in 1997 and lastly by Cambodia in 1999. ASEAN has had 10 members since. These 4 new member countries, aka the CLMV countries, when compared to the other member countries, have been known as being poorer and less developed. Thus, equitable economic development among all member countries then became one of the purposes of the association (Giang and Thanh 2007, Narjoko and Amri 2007). The CLMV countries’ conditions when entering ASEAN were different from what the old members had encountered when the association had been established. That is, because ASEAN had already accepted the idea of economic liberalization as a path to economic development, the CLMV countries had to follow this path due to their commitments to join ASEAN.³ In particular, the CLMV countries, unlike the former inward-looking members where protective economic policies had been firmly held at the time they had entered ASEAN, might miss an opportunity to protect their

¹ The outcomes of AFTA on intra-regional trades were still questionable. For example, Elliot and Ikemoto (2004), investigating 5 founding countries of ASEAN, found that trade flows did not increase immediately after the advent of AFTA. It was the Asian crisis in 1997 that forced ASEAN member countries to acquire inputs in the region and this increased the volume of trade flows. Or, Siah, Choong, and Yusop (2009) argue that some countries may be worse-off from AFTA. Regardless of its outcomes, AFTA was considered as an important milestone for economic cooperation in ASEAN (Ravenhill 1995, Yue 1998).

² In Yue (1998), there are four main reasons supporting the decision to form AFTA. First, the Cold War came to an end, so the member countries no longer have the Regardless of issue of mutual interest. Therefore, they set AFTA as a new “regional glue” for them. The second reason was what I mention in the text; that is, former inward-looking members became more outward-looking. Third, AFTA was believed to enhance their competitiveness in the world market. And, fourth, the member countries provisioned the failure of the WTO’s trade negotiations, so they set AFTA to replace WTO’s agreement.

³ Among the CLMV countries, Vietnam might be somewhat different from others, because she clearly had already signaled that she wanted to adopt economic-liberalizng policies. (Hill and Menon 2014)
domestic economies from the immature openness. However, it has been believed that economic openness was the way toward equitable and sustainable economic development. Lately, the Regional Comprehensive Economic Partnership (RCEP) of 2012 and the ASEAN Economic Community (AEC) of 2015 were the major steppingstones to push forward intra-regional trade in Southeast Asia.

The economic background of the belief that economic openness can result in a rapidly growing economy is from the orthodoxy. Orthodox economics fundamentally believes that a market, if able to function freely, can deliver the most efficient outcomes for an individual. This belief also applies in the macro level in which a country can maximize benefits for her people via the market mechanism. The well-known orthodox theory of this kind is, for example, the theory of comparative advantage. That is, a country in free-trade environments can efficiently allocate her limited resources to produce what she is good at, and she can trade her products for foreign products that cannot be efficiently produced in her territory. All trade partners eventually benefit from the trade. Fundamentally, all trade partners need to consider only how they can optimize their uses of limited resources, and then they can automatically find a market to trade their products. Among a number of trade models that are based on this foundation, the famous Hecksher-Ohlin model is a good example from an orthodox tradition. Accordingly, availability of “supply” is an important constraint for economic growth, and supply can create its own demand.

The story is different in heterodox economics. From the heterodox point of view, it is observable that a country with a limited amount of resources might have a fast-growing economy, while, on the contrary, another country with abundant resources might grow slowly. This fact is contradictory with the orthodox supply-led belief. Therefore, arguing against the orthodoxy, heterodox economics believes that it is demand, not supply, that constrains the growth pace of an economy. That is, economic activities of a country are demand-led, while supply constraints would adjust to meet the demand. Since all of the ASEAN countries have moved towards higher degree of economic openness, the most apparent demand constraint for each country is her balance of payments. Exports of a country’s products are the main source of demands that leads to the expansion of her balance of payments. One of the most popular thoughts supporting the role of demand constraint in economic development for an open economy is Thirlwall (1979)’s Balance of Payments Constrained Growth Model (BPCG model).
Is it possible to understand the economies of each ASEAN country from the demand-led perspective? In order to answer this question, this paper is going to use the BPCG model to test whether or not each individual ASEAN country has been constrained by her own balance of payments. To do so, a few different econometric techniques are going to be employed according to the characteristics of each country’s data. It is expected that the results will show that the test is positive for most of the ASEAN countries; that is, international trade been able to expand a country’s balance of payments constraint, so it has been crucial for a her economic development.

Since international trade has been important for the region, the next concern arises. In the global market, it is ordinary to see that some countries experience external surplus\(^4\), while their trade partners are in deficit. However, it is unsustainable and undesirable when some countries are persistently in surplus, while others have chronic external deficit. This is why the issue of the global imbalances has currently been a big concern for economists.\(^5\) In this paper, I am going to inquire whether or not ASEAN countries are a part of the problem of the global imbalances. Further, due to economic liberalization in the region, I am aware that the problem of external imbalances may arise in Southeast Asia. Therefore, I am going to explore whether or not intra-regional trade among the ASEAN countries has played a larger role for their economic development, and to determine whether or not the intra-regional imbalances have existed in Southeast Asia. If a country is balance-of-payments-constrained, the intra-regional imbalances would mean that the Southeast Asian countries earn different degrees of benefits from their ASEAN trades. Unequal economic development may arise, if the more developed countries in the region accumulate some surplus while the less developed suffer from the chronic deficit.

\(^4\) It is my intention to use the term ‘external surplus’ instead of the term ‘current account surplus’ here, as I consider ‘an external position’ and ‘a current account position as different but related terms. As it is generally understood, a current account position is a sum of balance of trade (exports of goods and services less their exports), net current income, and net current transfer, while I would define an external position in this paper as only net value of trades of goods (goods exports less goods imports). The reason that I focus specifically on goods and ignore other components of a current account is because the last section of this paper is going to employ the data of the Harmonized System code which classify different types of goods in trades between countries. Therefore, for being consistent with the later analysis, the term ‘external balance’ has to be defined here.

\(^5\) There are a lot of academic researches regarding the issue of the global imbalances. Some influential are such as Dooley, Folkerts-Landau, and Garber (2003, 2009), Mendoza, Rios-Rull, Quadrini (2009), or Eichengreem (2007).
2. THE BALANCE OF PAYMENTS AND ECONOMIC GROWTH OF ASEAN COUNTRIES

2.1. The Balance of Payments Constrained Growth Model (BPCG Model)

The idea relating economic growth and the balance of payments could be traced back to the mercantilists of the 16\textsuperscript{th} to 18\textsuperscript{th} century. The main point of the mercantilist argument is that wealth in the world was constant, so if a country earns more wealth other countries should be less wealthy. Therefore, a country, in order to be prosperous, needs to accumulate precious bullions and, thus, has current account surplus. The policy implications from this idea are that regulations for trade protections need to be imposed in order to discourage imports, and government supports for domestic production are desirable in order for the country to be less dependent on other countries’ products and to be capable to export to other countries.

The modern idea relating balance of payments and economic growth no longer thinks that wealth in the world is constant. It is apparent that production can generate wealth, and the main purpose of production is to meet demands in a market. In an open economy, the most distinctive constraint for an open economy is its balance of payments, and export demands are source of demand to expand her balance of payments constraints. The balance of payments constrained growth model is originally formulated by Anthony Thirlwall in 1979. Different from the mercantilist thoughts in which current account surplus is pursued, the model begins with the assumption of current account equilibrium:

\[ P_d X = P_f EM \]  

(1)

where \( P_d \) is the price of exports measured in domestic currency, \( X \) is the real value of exports, \( P_f \) is the price of imports measured in foreign currency, \( E \) is the domestic price of foreign currency (the exchange rate), and \( M \) is the real value of imports. The rate of growth of equation (1) can be stated as

\[ p_d + x = p_f + e + m \]  

(2)

where the lower-case variables are the rate of growth of their own real values (capital letters in equation (1)).

At this point, \( X \) and \( M \) could be expressed in forms of multiplicative functions as follows.
\[ X = \left( \frac{P_d}{E} \right)^\gamma Z^\mu \]  
\[ M = \left( \frac{E}{P_d} \right)^\theta Y^\eta \]  

where \( Z \) is world income, \( Y \) is domestic income, \( \gamma \) is the price elasticity of demand for exports, \( \mu \) is the income elasticity of demand for exports, \( \theta \) is the price elasticity of demand for imports, and \( \eta \) is the income elasticity of demand for imports. Taking the rates of change for equation (3) and equation (4) yields:

\[ x = \gamma \left( p_d - e - p_f \right) + \mu z \]  
\[ m = \theta \left( p_f + e - p_d \right) + \eta y \]  

Substituting equation (5) and equation (6) into equation (2) yields:

\[ y = \frac{\left( \theta + \gamma + 1 \right) \left( p_d - e - p_f \right) + \mu z}{\eta} \]  

To further simplify equation (7), \( \left( p_d - e - p_f \right) \) can be expressed as a growth rate of a single price variable, \( p \), and \( \mu z \) can be expressed as \( x \). As a result, equation (7) can be reduced to

\[ y = \frac{\left( \theta + \gamma + 1 \right) p + x}{\eta} \]  

Equation (8) is important, as it tells that economic growth (\( y \)) is determined by two factors of the balance of payments: \( p \) and \( x \). While \( x \) is clearly a growth rate of real export, \( p \) is a growth rate of domestic price less that of foreign price, so, by definition, it can be considered as a growth rate of a country’s term of trade. Since \( \eta \) is theoretically positive, \( x \) must have a positive impact on \( y \). That is, the growth rate of real export acts as a source of demand which can expand an economy’s balance of payments constraint and contributes to her economic growth. Meanwhile, the direction of \( p \) on \( y \) is still unknown, depending on the sum of \( \gamma \) and \( \theta \). This is because both \( \gamma \) and \( \theta \) are price elasticities of demand, so they are theoretically negative. However, their sum might be lower than, higher than, or equal to one, so the impact of \( p \) on \( y \) could be either positive, negative, or null. This ambiguous sign of \( p \) implies the Marshall – Lerner condition which explains that an improvement in a

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6 In his original work, Thirlwall (1979) assumes the Marshall-Lerner condition and the law of one price, so the parsimonious form of the equation is

\[ y = \frac{x}{\eta} \]

This equation is known as Thirlwall’s law.
country’s term of trade would lead to an expansion of her balance of payments only if the absolute sum of price elasticity of exports ($\gamma$) and that of import ($\theta$) is lower than a unity.\(^7\)

2.2. Review of Empirical Literatures on BPCG Model

After the advent of Thirlwall’s BPCG model in 1979, there have been a number of works empirically testing the models for countries and groups of countries. The reviews of empirical literatures on the BPCG model have been done elsewhere. For example, McCombie (1997) not only reviewed literatures up to 1996, but he also explained the evolution of the methodology of BPCG empirical tests. Later, Thirlwall (2011) reviewed empirical works of BPCG model from 2003 onwards.

In spite of many empirical papers, there have still been a limited number of papers testing the BPCG model on the ASEAN countries. The first paper that spent its small part to empirically test the BPCG model on ASEAN economies was written by Thirlwall and Hussain (1982). This paper has been widely known as the work that invented the extended BPCG model, in which capital flows have been considered as a factor that influences a country’s balance of payments and, hence, economic growth. The latter part of the paper also shows how the predicted growth rates from the extended model fits the empirical growth rates of 20 countries around the world which includes 2 ASEAN countries, the Philippines (from 1951 to 1969) and Thailand (from 1953 to 1972). The second paper was Hussain (1999) who compared the results of the original model from Thirlwall (1979) with those of the extended model from Thirlwall and Hussain (1982) on the economies of 29 African countries and 11 Asian countries. These Asian countries include 4 founding members of ASEAN: Indonesia (from 1970 to 1985), Malaysia (from 1970 to 1990), Philippines (from 1971 to 1990), and Thailand (from 1975 to 1990). The results show that none of the models can explain the economic growth of Indonesia, only the basic model can explain the economic growth of Thailand, only the extended model can explain the economic growth of the Philippines, and both models can explain the economic growth of Malaysia. The third paper was by Ansari, Hashemzadeh, and Xi (2000) who compare the

\(^7\) The debate on the relation between the term of trade and economic growth are widespread. To mention a part of this debate, the well-known argument is the Presbisch – Singer hypothesis. The hypothesis explains that developing countries whose exports rely on primary commodities tend to have declining terms of trades and these would slow down their economic growth. Not only do Hadass and Williamson (2001) criticize the Presbisch – Singer hypothesis, they also provide a concise literature review on this subject.
predicted growth rates from the BPCG model with the actual growth rates of Indonesia, Malaysia, the Philippines, and Thailand from 1970 to 1996. The paper found that the BPCG model held for the case of Indonesia, Malaysia, and the Philippines, but it could not explain the growth of Thailand. The fourth paper was by Parraton (2003) who used the error correction technique to estimate import demand and export demand functions of 51 developing countries from 1973 to 1995. The paper stated that the econometric method could estimate import demand functions of 34 out of 51 countries, including three ASEAN countries – Malaysia, the Philippines, and Thailand. Finding only income elasticities of imports allow the paper to present the predicted growth rates derived from the ‘weak’ form of the BPCG model. The paper showed that the ‘weak’ form of the BPCG model held in all three ASEAN countries. Further, the paper could find export demand functions of only 27 out of these 34 countries; this included Malaysia and Thailand. Finding income elasticities of exports from the export demand function hence allow the paper to estimate the predicted growth rates derived from the ‘strong’ form of the BPCG model. However, it found that the ‘strong’ form of the BPCG model tended to overestimate the countries’ growth rates, and the paper concluded that the ‘strong’ form of the BPCG model could not explain growth rates of any country, including Malaysia and Thailand. The last paper was by Tharnpanich and McCombie (2013) who applied the BPCG model on Thailand from 1962 to 2009. The unique technique of this paper is that it employed Gregory and Hansen’s cointegration test to take into account the impact of structural break of Thai economic growth. The paper found that economic growth of Thailand has been determined by her balance of payments. In addition, during the post crisis era (from 1999 to 2009), the declining world income elasticity of Thai exports were the reason for slow economic growth.

2.3. The Test and the Result

For empirically testing purpose, equation (8) is transformed to

\[ y_i = \beta_0 + \beta_1 p_i + \beta_2 x_i + e_i \]  \hspace{1cm} (9)

where \( \beta_0 \) is a constant term, \( \beta_1 = \frac{(\theta + \gamma + 1)}{\eta} \), \( \beta_2 = \frac{1}{\eta} \), and \( e \) is an error term. Equation (9) is going to be tested in order to find the relations between the independent variables (\( p \) and \( x \)) and the dependent variable (\( y \)). The subscripts, i’s, are added to tell that the test is for each ASEAN country. It is hypothesized that \( \beta_2 \) is positive, as it means that, if significant, higher export growth rate is able to expand the country’s balance of payments and bring in
faster economic growth. Whereas, a significant $\beta_1$ means that changes in the country’s terms of trade impact her balance of payments and then lead to changes in her economic growth rate. However, as already mentioned, the direction could be either positive or negative.

**a) Data and Compilation of Data**

Almost all data can be retrieved from the database ‘World Development Indicator (WDI) and Global Development Finance (GDF)’ of the World Bank’s World Databank. The paper focuses on the data of each country from 1980 onwards. However, the time range of each country’s availability of data may vary. This limitation is more apparent in the case of the newly open countries. To be specific, Cambodia’s data is available from 1993 to 2013, Laos’s from 1998 to 2013. The case of Myanmar is problematic, because her data from the World Databank is available only from 1980 to 2004. The data from CEIC database is very helpful to add more data to Myanmar’s series. More explanations on how I obtain more data of Myanmar is explained below.

**Variables**

$y_i =$ Real GDP Growth Rate of country $i$; elaborated from finding the growth rate of the variables ‘GDP (constant LCU)’

$x_i =$ Real Export Growth Rate of country $i$; elaborated from finding the growth rate of the variable ‘Export s of Goods and Services (constant LCU)’

$p_i =$ Growth Rate of Price variable; elaborated from the following steps. First, finding a country’s term of trade by having $\frac{P_d}{E F_t}$, where $P_d$ is obtained from the variable ‘Consumer Price Index’, $E$ is obtained from the variable ‘Official Exchange Rate (LCU per US$). $P_f$ is the ‘US Consumer Price Index’\(^8\). Second, finding growth rats of the term of trade to get $p_t$.

I already mentioned that Myanmar has fragmented data series. While the price index can be retrieved from the World Databank, GDP growth from 2004 – 2013 is missing. However, it could be seen from the CIA Factbook, and the series seems to continue from those of the World Databank. Still, the data of export growth are problematic. While the World Databank has the data from 1982 to 2004, the CEIC database has the data from 2004

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\(^8\) Using the US Consumer Price Index here may be debatable. However, I use it due to the following reasons. First, the USA is the most influential country whose changes in price level could impact the world. Second, the USA is also a big trade partner of all of the ASEAN countries. Third, the data are complete and prompt to be used.

b) The Unit Root Tests

The data used in this paper are time-series. Generally, the first step to the time-series analysis is to find whether or not a series of data contain a unit-root problem, and also find the level of stationarity for each series. To do so, I apply both the Augmented Dickey – Fuller Test and the Phillips – Perron Test to all of the series. Table 1 shows the results of the tests.

Table 1 shows that almost all of the variables, as they are rates of growth, are stationary at I(0). Only \( y \) of Myanmar and \( y \) and \( p \) of Vietnam are I(1). Hence, Most of the data are clear from a unit-root problem, and thus an OLS regression does not lead to a problem of spurious regression. Therefore, I am going to estimate equation (9) by using the OLS method for the data of all ASEAN countries except Myanmar and Vietnam. However, in some cases in which the problems of autocorrelation are detected, I am going to apply the Prais-Winsten estimation to fix the problem.

The cases of Myanmar and Vietnam in which some series of the variables are I(0) and some are I(1) require a different econometric technique to avoid a problem of spurious regression. To solve the problem, the autoregressive distributed lag (ARDL) bound testing approach is the most appropriate and most convenient econometric technique to estimate equation (9). The econometric results can be presented in Table 2.

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9 The ARDL bound testing approach was developed by Pesaran and Shin (1995, 1999) and Pesaran et al. (1996, 2001). The approach has some disadvantages over other approaches. For the first advantage, the ARDL bound testing approach is applicable, even though some variables are I(0) and some are I(1), without the problem of nonstationarity (Pesaran and Shin 1997: 21-24). Another advantage is that the dynamic error correction model (ECM) can be derived from the ARDL, so the ARDL approach informs both long-run and short-run relationships between dependent and independent variables.
<table>
<thead>
<tr>
<th>Variables</th>
<th>Augmented Dickey-Fuller Test</th>
<th>Phillips-Perron Test</th>
</tr>
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<tbody>
<tr>
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<tr>
<td>$y$</td>
<td>I(0)</td>
<td>I(0)</td>
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<td>$x$</td>
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Results with no asterisk are significant at 5%
Results with ** are significant at 10%
**Table 2 The Econometric Results**

<table>
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<tr>
<th>Country</th>
<th>Method</th>
<th>$\beta_0$</th>
<th>$p$</th>
<th>$x$</th>
<th>Adjusted R$^2$</th>
<th>DW</th>
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<td>Brunei</td>
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<td>0.04</td>
<td>0.19*</td>
<td>0.51</td>
<td>2.41</td>
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<td>Cambodia</td>
<td>Prais</td>
<td>6.80*</td>
<td>0.11</td>
<td>0.04**</td>
<td>0.21</td>
<td>1.74</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Prais</td>
<td>5.10*</td>
<td>0.13*</td>
<td>0.10*</td>
<td>0.26</td>
<td>1.95</td>
</tr>
<tr>
<td>Laos</td>
<td>Prais</td>
<td>7.24*</td>
<td>0.02</td>
<td>0.04*</td>
<td>0.70</td>
<td>1.12</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Prais</td>
<td>3.98*</td>
<td>0.26*</td>
<td>0.27*</td>
<td>0.58</td>
<td>1.79</td>
</tr>
<tr>
<td>Myanmar</td>
<td>ARDL</td>
<td>-0.20</td>
<td>0.01</td>
<td>0.28*</td>
<td>0.34</td>
<td>2.21</td>
</tr>
<tr>
<td>The Philippines</td>
<td>Prais</td>
<td>2.76*</td>
<td>-0.03</td>
<td>0.15*</td>
<td>0.36</td>
<td>1.50</td>
</tr>
<tr>
<td>Singapore</td>
<td>OLS</td>
<td>3.11*</td>
<td>0.13</td>
<td>0.37*</td>
<td>0.57</td>
<td>1.94</td>
</tr>
<tr>
<td>Thailand</td>
<td>Prais</td>
<td>4.03*</td>
<td>0.31*</td>
<td>0.15*</td>
<td>0.39</td>
<td>2.05</td>
</tr>
<tr>
<td>Vietnam</td>
<td>ARDL</td>
<td>No Relationship among the variables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* A coefficient is significant at the 5% significance level
** A coefficient is significant at the 10% significance level

**Source: Author’s calculation**

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10 See appendix A for detailed results.
11 See appendix A for detailed results.
12 This statistics in between the lower and the upper level of Durbin-Watson critical value which means the test is inconclusive.
13 Same as above
From Table 2, the changes in the terms of trades \( (p) \) are significant only in the case of Indonesia, Malaysia, and Thailand. As they are positive, improvements in terms of trades of these three countries have positive impacts on their balances of payments and their economic growth rates. Other than these three countries, \( p \)'s are not significant, so changes in their terms of trades do not have impacts on their balances of payments and economic growth. Meanwhile, the export growth rates \( (x) \) are significant in all cases except the case of Vietnam, and, as already hypothesized, they are positive. That is, the increasing real value of exports can expand their balances of payments and generate economic growth. In addition, it is worth-noting that the \( x \)'s coefficient of Singapore is larger than that of other countries, while those of Cambodia and Laos are the smallest. As \( \beta_2 = \frac{1}{\eta} \), the largest \( x \) of Singapore would mean that her \( \eta \) is the smallest, while Cambodia and Laos have the largest \( \eta \). This finding is relevant with the theory arguing that the income elasticity of demand is generally lower as income increases. In Southeast Asia, Singapore is the richest country, so income elasticity of import is the lowest. Meanwhile, Cambodia and Laos are new members of the association which are known as less developed and poor, so their income elasticities of imports are highest. In addition, linking with the insignificant \( p \)'s of Brunei, Cambodia, Laos, Myanmar, the Philippines, and Singapore, I can state that even though changes in their terms of trades do not have impacts on their balance of payments, their exports do. The result is crucial as it suggests that all of the ASEAN countries except Vietnam are balance-of-payment-constrained.

Why is Vietnam not constrained by her balance of payments, while other countries are balance of payments constrained? The econometric outcomes in this section may not provide sufficient information to answer this question. However, the historical context might tell something. The point that distinguishes Vietnam from other countries is that Vietnam – like Laos – is still considered herself a socialist country. However, different from Laos, Vietnam is not at all a latecomer in the world market. In 1986, Vietnam initiated Doi Moi to run a socialist-oriented market economy, so her economic activities have been involved with the world economy since. This premature openness might be beneficial to the Vietnamese economy as her exports rose. However, it might be detrimental for the economy because the change was too sudden, so the Vietnamese producers might find it difficult to develop her capacity to meet export demands. Therefore,
rather than being balance of payments constrained, the economy could be capacity-constrained.

3. THE INTRA-REGIONAL IMBALANCES OF THE ASEAN COUNTRIES

3.1. Introduction and Methodological Framework

Equitable economic development is one of the four pillars establishing the AEC. In his speech “Challenges Facing the ASEAN Economic Community” at the Asian Development Bank Institute Annual Conference in 2010, Sundram Pushpanathan\(^\text{14}\) said “the development divide among ASEAN Member States is a challenge to ASEAN economic integration.” And, ASEAN urgently needs “economic cooperation program” to bring in equitable economic development. Still, in his opinion, the sources of the inequality among the countries in Southeast Asia are from “the tremendous resource constraints, ASEAN’s absorptive capacity, and the numerous targets to implement across the various sectors.” This vision reflects that ASEAN policy makers view the problem of unequal development from the supply-side perspective. This is the important point against which this paper tries to challenge. The previous section shows that most of the ASEAN countries’s economic growth is demand-constrained; in particular, they are balance of payments constrained. Indeed, in the same speech, Pushpanathan mentioned the problems of the balance-of-payments crisis, but he did not seem to worry about them. In his opinion, the Chiang Mai Initiative Multilateralization (CMIM)\(^\text{15}\) is an “important milestone” to “address balance of payments and short-term liquidity problems in the region and supplement existing international financial arrangements.” In my opinion, a very important part of the balance of payments is missing from Pushpanathan’s view. That is, while the balance of payments is composed of the current account and the financial account, he seems to consider that only the latter may cause a crisis and avoid mentioning the former.

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\(^{14}\) He is the former Deputy Secretary-General of ASEAN for ASEAN Economic Community from 2009 to 2012. He is widely known as a person who led the creation of the AEC.

\(^{15}\) The Chiang Mai Initiative (CMI) was a network of bilateral currency swap arrangements. It was initiated in Chiang Mai, Thailand in 2000 by all of the ASEAN countries plus China, Japan, and South Korea in order to prevent the reappearance of the Asian Crisis and protect the participants from future currency speculation. In 2009, amid the Global Financial Crisis, the CMI was considered inefficient, as the reserve pool was not sufficient to guard the participants from the fragile global economy. In order to enlarge the reserve pool and make the currency swap more efficient, Hong Kong has been added to be a new participant and the CMI has been shifted to be multilateral. The Chiang Mai Initiative Internationalization (CMIM) has been launched.
Even though it is understandable that the lesson from the Asian crisis has haunted policy
makers in Southeast Asia to keep viewing that the balance of payments problem could be
mainly resulted from the sudden capital flights, it cannot be rejected that some elements
from the current account can take part to engender an economic crisis. The case of
Thailand during the Asian crisis is an apparent example showing that persistent current
account deficits in the fixed exchange rate regime played a significant part in the 1997
crisis. Importantly, as Section 2 argues that export growth rates are significant to expand 9
out of 10 ASEAN countries’ balance of payments constraints, their current accounts should
not be left unmentioned.

This section is thus going to focus on the components of the current accounts of the
ASEAN countries. Still, I am not going to predict that the crisis will recur in the region,
because of a problem of chronic current account deficits. Instead, my main focus is about
the intra-regional imbalances.\textsuperscript{16} That is, I am going to point out that intra-regional
imbalances are a product of economic liberalization in Southeast Asia, and they may
prevent the organization to achieve its goal of equitable economic development.

The theoretical foundation that intra-regional imbalances lead to unequal economic
development among the ASEAN countries is based on the dependency theory. The
dependency theory suggests that economic development of a country is highly dependent
on external influences. The theory categorizes countries in the world into two types: a
‘center’ and a ‘periphery’. A main proposition of the theory is that economic activities that
benefit the center would oppress economic development in the periphery, because surplus
values are transferred from the latter to the former. For example, foreign investments from
the center only bring in a relative low level of technologies to the periphery, while the
former only brings back home some profits or other forms of surplus values (Baran 1957).
Or, trade between the center which exports manufacturing products and the periphery
which exports agricultural products will lead to a falling term of trade in the periphery
(Singer 1949; Prebisch 1950). However, I am not going to define the center or the
periphery in Southeast Asia. Rather, I am going to see from the facts that there are some
countries which have persistently earned external surpluses from ASEAN trades, while the
others have earned external deficits. As the intra-regional imbalances swell in size, the

\textsuperscript{16} By saying imbalances here, I would refer to the term I define in footnote 4.
transfers of surplus values take place via trades of goods. That is, the surplus countries have taken advantages from the economic openness in the region. Meanwhile, the deficit countries can only export a few types of goods to other countries, and their exports are low in volumes. In addition, since importing from their neighbors is easier and cheaper, the deficit countries will find it unnecessary to develop new products for domestic consumption. The lack of incentives to develop new types of products keeps them to hinge more heavily on other countries. As a result, not only will the problem of intra-regional imbalances be aggravated, but also economic development in the region is asymmetric.

The goal of this paper is to test whether or not the above thesis holds to explain the relationship of the ASEAN countries. To achieve this goal, Section 3 is organized as follows. Coming after this introduction, section two is a review of literatures concerning the issues of current account imbalances in Southeast Asia. The third section points that ASEAN trades have acted as important sources of demands in the economic developments of most, if not all, of the ASEAN countries. The fourth section shows that the intra-regional imbalances have existed for quite a while in Southeast Asia, and they do not seem to soon come to an end. The later part of the fourth section is going to decompose the imbalances and see their components. The decompositions lead us to see that the intra-regional imbalances carry the seeds of unequal and unsustainable economic development with them. Therefore, economic openness in the region might sow the seeds of inequality in Southeast Asia. The last section then concludes the section.

3.2. The Increasing Role of ASEAN exports for each ASEAN country

While the fourth pillar of the ASEAN Economic Community – integration into the global economy – supports the ASEAN countries to engage into the world market, the first pillar in which free flows of goods and services are the main components clearly support trade liberalization in the region. This section is going to show whether or not ASEAN trades have become more important for each ASEAN country. I consider that there are two aspects for ASEAN trades to be important for a country; one is contribution of a country’s ASEAN exports to her total exports and the other one is contribution of a country’s ASEAN exports to her GDP. Figure 1 present the first aspect of being important.
Figure 1 Proportions of ASEAN Exports of Goods out of Total exports of Goods of All ASEAN Countries from 1980 – 2013
Source: CEIC database and see Appendix B for compilation of data

Figure 1 shows that Cambodia, Indonesia, Laos, Myanmar, the Philippines, and Thailand are the countries whose ASEAN exports take greater parts of their total exports, while Brunei, Malaysia, Singapore, and Vietnam are in the opposite. An increasing ratio tells that ASEAN exports take a larger part of a country’s total exports, and hence they play a more important role for the country’s exports. Meanwhile, in order to draw some insights from the cases of the non-increasing ratios, i.e. those of Brunei, Malaysia, Singapore, and Vietnam, a careful consideration is needed. For Brunei, Malaysia, and Singapore, in the early years, their proportions of ASEAN exports out of their total exports are around or above 20%. This percentage is relatively high when compared with the group of countries whose ratios show increasing trends (this group starts at around 20% or lower). That is, the ratio with high percentage at the beginning but without showing the increasing trends implies that although ASEAN exports have not been ‘more’ important for a country, it was already important for her before the year of considerations. Vietnam is different from all of the previous cases, because the proportion of ASEAN exports to total exports, after reaching its peak in 1991, shows a declining trend. Furthermore, the ratio from 2000 to 2013 has never reached 20%, which can be considered low compared to other ASEAN countries. Applying the same logic as the cases of increasing ratios, I can tell that ASEAN exports have been less important in total exports in the case of Vietnam.

It is possible that a country’s ratio of ASEAN exports to her total exports increases, but the total exports may contribute less to GDP. Therefore, for the countries whose ratios in Figure 1 show a rising trends, ASEAN exports may have smaller contributions in their GDPs. On the contrary, in the case of the countries with non-increasing trend, even though ASEAN exports do not show greater contribution in their total exports, they may be more important for their economic growth. In other words, even though ASEAN exports are not important in the first aspect, they may be so in the second. Figure 2 shows the second aspect of being important.
Figure 2 Proportions of a country’s intra-regional export out of GDP from 1980 - 2013

Source: CEIC database and see Appendix B for compilation of data
Figure 2 shows that for seven out of ten ASEAN countries, i.e. Indonesia, Laos, Malaysia, Myanmar, the Philippines, Thailand, and Vietnam, the proportions of their ASEAN exports out of their own GDPs have shown an increasing trend. That is, their ASEAN exports have become more important for their economic development. Nevertheless, there are still the cases of Brunei, Cambodia, and Singapore whose ratios present ambiguous trends. Yet, looking at them in details, I observe that the ratios of Cambodia and Singapore decline sharply at the beginning of their series, but they gradually increase afterwards. This may imply that, after the sharp drops came to an end, their ASEAN exports have played an increasingly important role. Still, Brunei is the only country whose ratio does not at all show an increasing trend.

Looking at Figure 1 and Figure 2 together, I can summarize that, for all of the ASEAN countries, their ASEAN exports have been important in at least one of the two aspects, while, for most of them, their ASEAN exports have been important in both aspects. That is, I can argue that ASEAN trades have played increasingly important roles in the region.

One reason for the increasing role of ASEAN trades is partially due to the emergence of production network in Southeast Asia. Southeast Asia has been a part of the production network since the mid 1980s, when a number of Japanese MNEs searched for a new location to lower their production cost. Furthermore, policies for economic liberalization such as tariff reduction or tax exemption also facilitate foreign investments which came to the region with more advanced technologies. In fact, the wave of FDIs led to economic growth in the region, and they also caused big changes in the economic structure of a country where they had been to. This inevitably led to changing trade patterns in the region. According to Kuroiwa (2008), intra-industry trade has played a larger role for some of the ASEAN countries, and trade of intermediate goods have taken a larger part in the intra-regional trade among some of the ASEAN countries. Yet, not all of the ASEAN countries have been a part of the production network. There are, indeed, only five ASEAN countries – Indonesia, Malaysia, the Philippines, Singapore, and Thailand, that have been involved in the production network since the 1980s. Lately, Vietnam may have been sometimes mentioned as a part of the production network, while FDIs to the rest of the ASEAN countries – Brunei, Cambodia, Myanmar, Laos – have not. Since some of the
ASEAN countries have been a part of the production network for quite a while while the rest have not, their economic structures must be drastically different.

3.3. External Balances of the ASEAN Countries

Even though economic openness has brought in fast economic growth to the region, the concerns on a country’s external imbalances may arise. Trade values are flow variables that are measured in an interval of time, so it is normal that in a certain time period – usually, one month, one quarter, or one year – a country’s exports are not equal to her imports. However, the abnormal thing is the chronic external imbalances. While it seems pleasurable for a country to have current account surplus for a long time, it is undesirable for a country to be persistently in deficit. The important point is that international trades are, by definition, zero-summed; if one country is pleased from chronic external surpluses, there must be one or more countries that are disappointed from chronic external deficits.\(^\text{17}\)

Have the ASEAN countries played a part in the global imbalances? And, have the external imbalances existed in Southeast Asia? This section starts by showing some empirical facts to answer these questions.

To begin with, Figure 3 presents external positions from global trades as percentages of GDPs, which I would call the ‘global positions,’ and those from ASEAN trades as percentages of GDPs, which I would call the ‘ASEAN positions,’ for the cases of Cambodia, Laos, Myanmar, the Philippines, and Vietnam.

Figure 3 presents some interesting empirical facts. The global positions and ASEAN positions of Cambodia and Laos have never been in the surplus zone at all, while those of Myanmar, Philippines, and Vietnam have been barely in the surplus zone. For the Philippines, her ASEAN position was in surplus only in 1999, 2000, and 2003, while her global position has never been in surplus zone since 1988. Myanmar’s ASEAN position and her global position moved very much in a similar pattern. That is, 2005 and 2006 were the years in which both global and ASEAN positions of Myanmar were together in surplus, while 2001 was the only year in which her global position and ASEAN position were in different zones i.e. her global position was in surplus while her ASEAN position was in surplus.

\(^{17}\) However, the empirical data of imports and exports presented in this section are not zero-summed, because they are recorded in different prices; that is, the former are in Free-on-Board (FOB) prices while the latter are in Cost-Insurance-and-Freight (CIF) prices. See Appendix B for details.
Figure 3: Global Positions, ASEAN Positions, and Non-Deficits Positions as Percentages of GDP in the Cases of ‘the deficits’

Source: CEIC database and see Appendix B for compilation of data
deficit. For Vietnam, only her global position has reached the surplus zone in 2012 and 2013 and her ASEAN position has still all the time been in deficits. Even though both global position and ASEAN position of Vietnam have lately caught a rising trend, the data prior to 2007 show that both positions continually dropped. Therefore, the increasing trends in the recent years might be too short to imply that Vietnam will soon be a surplus country.

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From these facts, Cambodia, Laos, Myanmar, the Philippines, and Vietnam are put together, because their global positions and ASEAN positions have been in deficits for most of the time. In addition, none of them has shown a clear sign of soon moving towards the surplus zone. Therefore, I can argue that the external deficits of these fives countries are regionally and globally persistent, so in this paper I would call them ‘the deficits.’

In contrast with Figure 3, Figure 4 presents ‘the surpluses.’ That is, it shows both global positions and ASEAN positions of Malaysia, Singapore, and Thailand.
From Figure 4, I can capture the following facts. Singapore’s global position has never been in deficit, while her ASEAN position prior to 1998 fell into the deficit zone for several times. However, her ASEAN deficit has never appeared since 1998, and it clearly shows a rising trend in the 2000s. Different from Singapore’s, the global positions of Malaysia and Thailand did not clearly stand in the surplus zone until the wake of the Asian crisis in 1997. Since 1998, their global surpluses shot up initially due to the devaluation of their currencies, which encouraged their exports and discouraged their imports from the

Source: CEIC database and see Appendix B for compilation of data
world market. However, their ASEAN positions are different from one another; that is, Malaysia’s ASEAN position has been all the time in surplus, while that of Thailand, though being in deficits from 1980 to 1992, has stayed in surplus since 1993. All in all, not only have the global positions and ASEAN positions of Malaysia, Singapore, and Thailand more often been in surplus, but they also show a tendency to stay in surplus in the future. Hence, I can say that these three countries are persistently in surplus, so I would call them ‘the surpluses’.

Brunei and Indonesia are put in Figure 5, because the characteristics of their external positions are different from the above cases.

**Figure 5: Global Positions and ASEAN Positions as Percentages of GDP of ‘the Neutrals’**

![Graph showing global and ASEAN positions of Brunei and Indonesia over time.](image)

*Source: CEIC database and see Appendix B for compilation of data*

From Figure 5, Brunei’s global trades have resulted in external surplus for most of the time, but her ASEAN trades yield external deficits. In addition, even though more often falling in the deficit zone, her ASEAN position has still fluctuated between surplus and deficit. Meanwhile, for the case of Indonesia, even though both of her global and ASEAN positions have been more often in the surplus zone (especially her global trades have caused external deficits only 7 years out of the total record of 44 years), it is interesting to see that, after its peak in 2000, the global position has shown a clear falling trend until entering the deficit zone in 2012. Furthermore, since 1998, her ASEAN position has shown
a declining trend until entering the deficit zone in 2005. This trend still persists, so Indonesia has never gained external surplus from her ASEAN trades since 2005. From these mixed characteristics of their external positions from both global and ASEAN trades, I would call Brunei and Indonesia ‘the neutrals’.

The existences of the deficits and the surpluses not only tell that the ASEAN countries are a part of the global imbalances, but they also mean that ASEAN trades also cause the problem of intra-regional imbalances. Since their external positions have put the ASEAN countries into three different groups, the interesting points are how the intra-regional imbalances have occurred and how each group has behaved under the current scenario of economic liberalization in Southeast Asia. My main focus is on the deficits and the surpluses. However, I am not going to rule out the roles of the neutrals from the scene. Rather, I consider that the deficits are a group of countries whose surplus values have chronically outflowed to the other countries. Therefore, I am going to explain how the external positions of the deficits have persistently fallen into the deficit zone from trades with the surpluses and the neutrals – ‘the non-deficits.’ And, comparably, the surpluses are a group of countries into which surplus values from other countries flow. Hence, this paper is going to show how the surpluses’ trades with the deficits and the neutrals – ‘the non-surpluses’ – have led to their persistent external surpluses. Figure 3 and Figure 4 already informed us about the deficits’ positions from trades with the non-deficits and the surpluses’ positions from trades with the non-surpluses.

From Figure 3, for all of the deficits, their external positions from trades with all of the ASEAN countries and those with only the non-deficits are almost identical. This implies that trades among the deficits themselves have played a very slight role, and hence most of their trades are with the non-deficits. In other words, the ASEAN external positions of the deficits are determined by their external positions with the non-deficits. This point is important as it describes that the non-deficits market has been a great source of export demands for the deficits and the deficits have relied very much on imports of non-deficits products.

While Figure 3 shows that the ASEAN positions and the non-surpluses position of all of the deficits are almost identical, Figure 4 presents that those of the surpluses are clearly distinguishable. This implies that, unlike the deficits in which trade values among them are low, trades among the surpluses are sufficiently large to have impacts on their
ASEAN external positions. The obvious case in which two lines are most distinguishable is Malaysia whose ASEAN position is clearly positive but non-surpluses external position fluctuates around the horizontal axis. This is because her trades with Singapore are very large while those with other countries are relatively low, and they have been a great source of external surplus for Malaysia. Meanwhile, her trade values with the non-surpluses are relatively low, so her balances with the non-surpluses are close to zero. The crucial implication from these data is that Malaysia has not derived her external surplus from trades with non-surpluses countries. Meanwhile, for the cases of Singapore and Thailand, their ASEAN positions and non-surpluses positions oscillated around the horizontal axis from the 1980s to the mid 1990s. After that, they caught the rising trends, and earned external surplus from trades with the non-surpluses. This means that external surpluses from trades with the non-surpluses countries significantly contribute to the increasing ASEAN surplus in Singapore and Thailand. It is interesting to see that, as already mentioned, the mid 1990s was the years that Vietnam, Myanmar, Laos, and Cambodia joined ASEAN and it could be considered as their official engagements into the path of economic liberalization in the region. If external surplus is beneficial and desirable, I would say that Singapore and Thailand – two out of three surplus countries in the region – earned benefits from the expansion of ASEAN in the mid 1990s.

How did the trade relations among the ASEAN countries cause the intra-regional imbalances in Southeast Asia? In order to answer this question, I am going to decompose the global positions and the non-deficits/non-surpluses positions of all of the deficits/surpluses, and see their components. The decomposition processes are conducted in two ways; one is by product groups and the other one is by technological levels. It is expected that these decomposition analyses may yield some insights for understanding the trade relations among the ASEAN countries.

a) First Decomposition: By Product Groups

According to the Harmonized System (HS), which is the standard coding system widely used to record statistics of internal trades, I can categorize products into 9 groups: that is, 1) Animal, Vegetables, and Food (AVF); 2) Mineral Products (M), 3) Chemical Products (C), 4) Plastic and Rubber (PR), 5) Hides and Woods (HW), 6) Textiles and Footwear (TF), 7) Stone and Metal (SM), 8) Machinery and Electrical Products (ME), 9) Transportation (T). See Appendix B for more details of categorizations. After adopting this
way of categorization, Figure 6 decomposes the global positions and the non-deficits positions of the deficits to show their components by in different product groups.

Figure 6 informs some interesting points about the deficits. First, most of their product groups were in deficits, and only a few groups of their products could yield some external surpluses from both global trades and non-deficit trades. On one hand, this occurrence may be normal because they are those whose external positions have been in deficits, so their trades of most products would yield external deficits. On the other hand, this is definitely to be cautious since Section 3 of this paper discovers that most of these countries have been constrained by their balances of payments, so their deficits have been financed by some external surpluses. Because only a few product groups have yielded them some external surpluses, I can argue that these countries have relied very much on these products. Furthermore, looking carefully at their positive bars, I can point out that only textiles and footwear (TF) of Vietnam in the global trades and Hides and Woods (HW) of Cambodia in the non-deficit trades have been on a rising trend. The rest of the deficits’ surplus bars showed either an ambiguous or a declining trend. This point signals that most of the surplus product groups upon which the deficits have relied seem to be less able to give external surpluses, so the global and regional imbalances tend to be exacerbated in the future.

Second, considering characteristics of the surplus product groups of the deficits, I observe that some products are not sustainable. Such countries as Cambodia, Laos, Myanmar, and Vietnam make surpluses from their natural resources (Mineral products, which mean mainly to Gasoline and Petroleum products in the case of Myanmar and Vietnam, hides and woods in the case of Laos and Myanmar, and stones and metals, which are mainly Copper, in the case of Laos). However, among these four deficits, which rely on external surplus from their unsustainable products, Cambodia and Vietnam still have greater sources of external surplus from their manufacturing products, i.e. animals, vegetables, and foods (AVF) for Vietnam and textiles and footwear (TF) for both countries, which can be considered more sustainable. Meanwhile, the case of the Philippines is different. The external surplus of the Philippines seems to be most sustainable, as they are obtained from Textiles and Footwear (TF) and Machinery and Electrical Products (ME). In particular, the Philippines’s main sources of external surplus come from exporting electrical equipment to such countries as Hong Kong, Japan, and the deficits. This
Figure 6 Decompositions of the Global Positions and the Non-Deficits Positions of the Deficits by different Product Groups
Source: CEIC database and see Appendix B for compilation of data

information implies that the Philippines have earned some advantages from the being a part of the production network. This, to some extents, distinguishes the Philippines from the other deficits.

The third interesting point is that, for each of the deficits, the number of surplus product groups from global trades is greater than those from ASEAN trades. This gives two implications. First, even though the deficits could earn some benefits from exporting some products to the world market and earning some external surplus, a part of the global surplus has been used to finance the ASEAN deficits. Second, some products that yield some external surplus in the global market are unable to do so in the ASEAN market. This point
may result from several factors combined. The first factor may be that the world market is much larger than the ASEAN market, so most of the deficits’ products may go to the world market and yield some external surplus. In addition, some special programs especially the Generalized System of Preferences (GSP) also play a part in promoting exports from these countries to the world market.

Figure 7 is similar to Figure 6, but it presents the cases of the surpluses. Singapore and Thailand can make external surpluses from several product groups especially in their trades with the non-surpluses, while their global external surpluses come from fewer product groups. That is, their global surpluses result from a certain number of product groups, while their ASEAN surpluses come from almost all product groups. It is widely known that product fragmentation in the production network allows Singapore and Thailand to accelerate some of their product groups: ‘ME’ for Singapore and ‘T’ for Thailand. Therefore, it is normal that these products would yield Singapore and Thailand some external surplus: most from the global market and some from the ASEAN market. However, the concerning point here is how could Singapore and Thailand make external surplus from the products that are not produced in the production network? The first way to answer this question is to understand that Singapore and Thailand act as product distributors which buy foreign products and sell them to the non-surpluses. For example, Singapore has earned external surplus from Mineral Products (M) which are mainly petroleum products and energy, in her trades with the non-surpluses, while her global position of Mineral Products has been in deficits. This occurrence is understandable when we consider that Singapore is a major oil trading hub which buys oil from the world market and sells it to Asian countries including the non-surpluses in Southeast Asia. Similarly, Thailand has also bought pharmaceutical products from the world market and distributed them to the non-surpluses. This takes part in causing global external deficits of Chemical Products (C) but external surplus in her non-surpluses position. In addition, this finding also implies that Singapore and Thailand, though losing some exports in the global market, still have been able to put some of their products on the ASEAN market and made larger external surpluses from ASEAN trades. The clear example for this case is such as the case of the Thai milk and dairy products. Thailand has been all the time in deficit in her trades of dairy products and other animal products (HS: 04), but she could make external surpluses from her trades of these products with the non-surpluses.
Figure 7 Decompositions of the Global Positions and the Non-Surpluses Positions of the Surpluses by different Product Groups

Source: CEIC database and see Appendix B for compilation of data
Conforming to Figure 4, Figure 7 tells that external surplus of Malaysia has not come from her trades with the non-surpluses, because the non-surpluses positions of almost all of the product groups are close to zero. Even though the external balance of Machinery and Electrical Products show the distinct external deficit in 2001-2004, its volume was quite low and the external deficits turned to be small external surplus in 2009-2013. Furthermore, Figure 7 tells that Malaysia has been able to earn external surplus from several product groups in the global markets. From this evidence, Malaysia is different from Singapore and Thailand, because the data show that she has not extracted surplus values from the non-surpluses.

b) Second Decomposition: By Technological Levels

OECD (2003) classified manufacturing industries by their complications of technologies into four levels: High-technology industries, Medium-high-technology industries, Medium-low-technology industries, and Low-technology industries. I consider that products belonging to the first two groups are high-technology products and products belonging to the last two groups are low-technology products. See Appendix B for details of my categorizations. Figure 8 decomposes the global positions and the non-deficits positions of the deficits to show their components by different technological levels.

Figure 8 tells some interesting points. First, the Philippines’s external positions from her high-technology products seem to be in a better shape than those from her low-technology products. In addition, the Philippines has occasionally experienced external surplus from trades of high-technology products. These patterns are different, if not opposite, in the cases of the other deficits. That is, for Cambodia, Laos, Myanmar, and Vietnam, their global and ASEAN positions from trades of high-technology products have always been in deficit, and their global and ASEAN positions from trades of low-technology products have been in the surplus zone or at least less deficit. This finding, similar to what is found before, tells that the Philippines are different from the CLMV in term of their economic structures, as the former has made external surplus from high-technology products while external surplus of the latter has come from their low-technology products. In fact, it is quite common to distinguish the Philippines from the CLMV countries according to their different economic structures. The Philippines have long time engaged into the global production network of manufacturing production, so her trade pattern must be dissimilar to the CLMV countries.
Figure 8: Decompositions of the Global Positions and the ASEAN Positions by Different Technological Levels of the Deficits
Second, the CLMV countries were able to earn external surpluses from their global trades of low-technology products, while they suffered from non-deficits trades of low-technology products. This implies that the CLMV countries rely on external surpluses from low-technology products in the global market in order to pay for the deficits in Southeast Asia. This point, conforming to the third point of Figure 6’s discussion, shows that the deficits, especially the CLMV countries, have relied very much on imports from the non-deficits.

Third, even though Figure 8 shows that most of the deficits’ products have been in deficits, there are some of them that catch increasing trends. For example, Cambodia’s, Laos’s, and the Philippines’s global positions from trades of low-technology products, and, for a clearer case, Cambodia’s non-deficits position from trades of low-technology
products. This rising trends of low-technology products may imply some good prospects for these products. Still, it is interesting that none of the deficits has an improving external position from trades of high-technology products. This remark yields two suggestions. The first is that the deficits have slow progress in their high-technology products, and the second is that they rely more on the imports of high-technology products from other countries. Both of these suggestions, unfortunately, are not a good sign for the long-run technological development.

Figure 9 decomposes the global positions and the non-deficits positions of the surpluses to show their components by different technological levels.

Figure 9 tells some interesting points. First, the surpluses can earn some external surpluses from high-technology products in both global and non-surpluses trades. Meanwhile, their external positions from low-technology products are usually lower than those from high-technology products, and in some cases, e.g. Singapore’s and Thailand’s global positions and Malaysia’s non-surpluses position, are more often in deficits. This point is important as it tells that the desirable aspects of the their external positions rely more on high-technology products than low-technology products. These outcomes are clearly a product of the surpluses’ engagement into the Global Production Network of manufacturing products. The improvements of labor productivities and technologies pushed the manufacturing products to the leading position of the surpluses’ economic developments. This hence leads to the rising importance of high-technology products and the low-technology products play a relatively small role.

Second, considering the trend of the external positions from high-technology products, I can point out that, for all of the surpluses, their non-surpluses positions have increased through time, while their global positions do not. That is, from 2001, the high-technology products of the surpluses have encountered a higher level of difficulty of being exported to the global market, while this problem does not appear in the trades with the non-surpluses. This implies that the surpluses have been able to use the trades with other ASEAN countries as the outlets of their high-technology products.
Figure 9: Decompositions of the Global Positions and the ASEAN Positions by Different Technological Levels of the Surpluses

Source: CEIC database and see Appendix B for compilation of data
4. Conclusion and Policy Implications

The Association of Southeast Asian Nations is a multinational association that strongly believes in the power of economic liberalization. That is, at the beginning years of the association, free trade was encouraged in order to bring in political stability to the region. Later, when the Cold War had come to an end, free trade among the member countries was supported to generate economic growth. Nowadays, ASEAN economic community (AEC) tries to make Southeast Asian a borderless region around which goods and means of productions can move. It is expected that the free-trade policies will not only result in economic growth to the region, but they will also bring in equitable economic development among the countries. This paper mainly criticizes the ideology of economic liberalization that has been embedded in ASEAN since its birth.

The first critique was on the explanation of how free trade could result in economic growth. The orthodoxy believes that economic growth under the atmosphere of economic openness can be explained by the principle of comparative advantage. That is, a country that usually specializes in limited kinds of products needs to produce and trade them in the international market, so this country, as well as other countries, can maximize their benefits from international trades. That is, her growing capacity depends on her types of limited resources, limited skills, and other supply constraints. This paper instead uses the Balance of Payments Constrained Growth (BPCG) model to explain that a country’s economic growth is constrained by demand, and the major constraint of an open economy is her balance of payments. The balance of payments constraint comes from two sources: the real factor which is the export growth and the price factor which is the change in the term of trades. The result showed that most of the ASEAN countries have been constrained by the real factor of their balance of payments, and Vietnam was the only ASEAN country whose balance of payments have not constrained her economic growth. The result brings in the main theme of this paper as it means that most of the ASEAN countries are demand constrained.

The next critique was on the economic consequences of free trade in Southeast Asia. Not only does this paper observe that the ASEAN countries have more engaged into the world market, but it also finds that intra-regional trades have become more important to drive their economic growth. While it is realized that the adoptions of free trade policies may take part in enhancing export growth, expanding the ASEAN countries’ balance of
payments, and, as a result, generating their economic growth, economic openness may bring in the important concern – the external imbalances – to the region. Therefore, ASEAN countries might have encountered different balance of payments constraints and might have experienced different economic growth paces. At this point, I found that ASEAN countries have taken part in the global imbalances and the intra-regional imbalances also took place in Southeast Asia. The problem of the intra-regional imbalances has actually appeared in the middle of the 1990s, in which the CLMV countries joined ASEAN. I found that the CLMV countries have been in deficits since their ASEAN entrances, while two of the surpluses – Singapore and Thailand – took advantages from the expansion of ASEAN in mid the 1990s to build up their external surpluses from the expanding demands of the deficits. My further inquiry found that the trade relationships among the ASEAN countries seem to advocate demands for unsustainable and low-technology products of the deficits, especially the CLMV countries, while the surpluses have obtained the expanding markets for their sustainable and high-technology products. As the belief that an economy is demand-constrained is a theoretical foundation of this paper, the increasing demands for sustainable and developed products yield good prospect for the economies of Singapore and Thailand. This shows that the surpluses seem to move towards the desirable goal of economic development, while the deficits, especially the CLMV countries, move towards the gloomy goal. This signals that the economic divergence in Southeast Asia will occur.
REFERENCES


The ARDL bound testing approach was developed by Pesaran and Shin (1995, 1999) and Pesaran et al. (1996, 2001). The approach has some advantages over other time-series approaches. One of the advantages is that the ARDL bound testing approach is applicable, even though some variables are stationary at different level. That is, long-run relationships between variables can be found, even though some variables are I(0) and some are I(1). The other advantage is that the dynamic error correction model (ECM) can be obtained from the regression, and the ECM part can inform the short-run relationship between dependent and independent variables. From the unit-root tests, the data of Myanmar and those of Vietnam are at different level of stationarity, so the OLS regression or the Prais-Winsten regression is not appropriate. The ARDL bound testing approach is hence applied for these two cases.

There are two phases in the ARDL bound testing approach. The first phase is to find whether or not variables are cointegrated. Applying to test the BPCG model, I can start the first phase by creating the ARDL unrestricted error correction model (UECM) as follows.

\[
\Delta y_t = \alpha_0 + \alpha_1 y_{t-1} + \alpha_2 x_{t-1} + \alpha_3 p_{t-1} + \sum_{i=0}^{m} \beta_{1i} \Delta y_{t-i} + \sum_{i=0}^{m} \beta_{2i} \Delta x_{t-i} + \sum_{i=0}^{m} \beta_{3i} \Delta p_{t-i} + e_t
\]  
(A1)

where \(\Delta\) presents the first differences of all variables. The model with the best lag length (\(m\)) should be one that yields the minimum information criterion. Furthermore, according to Pesaran and Shin (1999), the maximum number of the lag length for the model with annual data should be 2. I hence run equation (A1) with \(m = 1\) and \(m = 2\), and then test them both by the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC). The results can be presented as follows.

**Table A1: The Test of the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) for the cases of Vietnam and Myanmar**

<table>
<thead>
<tr>
<th>Country</th>
<th>Lag Length (m)</th>
<th>AIC</th>
<th>BIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnam</td>
<td>1</td>
<td>48.52</td>
<td>55.47</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>43.05</td>
<td>51.55</td>
</tr>
<tr>
<td>Myanmar</td>
<td>1</td>
<td>167.73</td>
<td>179.72</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>156.82</td>
<td>172.37</td>
</tr>
</tbody>
</table>
For the data of both Vietnam and Myanmar, AIC and BIC suggest that the models with 2 lags (m=2) are the better ones. Therefore, they are chosen to find cointegration among variables. To do so, I can conduct the F-test on the joint hypothesis of no cointegration; that is, I can set the null hypothesis, \( H_0 : \alpha_1 = \alpha_2 = \alpha_3 = 0 \), against the alternative hypothesis, \( H_1 : \alpha_1 \neq \alpha_2 \neq \alpha_3 \neq 0 \). To test the hypothesis, like an ordinary hypothesis testing, F-statistics from the regression is to be compared with a critical F-values. Still, critical F-values for the bound testing approach are different, as they are composed of lower and upper bounds. If all variables in a regression are I(0), the test only refers to the lower critical bound. Meanwhile, if all variables are I(1), the test only refers to the upper critical bound. In the case of having both I(0) and I(1) variables in a regression, if the calculated F-statistics is over the upper critical, \( H_0 \) can be rejected and cointegration exists. Meanwhile, if the calculated F-statistics is below the lower critical bound, \( H_0 \) cannot be rejected and cointegration does not exist. And, if the calculated F-statistics is in between the lower and upper critical bound, the test is inconclusive. The critical bounds of \( n = 30 \) and \( k = 2 \) provided in Narayan (2004) are chosen.

Both of the Information criteria suggest that the model with 2 lags is a better one, so it will be employed to find the cointegration among variables. In order to do this, I can conduct the F-test on the joint hypothesis of no cointegration; that is, I can set the null hypothesis, \( H_0 : \alpha_1 = \alpha_2 = \alpha_3 = 0 \), against the alternative hypothesis, \( H_1 : \alpha_1 \neq \alpha_2 \neq \alpha_3 \neq 0 \). To test the hypothesis, like an ordinary hypothesis testing, F-statistics from the regression is to be compared with a critical F-values. Still, the difference is since this is a bound testing approach, critical F-values are composed of a lower bound and an upper bound. If all variables in a regression are I(0), the test only refers to the lower critical bound. Meanwhile,

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18 Two sources of critical F-values are referred by literatures on ARDL bound testing approach. The first source is Pesaran et al. (2001) which provides the critical bounds for large observations. The second source is Narayan (2004) which is appropriate for works with small number of observations, i.e. 30 to 80 observations. Since there are only 18 observations for the data of Vietnam and 30 for the data of Myanmar and there are 2 independent variables in the regression. Therefore, there are 2 independent variables in the regression, I would refer to the critical bound of \( n = 30 \) and \( k = 2 \) from Narayan (2004). The comparisons can be presented as follows.
if all variables are I(1), the test only refers to the upper critical bound. In the case of having both I(0) and I(1) variables in a regression, if the calculated F-statistics is over the upper critical, $H_0$ can be rejected and cointegration exists. Meanwhile, if the calculated F-statistics is below the lower critical bound, $H_0$ cannot be rejected and cointegration does not exist. And, if the calculates F-statistics is in between the lower and upper critical bound, the test is inconclusive. Two sources of critical F-values are referred by literatures on ARDL bound testing approach. The first source is Pesaran et al. (2001) which provides the critical bounds for large observations. The second source is Narayan (2004) which is appropriate for works with small number of observations, i.e. 30 to 80 observations. Since there are only 18 observations for the data of Vietnam and there are 2 independent variables in the regression, I would refer to the critical bound of $n = 30$ and $k = 2$ from Narayan (2004).

The comparisons can be presented as follows.

**Table A2: F-statistics and the Critical Bounds**

<table>
<thead>
<tr>
<th>Country</th>
<th>F-statistics</th>
<th>Significance Level</th>
<th>Critical Bounds</th>
<th>Lower Bounds</th>
<th>Upper Bounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vietnam</td>
<td>2.58</td>
<td>1%</td>
<td>5.16</td>
<td>6.27</td>
<td></td>
</tr>
<tr>
<td>Myanmar</td>
<td>4.63</td>
<td>5%</td>
<td>3.54</td>
<td>4.43</td>
<td></td>
</tr>
<tr>
<td>Myanmar</td>
<td></td>
<td>10%</td>
<td>2.92</td>
<td>3.70</td>
<td></td>
</tr>
</tbody>
</table>

Table A2 presents that the F-statistics for the case of Vietnam is below the lower bound of the 10% significance level, so $y, x$, and $p$ are not cointegrated for the case of Vietnam. Meanwhile, the F-statistics for the case of Myanmar is greater than 4.43 that is the upper bound of the 5% significance level. From these results, I can conclude that Myanmar’s economy has been constrained by her balance of payments, while Vietnam’s economy has not.

The second phase of the ARDL bound testing approach can be applied only to a model in which its variables are cointegrated. Therefore, I can proceed to the second phase only in the case of Myanmar. To find a long-run relationship, the following ARDL ($m, n, q$) model is estimated.

$$y_t = a_0 + \sum_{i=1}^{m} a_{3i} y_{t-i} + \sum_{i=0}^{n} a_{2i} x_{t-i} + \sum_{i=0}^{q} a_{5i} p_{t-i} + e_t \quad (A2)$$
The optimal lag orders \((m, n, q)\) are determined according to the information criterion i.e. AIC and BIC. Meanwhile, a short-run relationship can be estimated from the following error correction model.

\[
\Delta y_t = \beta_0 + \gamma ECM + \sum_{i=1}^{m} \beta_{1i} \Delta y_{t-i} + \sum_{i=1}^{m} \beta_{2i} \Delta x_{t-i} + \sum_{i=1}^{q} \beta_{3i} \Delta p_{t-i} + e_t \tag{A3}
\]

Where \(\beta_{1i}\) tells the short-run impact of economic growth on itself, \(\beta_{2i}\) tells the short-run impact of export growth rate on economic growth, and \(\beta_{3i}\) tells the short-run impact of price change on economic growth. Meanwhile, ECM can be defined as

\[
ECM = y_t - a_0 - \sum_{i=1}^{m} a_{1i} y_{t-i} - \sum_{i=0}^{m} a_{2i} x_{t-i} - \sum_{i=0}^{q} a_{3i} p_{t-i} \tag{A4}
\]

For, it is expected that \(\gamma\) has a negative value as it explains the speed of adjustment to the equilibrium after the shocks occur.

For the case of Myanmar, AIC shows that the model of \((2, 2, 2)\) is the best one.\(^{19}\)

The results can be presented in Table A3. According to Table A3, \(x\) has a long-run relationship with \(y\), while \(p\) does not. As the BPCG model can be considered as a long-run model, these two coefficients are used in Table 2 in the text. In addition, some diagnostic tests are applied to test the model specification. The tests suggest that the model does not have the problem of autocorrelation, since the Chi-squared statistics from the Breusch-Godfrey test is low and Durbin-Watson’s statistics is close to two. The Chi-squared statistics from the Breusch-Pagan test and that from White test suggest that the model does not contain the problem of heteroskedasticity. The Jarque-Bera Chi-squared statistics reveals that residuals are normally distributed. However, the F statistics from Ramsey’s RESET test tells that the null hypothesis of no omitted variables can be rejected. Overall, the results can be shown as follows.

\(^{19}\) AIC suggests that the model of \((2,2,2)\) is the best one, while BIC suggests the model of \((2,0,0)\). I here choose the model of \((2,2,2)\) because it gives higher adjusted r-square and post-estimation procedures yield better results.
Table A3: The Overall Results of Myanmar

<table>
<thead>
<tr>
<th>Period</th>
<th>Variables</th>
<th>Coefficients</th>
<th>t-statistics</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long Run</td>
<td>$x$</td>
<td>0.28</td>
<td>3.05</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>$p$</td>
<td>0.01</td>
<td>0.07</td>
<td>0.94</td>
</tr>
<tr>
<td>Short Run</td>
<td>ECM</td>
<td>-0.30</td>
<td>1.91</td>
<td>0.08</td>
</tr>
<tr>
<td></td>
<td>$\Delta x_t$</td>
<td>0.08</td>
<td>1.76</td>
<td>0.01</td>
</tr>
<tr>
<td></td>
<td>$\Delta x_{t-1}$</td>
<td>-0.16</td>
<td>-2.11</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>$\Delta x_{t-2}$</td>
<td>-0.11</td>
<td>-2.41</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>$\Delta p_t$</td>
<td>-0.11</td>
<td>-1.37</td>
<td>0.19</td>
</tr>
<tr>
<td></td>
<td>$\Delta p_{t-1}$</td>
<td>-0.03</td>
<td>-0.43</td>
<td>0.67</td>
</tr>
<tr>
<td></td>
<td>$\Delta p_{t-2}$</td>
<td>-0.14</td>
<td>-1.95</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Diagnostic Tests: \( DW\text{-}stat = 2.21, \text{ Adj } R^2 = 0.33, \chi^2_{BP} = 0.51 (0.48), \chi^2_{BG} = 0.51 (0.24), \chi^2_{WHITE} = 27 (0.41), F_{RAMSEY} = 3.77 (0.04), \chi^2_I = 5.92 (0.52) \)
APPENDIX B

The following points explain data compilation mainly of Section 3.

1) The data for Figure 1 to Figure 5 are collected from the CEIC database. Even though country A’s exports to country B, by definition, means country’s B imports from country A, these two things recorded in the CEIC database are not the same. This is because, as same as in other databases, data of exports and those of imports are recorded in different prices; that is, exports are FOB (Free of Board) price, while imports are CIF (Cost Insurance and Freight) price. Therefore, the sum of ASEAN positions of all ASEAN countries are not necessarily equal to zero.

2) Singapore’s data of export from and import to Indonesia start from 2001, while Indonesia’s data of export from and import to Singapore start from 1980. Therefore, in order to compile the consistent series of Singapore’s data, I use Indonesia’s export to Singapore as Singapore’s import from Indonesia, and Indonesia’s import from Singapore as Singapore’s exports to Malaysia. To have a consistent price bases, I then have to discard the Singapore’s data, although they are available, and I have to transform Indonesia’s data to be Singapore’s from 1980 to 2013.

3) The trade data used for Figure 6 to Figure 8 are collected from International Trade Centre (ITC)’s website – [www.trademap.org](http://www.trademap.org) – in which international trades of most countries have been recorded from 2001 to 2013. However, the data of Myanmar is available only from 2010 to 2013. Therefore, in order to have Myanmar’s intra-regional trade balance against the non-deficit countries, I use non-deficit countries’ exports to Myanmar as Myanmar’s imports and non-deficits countries’ imports from Myanmar as Myanmar’s exports.

4) The standard coding system that has been worldwide adopted and used as a basis to classify products in international trades is the Harmonized Commodity and Coding System, generally known as the Harmonized System (HS). The Harmonized System Code is formed according to types of products from number 1 to number 99. By looking at the code, as shown in Figure 6 and Figure 7, I can categorize products into 9 groups: 1) Animal, Vegetables, and Food (AVF)(HS: 01-24); 2) Mineral Products (M) (HS: 25-27), 3) Chemical Products (C) (HS: 28-38), 4) Plastic and Rubber (PR) (HS: 39-40), 5) Hides and Woods (HW) (HS: 41-49), 6) Textiles and Footwear (TF) (HS: 50-67), 7) Stone and Metal
5) In Figure 8 and Figure 9, goods are categorized into high-technology goods and low-technology goods. This categorization can be referred to the Annex 1.1 of OECD (2003)’s classification of industries’ technological levels. To categorize, the difficulty is that OECD’s classification uses the ISIC Rev.3 classification, while www.trademap.org use Harmonized System 2012 (HS 2012) to record international trades. Therefore, in order to convert ISIC Rev.3 into HS2012, I have to first convert HS2012 to HS2007 and then obtain World Integrated Trade Solution’s concordance table to convert HS2007 to ISIC Rev.3.

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20 The rest (HS 90-99) is classified as ‘Miscellaneous’, so I do not show it here.