WORKING PAPER

ANALYSIS OF COMPETITIVENESS AND NATIONAL STRATEGIC INDUSTRIES IN THE ERA OF THE ASEAN ECONOMIC COMMUNITY AND FREE TRADE

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Abstract

This study examines the performance of Indonesia’s international trade and competitiveness including supporting factors which contribute toward the performance of this trade. From the analysis conducted, the competitiveness of domestic manufactured products, especially those based on intermediate and high level technology, lagged behind in comparison to the products of Indonesia’s peers in ASEAN (Singapore, Malaysia and Thailand) and extra-ASEAN especially China. Meanwhile, the competitiveness of low-technology based products is still relatively good up to now although, going forward, there is likely to be stiffer competition coming from Vietnam especially. The structure of national industrial exports is still very much resource-based orientated with low value added. The results of this study also identify a number of factors which led to weaker competitiveness especially those closely related to domestic capability factors such as the problem of skill sets and employment, logistics, policies, and domestic institutions, along with a lack of support for market access. To this end, national strategy needs to be directed toward developing industries which are highly competitive. This goal can be reached through upgrading and deepening industries, creating domestic value added, as well as establishing Indonesia as an exports orientated production base (hub). As such, strategic policy recommendations (with the spirit of reform) which need to be undertaken cover the aspects of industry, investment and trade which are focused on seven aspects, namely: i) the institution factor and leadership, ii) trade and investment incentive schemes, iii) the human resources factor and employment, iv) infrastructure, v) technical efficiency and business services, vi) access to financing, along with vii) market access.

Key words: ASEAN Economic Community, International Trade, Industrial Policy

JEL Classification: O2, O57, L52

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I. PREFACE

1.1 Background

The ASEAN Economic Community (AEC) will be formally implemented at the end of 2015 although the process had already begun when the ASEAN Framework Agreement on Economic Cooperation was signed by the leaders of ASEAN in 1992 (the Coordinating Ministry for Economic Affairs, 2015). As such, free trade actually started to be gradually adopted by ASEAN member countries through regional trade agreements (RTA) in the form of the ASEAN Free Trade Area (AFTA). In contrast to AFTA, AEC is more comprehensive in scope since it covers four main pillars with the ultimate goal of transforming ASEAN into a single market with an integrated production base and in a competitive economic region, with more equitable economic development and connected to global production networks. The commitment of ASEAN countries in AEC has not only been grounded in liberalization but has also included facilitation and regulatory harmonization. For the most part, the adoption of AEC has already been realized, for example, through the elimination of tariffs, trade facilitation, the agenda to integrate market services, investment facilitation, the simplification and harmonization of the capital markets policy framework, the creation of a skilled workforce, and others. AEC 2015 is not the final goal, but rather an important step for the development of increasingly integrated ASEAN economies.

For Indonesia, the implementation of AEC is one of the strategic steps which can be taken by the Government of Indonesia in order to benefit from economic globalization. Multilateral aspirations, especially those which are related to regional economic integration, such as AEC and others, other than creating bigger market opportunities, also pose a number of complex challenges and problems.

In regard to this, the implementation of AEC, besides boosting intra-regional trade in ASEAN, will also result in stiffer competition in regard to investment as well as in production and trade in the region. With brisker trading activities, a particular country’s trade surplus or deficit will tend to be more dynamic and multidimensional. In the context of these international trade relations, the role of Bank Indonesia in stabilizing domestic macroeconomic conditions, especially inflation and the rupiah exchange rate, will become highly relevant.

Indonesia’s current account deficit, as recorded from the end of 2011 up to
the current period, is significantly affected by two main factors, one being domestic: i.e. structural problems in industry and trade, and the other external: i.e. global shocks. The structure of Indonesia’s exports at the present time is dominated by the natural resources based manufacturing industry, whose performance ultimately depends on commodity prices. The end of the commodity super cycle and the slowdown in the global economy brought about the decline in commodity prices, which, in turn, had a negative impact on Indonesia’s exports.

Besides that, Indonesia’s industrial share has continued to decline over the last 1–2 decades whilst, at the same time, the average pace of economic growth has also slowed if compared to the 1980s. At the present time, manufacturing industry in Indonesia is generally dominated by domestic-orientated industry with a high imports content. The reasons for this include weak investment policy and a lack of connections to the global market.

Indonesia itself has potential which far exceeds its performance at the current time. In particular, Indonesia has abundant natural resources, attractive demographics arising from a youthful population, and a strategic geographical location. Besides that, Indonesia can also ride on the momentum “the rise of Asia”
to further develop its economy.

In addressing the various problems mentioned above and to optimize Indonesia’s potential, economic transformation needs to be undertaken through raising industrial competitiveness in the global market. Industry is central to the transformation since industry is the locomotive of growth which brings Indonesia closer toward becoming a developed country. The absorption of a lot of manpower can create added value in the economy which ultimately can become a source of foreign exchange.

Many other studies related to AEC have already been carried out previously, either by Bank Indonesia or externally. Previous research by Nugroho and Yanfritri (2011) which analyzed the impact of liberalization on the goods and services sectors, as well as on capital and investment, concluded that Indonesia’s competitiveness is weak, meaning that there exists the possibility that Indonesia would be one of the losers of AEC. One of the studies by ERIA stated that AEC would give benefits to all members although not in equal measure. Indonesia would continue to grow, but at a slower pace if compared to other ASEAN countries. A survey conducted by BCG (2014) shows that Indonesian companies tend to view the implementation of AEC as a threat, while companies in Malaysia and Singapore are more optimistic and consider AEC as an opportunity. A report by AT&K (2013) stated that local companies which only focus on the domestic market are companies most vulnerable to the challenges posed by AEC. This finding indicates that companies or industries in Indonesia tend to be domestically orientated and with low competitiveness in the global market.

In consideration of this, this research is aimed at looking more deeply at Indonesia’s competitiveness and then formulating a national policy strategy to raise Indonesia’s competitiveness. In particular, already-taken economic and trade policies must constantly be revisited and perfected so that Indonesia as the largest member in ASEAN can benefit from AEC. The approach used in the initial stage is trade competitiveness diagnostics that measure the performance of Indonesia’s international trade compared with its peer countries, which, in this regard, are other ASEAN countries. Trading activity is a lens which is useful for measuring competitiveness. Export markets generally have a high level of competitiveness such that countries which are competitive in exports are generally also more superior in domestic factors. This corresponds to the interrelationship between trade and productivity. Productive businesses become exporters and they will become more
productive with demand from export markets. Furthermore, Reis and Farole (2012) stated that the main barriers to developing countries to compete in international trade are generally “behind the border” in nature, i.e. comprising the internal factors of a specific country such as logistics, customs, financing, production factor conditions, and lack of competition.

A study on trade will invariably encompass a study on industry and investment given the close relationship between these three matters in determining the competitiveness of a nation, especially in the pattern of global value chain (GVC) trade today. This study will subsequently provide feedback for the formulation of policies for industry, trade and investment as the national strategy in welcoming AEC 2015–2025.

1.2 Research Aims

The goals of the research are: (a) to analyze the competitiveness of national industry in an era of free trade globally (including AEC, among others), and (b) devising a national industrial strategy which is highly competitive.

Besides being able to give a contribution to the related literature which existed beforehand, the contribution from this research is also expected to give: (a) comprehensive assessments regarding the performance and competitiveness of Indonesia’s exports (upstream to downstream); along with (b) formulation of a national strategy that is specifically related to improving industrial competitiveness.

1.3 Study Limitations

This study covers analysis and formulation of national strategy recommendations related to the competitiveness of the manufacturing sector. The scope of the study does not include services sectors such as finance or labor, capital flows, and the fourth pillar of AEC related to the integration of the global economy.

1.4 Study Organization

This study report is divided into five chapters starting with Chapter 1 concerning the introduction and objectives of this study, followed in turn by Chapter 2 which covers previously conducted studies. Chapter 3 describes the
methods and data used in undertaking the research. The empirical results, analysis, and policy recommendations which are in the form of a national strategy that can be taken to raise Indonesia's competitiveness in efforts to make Indonesia a base for production and investment, especially in the ASEAN region, are described in Chapter 4. This study is concluded in Chapter 5, which comprises conclusions and recommendations for further research.
II. STUDY LITERATURE

2.1 Overview of the ASEAN Economic Community (AEC)

The declaration of ASEAN Concord II in October 2003 introduced, for the first time, the concept of the ASEAN Economic Community or AEC, which is the embodiment of a single market for ASEAN member countries. Besides that, the formation of AEC is expected to facilitate the realization of a unified ASEAN production base which is supported by the free flow of goods, services, labor, and capital (investment). AEC is expected to become a highly competitive economic region that enjoys equitable growth whilst being integrated with the global economy. The ASEAN single market can represent an opportunity for the Indonesian economy as well as other ASEAN economies, promoting activity and economic growth which, ultimately, would improve the prosperity of the Indonesian people.

Figure 2. AEC Pillars

The AEC 2015 blueprint lists four main pillars which need to be achieved and are closely related to one another. The first pillar is the establishment of a single market and production base. This goal will create the free flow of goods, services, investment, labor, and freer capital flows between countries in the region. As an initial step, twelve priority work sectors were identified which represent more
than 50% of intra-ASEAN trade, namely: (1) agro processing, (2) rubber-based industries, (3) wood-based industries, (4) aviation, (5) automotive, (6) electronics, (7) information communications technology, (8) fisheries, (9) health, (10) logistics, (11) textiles, and (12) tourism. Indonesia is the state coordinator for the automotive sector and wood-based industries. The achievement of these objectives would mean that the characteristics of the region, as marked by its diversity, can become a business opportunity to make ASEAN more dynamic and stronger in the global supply chain. The establishment of a single market will facilitate the creation of production networks in the region and increase the capacity of ASEAN as a global production center or as part of the global supply chain. To reach this goal, each ASEAN member country is required to liberalize or open its domestic market.

The second pillar is the establishment of a competitive economic region. This goal is a precondition needed to support the achievement of a single market and international production base. Realization of the second goal is achieved through cooperation in various fields including: (i) infrastructure development, such as transformation, information, energy, mining and finance; (ii) competition policy; (iii) consumer protection; (iv) intellectual property rights; (v) taxation; and (vi) e-commerce.

The third pillar is equitable economic development. The ASEAN region is in different stages of economic development, thereby impacting on the readiness and speed of each member state to undertake liberalization. ASEAN must be able to provide reassurances in regard to the benefits of regional economic integration that will be felt by all the member states in the ASEAN community. This shall be achieved through the development of SMEs as well as cooperation and the provision of technical assistance in order to reduce the development gap among member countries, especially among ASEAN-5 countries and Brunei, Cambodia, Myanmar, Lao PDR, and Vietnam. The fourth pillar is integration of the global economy. With the achievement of these three stated goals, it is expected that the ASEAN market will become increasingly attractive for foreign investment and that ASEAN industry can be more competitive in the global supply chain. In efforts to reach this goal, a coherent approach needs to be taken in ASEAN’s external economic relations with trading partners such as ASEAN+1 (ASEAN+China, ASEAN+India, ASEAN+Japan) or ASEAN++ (ASEAN+3, EAS) to ensure the centrality of ASEAN and expand ASEAN’s participation in the global supply chain.

Substantively, implementation of the AEC 2015 blueprint has already been
achieved. Achievement of the AEC scorecard had reached 91.1% as of 30 June 2015 and is targeted to reach 95% at the end of 2015. For Indonesia’s AEC scorecard specifically, achievement stands at 92.7%. The values for the AEC scorecards—either ASEAN’s or Indonesia’s—are a reflection of the strong commitment toward implementation of AEC by both ASEAN and Indonesia.

In their attendance of the Cebu Declaration in January 2007, the leaders of ASEAN agreed to hasten the implementation of AEC, making it effective as of 1 January 2016 for certain strategic sectors. The deadline for implementation of the ASEAN single market is fast approaching, such that assessments need to be undertaken in regard to the achievement of previously agreed-to commitments in the formation of AEC. The results of the measurement gap analysis already conducted by Bank Indonesia generally show that efforts to facilitate free flows of trade in goods, services, investment, skilled labor and freer capital flows have already made fairly solid progress. Among the achievements to bring about liberalization were: reductions in import tariffs to as low as 0%, the fulfillment of commitments toward liberalization of foreign equity participation (FEP) for a number of services subsectors, the removal of investment restrictions and the development of an investment information system, the signing of a mutual recognition agreement (MRA), and liberalization of capital flows.

2.2 Previous Research

A number of studies related to the ASEAN Economic Community (AEC), especially those which further explored the mapping of the market for goods, services, labor, capital and investment in the ASEAN-5 region and undertook gap analysis toward achievement of the liberalization process as laid out in the AEC blueprint and the overall achievement of ASEAN key deliverables, can be summarized in Table 1.
<table>
<thead>
<tr>
<th><strong>Research</strong></th>
<th><strong>Study Summary</strong></th>
</tr>
</thead>
</table>
| Reis and Farole (2012) – “Trade Competitiveness Diagnostic Toolkit”        | Framework analysis of international trade with two approaches:  
1. Trade outcomes analysis: analyzing trade performance in regard to its intensiveness, extensiveness, quality, and sustainability  
2. Competitiveness diagnostics: analyzing performance factors which affect trade competitiveness—market access, the macro-incentive framework, factor conditions, trade promotional infrastructure |
Indonesia has a **second opportunity** to develop traditional manufacturing industries to absorb many workers. This is possible given the availability of workers who are paid lower wages than workers in China, the size of the domestic market, and Indonesia’s openness in the global market.  
Policy actions which must be taken:  
• Near term: exploiting the wage gap with China  
• Medium term: utilizing the domestic market and potential entry to the Global Value Chain  
• Long term: preparedness when cost advantages are no longer evident  
• With reform priorities in: i) transportation and logistics, ii) financial access, iii) rigidity of the labor market and training, iv) innovation, v) standards, vi) collective actions, vii) transparency and predictability, viii) SEZ. |
<p>| Munandar, et. al (2007) – “Regional Economy Integration, Mobility of Factors of Production and the Role of the Monetary Authority” | Application of the equal share relationship approach by using a macroeconomic database of ASEAN countries to determine the impact of monetary policy on investment.                                                                                                                                                                      |
| Nugroho and Yanfitri (2011) – “Potential Impact of the Establishment of the ASEAN Single Market on the Indonesian Economy” | Qualitative analysis undertaking mapping of the state of the market for goods, services, labor, investment in ASEAN and identification of a number of potential positive and negative impacts of the single market on the Indonesian economy. |</p>
<table>
<thead>
<tr>
<th>Research</th>
<th>Study Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results of the Satker Cross Study (2011) – “The ASEAN Economic Community 2015: The Harmonization Process Amid Competition”</td>
<td>Qualitative and quantitative analysis of the impact of the implementation of ASEAN integration as well as the challenges for competitiveness and macro-stability in Indonesia.</td>
</tr>
<tr>
<td>Anas, Narjoko, and Aswicahyono (2015) – “The Mapping of Indonesia’s Potential on the Trading of Manufactured Products: A Regional Perspective”</td>
<td>Mapping the competitiveness and export potential of Indonesia regionally, especially the manufacturing sector, among others, with Regional Comparative Productivity Advantage (RCPA). Besides that, FGD is undertaken to determine why the performance of exports is below its potential.</td>
</tr>
</tbody>
</table>
III. METHODOLOGY AND DATA

3.1 Competitiveness Analysis

Competitiveness analysis (TCD) mostly refers to Trade Competitiveness Diagnostics (Reis and Farole, 2012). This is an approach aimed at providing an understanding of the position, performance, and capability of a country in the exports market, along with factors which affect competitiveness. Trading activity is a lens which is useful for measuring competitiveness. Export markets generally have a high level of competitiveness such that countries which are competitive in exports are generally also more superior in domestic factors. This is in accordance with the interrelationship between trade and productivity. Productive businesses become exporters and they will become more productive with demand from export markets.

To measure the performance of an economy in the era of liberalization, the performance of exports has become more important than before. Exports are still relevant as the main source of foreign exchange earnings, the means to achieve economies of scale and production specialization, as well as for accessing new technology. Indirectly, exports are also an efficiency indicator for an industry sector in a time of stiffer competition (due to liberalization) and more intensive (due to reduced transportation costs). As long as industry remains the engine of growth, whilst bringing about structural change as well as technological growth and modernization, then growth in manufacturing exports is an indication that this engine works.

The competitiveness analysis undertaken is founded on two components which are generally carried out sequentially, that is as follows:

1. Trade outcomes analysis is the framework to obtain a detailed picture of historical exports performance. This analysis is undertaken through various approaches and the processing of secondary data.

2. Competitiveness diagnostics are diagnostics aimed at analyzing competitiveness, including factors which contribute toward exports performance like in stage 1. Diagnostics are undertaken through a quantitative approach (analysis of secondary data) and qualitatively through surveys and interviews (FGD), such as interviews with policymakers, businesspeople, academics, trade experts, and others.
The results of the two analyzes will be elaborated on further for the formulation of policy recommendations and the formulation of a national strategy. The following figure illustrates the framework of competitiveness analysis (TCD).

![Figure 3. Framework of Competitiveness Analysis](source)

### 3.1.1 Trading Performance Analysis

Trade outcomes analysis provides quantitative and qualitative assessments of trading performance by looking at the decomposition of growth in international trade. Exports growth can come from any of the four dimensions as shown in Figure 4.

![Figure 4. Dimensions of Exports Growth](source)

In undertaking an analysis of trading performance, there are four main factors to consider, which are as follows:
1. Intensive Margin

Exports growth in this dimension is created by selling the same product in the same market. An increase in the intensive margin can be created through specialization, either across products or within products. This dimension generally evaluates the level, growth, and the existing market share of exports. The results of intensive margin analysis can depict Indonesia’s trade position compared with its peers either based on the value or volume of exports. A number of indicators are analyzed, including the ratio of the value of trade to GDP, the sectoral revealed comparative advantage (RCA), the trade intensity index, and the trade complementary index.

2. Extensive Margin

For developing countries, this dimension is critical to encourage exports and to create new jobs. The extensive margin means selling new products or selling products that are currently available (existing) to a new market. An increasingly diversified exports structure will reduce vulnerability to demand shocks and price movements abroad. Diversification of exports is also important as an indication of the future direction of growth. Diversification of exports is concerned with the concentration and variety of products and markets of a country's exports, the suitability of a country’s portfolio of exports in relation to developments in the global market/product developments, and the evolution of markets for specific exports (successful or not).

3. Quality Margin

This dimension evaluates export products based on quality and sophistication. Products containing higher added value in terms of ingenuity, skills, and technology will have higher prices in the market. As such, upgrading product quality will help promote both exports and economic growth. This dimension is measured by analyzing technology, incomes, factor content from exports to determine the level of sophistication and product value, along with the product space to identify the sectors where a country has (or has lost) a competitive advantage.

4. Sustainability Margin

For new exports to be sustained and provide growth over the long-term, most companies must be resilient enough to seize market opportunities and overcome any obstacles in the early years. The sustainability margin of new
exporters evaluates the survival rate of exported products, either new products or goods which have long-been exported. Besides that, in this stage, the other factors looked at include the growth and survival rate of export relationships, the intensity of export factors, and comparison of the national endowment. The participation of companies and survival in the exports sector helps identify the main factors (entry cost, factors, technology, and efficiency), which have become the main obstacles to competitiveness.

Analysis of trade performance was undertaken in 4 stages, as follows:

a. Selection of peer countries intended to form the benchmark of the country’s measured performance. Generally, peer countries are made up of a combination of neighboring countries; countries with similar economic size, growth and structure; and competitor countries.

b. Data collection and compilation, either cross section or time series.

c. Analysis and interpretation.

d. Identification of the main challenges in competitiveness.

3.1.2 Competitiveness Diagnostics

In undertaking competitiveness diagnostics, there are a number of aspects to be analyzed. These are as follows:

1. Market Access

Market access is a concept addressing trade policy which can facilitate or obstruct exporters from entering and maintaining their competitiveness in a market. In regard to market access, there are factors which hamper export sales, such as tariff and non-tariff barriers. Figure 5 illustrates the scope of market access analysis.
2. Supply-Side Factors

These factors cover many aspects, including governance and macrofiscal factors such as trade and domestic policy, which establish a framework of incentives for businesses, along with input factors which determine competitiveness in terms of production.

3. Trade Promotion Support

Trade promotion support includes government interventions to deal with market failures (such as coordination challenges and asymmetric information) and government failures which restrict the participation and performance of exports relating to matters such as exports promotion, special economic zones (SEZ), and industry coordination and standardization bodies.

Each of these dimensions determines exports performance through their influence on companies in the following ways:

a. fixed costs, production risks, and export entry;

b. transaction costs and factors that determine the competitiveness of production at the plant level; and
c. the level of technology and efficiency of the sector or company.

### 3.1.3 Focus Group Discussions (FGD)

Focus group discussions are an important component of TCD analysis because they relate to the results of the benchmark/quantitative data and the actual factual conditions. Broadly speaking, FGD are undertaken in three groups, namely businesspeople, policymakers (the government), and experts with their details as listed in the appendix (Table 12).

Besides the discussions, an expert panel is tasked with formulating national strategy recommendations involving related ministries (the Ministry of Trade, the Ministry of Industry, and the Coordinating Ministry for Economic Affairs), a panel of experts and academics, as well as businesspeople (Apindo).

### 3.2 Data

The data used in this research is yearly in nature and covers the period from 2000 until 2014, subject to data availability. The table below shows the data used in general and its source. Given the varied nature of the data, details on the data used will be further explained in the analysis.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports (per commodity HS/SITC, per country), Imports (per commodity HS/SITC, per country), revealed comparative advantage, exports technology content, product sophistication, tariff and non-tariff barriers, and others.</td>
<td>World Integrated Trade Solution (WITS), World Bank.</td>
</tr>
<tr>
<td>Population, GDP, real lending rate, financing access, internet bandwidth, electricity consumption, logistics, and others.</td>
<td>World Development Indicators (WDI), World Bank.</td>
</tr>
<tr>
<td>Technology licensing, formal training, international quality certification, and others.</td>
<td>Enterprise Surveys, World Bank.</td>
</tr>
<tr>
<td>Global competitiveness</td>
<td>World Economic Forum</td>
</tr>
</tbody>
</table>
IV. RESULTS AND ANALYSIS

4.1 Mapping Indonesia’s Competitiveness

The competitiveness analysis undertaken indicates that Indonesia’s exports performance and competitiveness face many challenges. From the analysis of the trade performance, Indonesia’s main challenge comes from aspects of the intensive margin and the quality margin. Using competitiveness diagnostics, the challenges facing exports occur because of a lack of market access, incentives framework, factor conditions, and trade promotion facilitation.

4.1.1. Trade Performance Analysis

From the trade performance analysis (Table 3), Indonesia’s exports performance appears to be lagging behind if compared with Malaysia and Thailand and classified as a low middle income country that tends to be characterized as resource-based and low value added. Vietnam has witnessed a dramatic improvement in its exports performance over the last two decades. In general, Indonesia has seen problems with deteriorating performance in the four dimensions of exports, with the main issue relating to the intensive and quality margins. Indonesia’s weak exports indicate that Indonesian industry has tended to be more inward-oriented. This view is supported by the findings of the value-added linkage analysis.

Table 3. Summary of Trade Performance Analysis

<table>
<thead>
<tr>
<th>Main Exports Problem</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive Margin</td>
<td>↓↓</td>
</tr>
<tr>
<td></td>
<td>Indonesia’s trade openness weakened compared to the beginning of 2000, with most of the growth in exports and markets standing at a lower rate than the global trade.</td>
</tr>
<tr>
<td>Extensive Margin</td>
<td>↓</td>
</tr>
<tr>
<td></td>
<td>In general, Indonesia’s performance is only better than the Philippines. The number of Indonesian products which became extinct was the highest while the products which survived were generally natural resource based or primary products.</td>
</tr>
</tbody>
</table>
Table 3. (Continued)

<table>
<thead>
<tr>
<th>Quality Margin</th>
<th>↓↓</th>
<th>Indonesia lagged behind in exports of high tech products and was slightly superior in primary products. Besides that, if compared to the last 10–20 years, there are indications of a shift in Indonesia’s export products from low and high-tech to med-tech and resource-based products.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sustainability Margin</td>
<td>↓</td>
<td>The duration of Indonesia’s exports is only better than the Philippines.</td>
</tr>
</tbody>
</table>

Explanation:
↓ : lagging slightly behind its peers
↓↓ : lagging behind its peers

4.1.1.1 Intensive Margin

The intensive margin is measured by assessing the level, growth, and market share that is a reflection of the structure and competitiveness of the existing basket of exports. Based on the trade balance data in 2009–2013, Indonesia still recorded a surplus on average although at a lower level if compared with the 2004–2008 period. A number of countries, such as Malaysia, Thailand, and Vietnam, have quite high export levels, even exceeding more than 50% of their GDP. Nonetheless, high imports still weighed on the trade balance performance of these countries. Nonetheless, Malaysia was able to record a trade surplus reaching 15% of GDP in the period 2009–2013.

Figure 6 shows the level of a country's trade openness relative to the level of GDP per capita. This indicator shows how important exports and imports of goods and services are in an economy or how integrated with the world an economy is compared to its peers. The level of Indonesia’s openness in the years 2009–2013 compared with the years 2004–2008 declined from 60% to 50%. This figure is lower in comparison to Indonesia’s peers like Vietnam (150%) and the Philippines (65%), whose openness showed an increasing trend compared to the previous period (Vietnam and India).
Another indicator is exports/capita which measures the presence of an economy in the international market. A high exports/capita value for a specific country indicates high dollar export earnings from a well-diversified domestic production base which is not based on natural resources. Indonesia’s exports per capita (Figure 7) exhibits lower middle income characteristics, which are far lower than the exports per capita for upper middle-high income countries such as Malaysia and Singapore. Using another indicator, that is the share of merchandise trade (non oil and gas), Indonesia’s ratio is even lower compared to the ratios of lower middle income countries (Figure 8).
Exports growth can stem from changes in export value, export volumes, or both. The export value index is the value of exports (c.i.f) which is converted into US dollars and expressed as a percentage of the average of the base year. The export volume index is the ratio of the export value index and its unit value index. This indicator (Figure 9) reflects the trade index based on the value and volume of trade. During the period 2009–2012, China and Vietnam experienced fairly high exports growth based on the value and volume of exports. Based on the export volume index, Indonesia is still ranked in last place, although the value of Indonesia’s export goods is moderate.

Looking at the destination markets, Indonesia’s export markets are skewed toward China and Japan, respectively accounting for 20% and 18% of Indonesia’s total exports. China is also the main destination for the exports of Malaysia, Thailand and the Philippines which have trade intensity indexes higher than Indonesia’s.

The trade intensity index indicator (Figure 10) depicts the intensity of exports from one country to its trading partners. This index is used to ascertain whether a country exports more to its trading partners in comparison to the global exports to that country. The trade intensity index uses the same logic as the RCA, but for markets, not products. If the trade intensity index > 100, then this indicates that the trade relationship between country–\(i\) and \(j\) is more intensive in comparison to the global average \(w\) with country–\(j\). Indonesia has high trade intensity with Japan compared to European countries and the USA. A similar pattern can be seen in other developing countries, expect Vietnam, which has high trade intensity with the USA.
The trade complementarity index is used to see whether the profile of a country's exports is in accordance with the imports profile of its trading partners, or exactly complementary in nature. A high index value indicates both countries gain benefits from their trading relationship. Based on Indonesia's trade complementarity index in the period 2009–2012, the value of the index for all country peers was similar on average. This indicates that Indonesia's import needs were fulfilled by the export profiles from these countries so that it can be concluded that Indonesia is an export market for its peer countries. Meanwhile, Malaysia’s trade complementarity index shows a low value with Indonesia and Germany, meaning that Malaysia’s export products did not meet the needs of Indonesian and German imports.

The other indicator is growth orientation which can be seen from the Orientation of Product and Market Growth. Product Growth Orientation evaluates potential exports growth by comparing the compounded annual growth rate (CAGR) of a country's main export products to the global trade growth for these products. Countries with higher exports growth than global trade growth increase their share in the global market. Countries whose main exports are in high growth sectors are well placed to grow in the future. Meanwhile, growth below global trade growth indicates the existence of barriers which hamper growth.
Figure 11 shows Indonesia’s export products that have generally grown at a slower pace than global trade (below the 45-degree line). Indonesia’s products that have a large share are generally commodity-related, such as mineral fuels. For a number of manufactured products, Indonesia increased its share of world trade, although the portion remained small in Indonesia’s basket of exports. This was not the case for Vietnam (Figure 12), which enjoyed higher market share for nearly all its main products. Growth in its manufacturing exports was greater than global trade growth and this was the dominant product type in its basket of exports.

Market Growth Orientation evaluates potential growth of a country’s export markets by comparing the CAGR of exports to a particular market relative to the market growth of imports from the rest of the world (ROW). Figure 13 shows the growth in Indonesia’s exports to its trading partners was lower than the imports growth of its trading partners from ROW. The markets where Indonesia increased its market share were China and India. By contrast, Vietnam (Figure 14) was
actually able to increase its market share in nearly all its trading partners with the largest share of exports going to the USA.

4.1.1.2 Extensive Margin

The extensive margin measures exports diversification from two dimensions, that is selling new products or selling existing products to new markets. The measurement used is concerned with the concentration and variety of products and markets of a country’s exports, the suitability of a country’s portfolio of exports in relation to developments in the global market/product developments, and the evolution of markets for specific exports (successful or not).

The extensive margin shows that Indonesia’s performance was relatively modest compared to its peers, although Indonesia lagged behind on a number of measures. The first indicator calculates the number of trading partners and products exported by a country, which are calculated at 6-digit HS level\(^2\). In one decade (Appendix–Figure 50) Indonesia experienced a moderate increase in the number of its products (up by 83), while the figure for Vietnam increased much more significantly (up by 1,024). Besides that, only a small proportion of Indonesia’s exports were directed toward high income countries if compared to other countries (Appendix –Figure 51).

Another indicator is the reach of exports. Economic growth is generally accompanied by new products and economic maturity marked by the country’s ability to maintain trade relations. The reach of exports indicator provides information on the introduction, survival, and extinction of a product along with the value and the number of markets. The high extinction rate in various sectors is an indication of economic volatility; while if concentrated in a few industries, the high extinction rate indicates the evolution of domestic production. Figure 15 shows Indonesian products which were exported to more than 10 export destinations: 1,961 products in 2010, increasing to 2,099 products by 2013. This number is around 50%–53% of the total of 3,906 products which survived in the period of 2010–2013. This number differs significantly from China’s number (Appendix-Figure 52) of 4,123 products which were exported to more than 10 markets in 2010, increasing to 4,133 in 2013 or around 87–88% of the total of 4,687 products which

\(^2\) Trading partners are calculated if exports comprise a minimum of one item with a minimum value of 10,000 USD and the number of products is counted if they are sent to at least one country with a value of at least USD10,000.
survived. Besides that, the extinction of Indonesian products is quite high in comparison to its peers (Table 3), with high value surviving products being natural resources based goods (Table 4).

Another indicator is the Hummels-Klenov indicator for products and markets. This indicator comprises the intensive margin (IM) and the extensive margin (EM). The product IM measures whether a country is a big player in the products it exports (the country’s share in products it exports in global trade) while

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**Table 3. ASEAN Comparison**

<table>
<thead>
<tr>
<th>Country</th>
<th>Surviving Product</th>
<th>Death</th>
<th>New Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>3906</td>
<td>311</td>
<td>308</td>
</tr>
<tr>
<td>Malaysia</td>
<td>4168</td>
<td>241</td>
<td>247</td>
</tr>
<tr>
<td>Thailand</td>
<td>4455</td>
<td>132</td>
<td>217</td>
</tr>
<tr>
<td>Filipina</td>
<td>1990</td>
<td>403</td>
<td>887</td>
</tr>
<tr>
<td>Vietnam</td>
<td>3242</td>
<td>285</td>
<td>487</td>
</tr>
<tr>
<td>China</td>
<td>4687</td>
<td>99</td>
<td>59</td>
</tr>
<tr>
<td>India</td>
<td>4655</td>
<td>137</td>
<td>128</td>
</tr>
</tbody>
</table>

Source: WITS World Bank, compiled

**Table 4. Top Surviving Products**

<table>
<thead>
<tr>
<th>Top Surviving Product</th>
<th>By Value</th>
<th>By Number of Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palm oil, other than crude</td>
<td>Coal other than anthracite &amp; bituminous</td>
<td>Paper &amp; paperboard</td>
</tr>
<tr>
<td>Coal other than anthracite &amp; bituminous</td>
<td>Natural gas, liquefied</td>
<td>Carbon paper</td>
</tr>
<tr>
<td>Natural gas, in gaseous state</td>
<td>Lignite</td>
<td>Original sculptures &amp; statuary</td>
</tr>
<tr>
<td>Wheat other than durum wheat; meslin</td>
<td></td>
<td>Seats with wooden frames</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women's/girls' dresses</td>
</tr>
</tbody>
</table>

Source: WITS World Bank, compiled
the EM measures the importance of the goods it exports globally (the portfolio of export types relative to the entire exports globally). For the Hummels-Klenov markets, the IM indicates whether a country is a big player in its export markets while the EM measures how important its export markets are globally. In one decade (Figure 16 and Figure 17), Indonesia experienced a moderate increase and was only better than the Philippines in increasing its share in its export products and export markets. Vietnam, by comparison, saw a significant increase in the value of its products and markets globally (EM) and China was the most successful in increasing its role in its export products and export markets (IM).

Source: WITS World Bank, compiled

Figure 16. Hummels Klenov from the Products Side

Figure 17. Hummels Klenov from the Markets Side
4.1.1.3 Quality Margin

The quality margin measures exports performance from the aspect of quality, which, among other things, is carried out through component technology analysis, product sophistication, product space, as well as relative quality. The classification of export products according to component technology allows for the use of 3 digit SITC based on Hatzichronoglou (1997) and Lall (2000). Product sophistication analysis (EXPY)³ makes reference to Hausmann, Hwang, and Rodrik (2007). Furthermore, product space makes reference to Hidalgo et al. (2007), mapping connections between products with the comparative superiority of a country.

The low level of the technology and sophistication components for Indonesia’s export products means that the quality margin of Indonesia’s export products is very limited, especially when compared to its country peers. Indonesia has been left behind in high-tech export products but has a slight advantage in primary products. Besides that, looking at changes in the last 10-20 years, there are indications of a shift in Indonesia’s export products from low and high-tech products to medium-tech and resource-based products. China, meanwhile, shifted from low-tech to high-tech products.

Indonesia’s export products have a low level of sophistication compared to the export products of peer countries. The level of sophistication of Indonesia’s export products has followed a downtrend even though GDP per capita has consistently increased. Moreover, according to Felipe (2010), a 10% increase in EXPY generally boosts economic growth by 0.5%.

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³EXPY is measured from the proportion of exports on PRODY for each product, while PRODY is the sophistication of a product which is measured from national income per capita (in PPP) of the world’s largest exporter of the product.
Through product space analysis\textsuperscript{4}, there are indications that Indonesia’s product space has moved further away from its core. Indonesia recorded a decline in the number of its comparatively superior dense-forest products (machinery, electronics, garments, textiles, and furniture), many of which were “absorbed” by China. The comparative advantage was lost in electronics, machinery, and furniture, which tend to have a comparative advantage in upper-middle income

\textsuperscript{4}The concept of product space makes reference to Hidalgo et. al. (2007) which is mapped with product space explorer (http://www.chidalgo.com/productspace/data.htm) and Cytoscape (www.cytoscape.org). RCA data was calculated using UN Comtrade export data from World Integrated Trade Solution, World Bank.
countries. This highlights the risk of the (lower) middle income trap. According to Hidalgo et al (2007), low competitiveness in high proximity (dense forest) industry clusters will complicate the transition to a higher income group. Meanwhile, China recorded an increase in its comparative advantage in machinery and electronics, thus indicating that China also “absorbed” comparative advantage from Japan.

Source: Researcher calculations with Cytoscape and Product Space Explorer, the source of exports data from WITS.

Figure 20. Indonesia’s Product Space for 2000 and 2013

<table>
<thead>
<tr>
<th>Country</th>
<th>Product Space Change (2013 vs 2000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>Garments, machinery, and electronics declined</td>
</tr>
<tr>
<td>Japan</td>
<td>Machinery and electronics declined</td>
</tr>
<tr>
<td>Thailand</td>
<td>Garments and textiles declined, although machinery increased</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Furniture declined</td>
</tr>
<tr>
<td>China</td>
<td>Machinery and electronics increased</td>
</tr>
</tbody>
</table>

Source: Researcher calculations with Cytoscape and Product Space Explorer, the source of exports data from WITS.

Some products are indicated to be of good quality compared to the products of its peers. Quality products that are both competitive and of high value are heavy
equipment. In regard to commodities contributing high export value, relatively high quality\textsuperscript{5} Indonesian products (compared to its peers) are copper, natural rubber, tin, gold, and chemical wood pulp. In regard to commodities with high unit prices, relatively high quality Indonesian products compared to its peers are crane lorries, lifting machinery, and tower cranes.

Furthermore, as can be seen in the figure below, the export products with high market share but low quality are natural gas and nickel. Copper has high market share with high quality. Besides that, products which have low market share but high quality are crane lorries and lifting machinery. Furthermore, between the years 2010 and 2013 there was an increase in the market share and quality of crane lorries, planes, and natural gas. Meanwhile, there was a decline in the market share in tower cranes.

![Figure 21. Market Share Position and Export Product Relative Quality](image)

Source: Researcher calculations; source of exports data from WITS.

4.1.1.4 Sustainability Margin

The ability to maintain trade relations is a measure of a well-developed economy. There are three indicators which are used to evaluate the duration and

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\textsuperscript{5} Following Reis and Farole (2012), the proxy for relative quality is the ratio of the unit price of a product to the peers' product unit price in the 90\textsuperscript{th} percentile. The assumption is that when supply is competitive, high prices are generally related to quality = greater product differentiation. Product categories use HS 6 digit.
durability of product-partner relationships as well as explain factors which influence product introduction and extinction.

Export Duration measures the survival rate for a new product–market relationship with a minimum value of USD10,000. In a period of 10 years (2003–2013), the share of new product–market relationships which survived in Indonesia reached 61.2% with the number of export relationships reaching 326. This export duration compared favorably with both the Philippines and Malaysia, but less favorably than Vietnam, Thailand, China, and India (Figure 22).

Changes in the flow of exports can occur along two different margins, that is intensive and extensive. The intensive margin includes changes in the current trade flows which can then be sub-divided into increasing, decreasing and extinction. The extensive margin includes additional new trade flows which may occur because of the introduction of a new product, entry into a new market, or product diversification with current trading partners. The indicator “decomposition of export growth along margins of trade” decomposes all trade growth into one of seven exclusive categories in accordance with this margin.

A country which has been exporting to various markets and has greatly diversified its exports portfolio may have limited potential to expand in its extensive margin. In fact, for developing countries, the extensive margin generally contributes no more than 20% of exports growth (Brenton and Newfarmer, 2009). Meanwhile, for exporters which are already mature, growth generally takes place in the
intensive margin.

Figure 53 (Attachment) shows six countries facing the challenge of stiffer competition in products and traditional markets with losses occurring in the intensive margin, including extinction of the product–market relationship. In EM, the exports performance of these countries has not shown meaningful growth, but only a small percentage increase in the sales of existing products to new markets. Indonesia’s IM compared favorably to the IM of both the Philippines and Malaysia (Indonesia’s IM grew 108.73% and its exports declined by 9.15%). Nonetheless, it can be seen that China’s growth showed relatively better performance because China’s IM grew 105.04% and its exports declined by 4.97%. From the EM dimension, Vietnam grew 2.73%, surpassing Indonesia’s 0.96%.

The export suspension and factor endowments indicator identifies trade flows of at least USD10,000 which have been lost since an earlier time. This indicator was selected to compare the intensity factor of these products toward certain supporting factors of that country. The hope is that product extinction is more likely to happen if the intensity factor of a product is far from its supporting factors. If the point of the supporting factor of a country is represented by the intersection between the average human and physical capital intensity, it can be seen how far or how close the export intensity factor is from the point of the average supporting factors. From Figure 24 it can be seen that Indonesia’s exports in 2013 were not particularly in line with the supporting factors. This can be seen in the fairly significant distance between the export intensity factor and the point of intersection of the supporting factors. This is unlike Thailand’s case, where the majority of its exports lie closer to
the supporting factors. As a result, the continuity of export products in Thailand may be more long-lasting.

Figure 24. Exports Relative to Endowment – Indonesia 2013

Figure 25. Exports Relative to Endowment – Thailand 2013

4.1.2 Competitiveness Diagnostics

Indonesia has problems in four dimensions of competitiveness with the main issues related to skill sets, logistics, policy, and domestic institutions along with a lack of market access support from the aspect of free trade agreements (FTA) and non-tariff measures (NTMs). These problems were also reflected in the FGD results
with businesspeople, with the main factor mentioned being legal uncertainty.

Table 6. Competitiveness Diagnostics Summary

<table>
<thead>
<tr>
<th>Main Challenges facing Indonesian Exports</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market Access</td>
<td>↓↓ Dominated by non-tariff measures from developed nations. The FTA of Indonesia are lagging behind in comparison to the FTA of other countries in the region.</td>
</tr>
<tr>
<td>Incentives Framework</td>
<td>↓↓ Indonesia’s FDI policy is lagging behind its peers. In terms of domestic policies and institutions, Indonesia’s ease of doing business is the lowest in ASEAN and has declined in the last 10 years.</td>
</tr>
<tr>
<td>Conditions of the Factors</td>
<td>↓↓ The work force (especially in skill sets) and logistics are the main obstacles.</td>
</tr>
<tr>
<td>Trade and Investment Facilitation</td>
<td>↓ The main obstacle in promoting exports and investment in Indonesia relates to standards and certification which does not yet meet international standards. Promoting investment and exports is also weak.</td>
</tr>
</tbody>
</table>

Explanation:
↓: Slightly lagging behind peers
↓↓: Lagging behind peers

4.1.2.1 Market Access

The biggest hurdle in regard to market access comes from non-tariff measures which are widely applied by developed countries — i.e. the destination countries for the exports. The low tariffs in developed countries should represent an opportunity for increasing Indonesia’s exports. Nonetheless, non-tariff protection measures, such as sanitary and phytosanitary measures (SPS) and technical barriers (TBT), which are applied in a number of developed countries can pose problems for exporters who seek to penetrate markets.

Source: WITS World Bank, compiled
Figure 26. Import Tariffs in a Number of Countries
Average customs tariffs on imported goods that are adopted by Indonesia ranged between 5%–10%. Developed countries as export destinations, such as the USA and Japan apply customs tariffs on imported goods <5%. The US, Japan, China, South Korea, India, and Europe impose high tariffs on agricultural products, ranging between 5%–35%. In Indonesia, import tariffs on agricultural products are similar to those on non-agricultural products. A number of countries in the region, such as Thailand and Vietnam, impose higher tariffs on agricultural products. The bilateral trade arrangement between Indonesia and a number of export destination countries meant that Indonesian products can be subject to lower import tariffs. If compared to other countries in the region, the import tariffs which are effective in Indonesia and the Philippines are the lowest, especially for products imported from Southeast Asia countries. Europe imposes fairly high non-tariff measures, especially in the form of TBT and SPS. Because of that, it is crucial that trade agreements are formed with Europe to eliminate these non-tariff barriers.

Table 7. List of Non–Tariff Measures in a Number of Countries

<table>
<thead>
<tr>
<th>Importers</th>
<th>NTM Measures</th>
<th>Exporters</th>
<th>IDN</th>
<th>KOR</th>
<th>MYS</th>
<th>PHP</th>
<th>THA</th>
<th>VNM</th>
<th>WLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHN</td>
<td>Contingent Trade-Protective Measures</td>
<td>4</td>
<td>24</td>
<td>4</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Sanitary and Phytosanitary (SPS) Measures</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>46,877</td>
</tr>
<tr>
<td></td>
<td>Technical Barriers to Trade (TBT)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>53,548</td>
</tr>
<tr>
<td></td>
<td>Pre-Shipmen\on Formally</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>132</td>
</tr>
<tr>
<td>EUR</td>
<td>Contingent Trade-Protective Measures</td>
<td>11</td>
<td>2</td>
<td>6</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Non-Automatic Licensing, Quotas, Prohibitions and Quality-Control Measures other than for SPS or TBT</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1,517</td>
</tr>
<tr>
<td></td>
<td>reasons</td>
<td>Finance Measures</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Measures Affecting Competition</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>92</td>
</tr>
<tr>
<td></td>
<td>Export-Related Measures</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>606</td>
</tr>
<tr>
<td>IND</td>
<td>Contingent Trade-Protective Measures</td>
<td>20</td>
<td>69</td>
<td>42</td>
<td>59</td>
<td>8</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>JPN</td>
<td>Contingent Trade-Protective Measures</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>KOR</td>
<td>Contingent Trade-Protective Measures</td>
<td>4</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>USA</td>
<td>Contingent Trade-Protective Measures</td>
<td>60</td>
<td>46</td>
<td>3</td>
<td>9</td>
<td>-</td>
<td>42</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: WITS World Bank, compiled

Indonesia is lagging behind its country peers in exploring and participating in regional trade agreements (RTA) with non-ASEAN countries. For example, Indonesia does not have RTA with Europe or the US; moreover, countries in these
regions have products which are complementary to Indonesia’s products. As one of the implications, based on the results of FGD with businesspeople, a number of foreign companies prefer to undertake expansion in Vietnam than in Indonesia because Vietnam has competitive advantage in regard to market access. At the same time, Indonesia also faces risks from the negative impact of trade diversion from the RTA that it has not joined.

4.1.2.2 Incentives Framework

The incentives framework is one of the determinants of competitiveness from the supply side, i.e. the incentives framework faced by businesses. There are two matters here to be discussed: 1) trade and investment policies and 2) domestic policies and institutions. In regard to trade and investment policies, Indonesia’s FDI policies are weaker compared to peer countries (Figure 27) because only the mining, oil and gas, electricity and banking sectors are open to higher foreign investment than on average. Meanwhile, from the aspect of domestic policies and institutions, the ease of doing business in Indonesia is the lowest in ASEAN and if compared with peer countries it has declined over the last 10 years (Figure 28) although there has been an improvement compared with 2014’s ranking of 120. Indonesia is far behind its country peers in a number of aspects, including starting a business, registering property, enforcing contracts, and paying taxes (Figure 29).

Source: Doing Business, compiled

Figure 27. Ease of Establishment Index

Source: Doing Business, compiled

Figure 28. Ease of Doing Business
4.1.2.3 Factor Conditions

Labor conditions, logistics, in addition to some other weak factors have posed a challenge to Indonesia’s competitive advantage compared to its peers.

In regard to labor conditions, there are high costs. Minimum wages are too high (when productivity is considered), when compared to conditions in developed countries. Minimum wages which are too high result in layoffs as well as the relocation of factories to provinces with lower minimum wages. The cost of firing workers is also very high in comparison to peer countries, reaching around 50 times weekly wages. Besides that, there are also a number of implicit costs such as the obstruction of negotiations by labor unions, demonstrations, along with an increase in operational risks.

In regard to skills, there are more serious problems. The World Bank (2014) stated that: (1) there is a skills mismatch, with 50% of SMA graduates/equivalent and 15% of university graduates working in unskilled positions; (2) 70% of manufacturing employers saying it was ‘very difficult’ to fill skilled positions; (3) only 5% of workers receiving formal on-the-job training. Furthermore, the results of FGD indicate that Indonesia needs medium and high skilled workers in 2020. As a result of AEC, Indonesia will experience a shortage of skilled labor.
Logistical conditions are alarming and severely obstruct competitiveness. Although WDI data shows that the Logistics Performance Index and Indonesia’s infrastructure conditions have slightly improved, conditions still compare less favorably than Indonesia’s peers. The score for international shipments declined and now occupies the lowest rank. Furthermore, the time needed to undertake exports-imports is relatively lengthy compared to Indonesia’s peers, which, among other things, stems from constraints in access to land and the process of loading and unloading goods at ports.

Some other problems are: (1) the speed, bandwidth, and uncompetitive price of internet broadband; (2) a lack of international certification and compliance in regard to export products and industrial processes; (3) the low usage of licensed technology; (4) problems with electricity provision; along with (5) poorly targeted regulation.
4.1.2.4 Trade Promotion Infrastructure

Trade promotion infrastructure covers a wide range of government intervention to overcome market failures (coordination challenges and asymmetric information) and government failures that limit the participation and performance of exports. This trade promotion infrastructure includes the promotion of traditional exports and Special Economic Zones (SEZ), industry coordinating institutions, standards and certification, along with innovation.

The main obstacle in promoting Indonesia’s exports and investment relates to standards and certification. Although many things can be done to improve this from an institutional perspective, more problems arise from a lack of sophistication of Indonesia’s industry/companies, which, in turn, is related to one of the fundamental challenges of competitiveness, namely innovation.

a. Standards and Certification

The main challenge to improve the quality competitiveness of Indonesian export products is the ability to give international standards (even having the certification to prove it). Based on the data in Figure 36, only 3% of Indonesian companies have international quality certification, placing Indonesia far behind other countries in the region. Most of the important technical standards are imposed by international buyers or trading partners so that exporters meet these standards and can subsequently continue awarding contracts. Most industrial companies in Indonesia have already met national standards, but have not been able to meet international standards. The main constraint is the problem of the
high cost of international standards certification and its implications for competitiveness. Certification may actually raise production costs, while, at the same time, it may be difficult to pass on these costs to consumers.

Besides that, Indonesia’s still-weak infrastructure standardization is also a factor behind Indonesia’s less competitive export products. Many testing laboratories in Indonesia cannot get international recognition, thereby affecting the process of certification and compliance of standards required by international buyers. The competitiveness of Indonesian exporters is also determined by the national standards regime. The weak national standards regime coupled with the lack of monitoring and regulatory enforcement has contributed to the weak quality competition in the domestic market.

Source: WDI, compiled

Figure 36. Internationally–Recognized Quality Certification

b. Innovation

Industry in Indonesia needs to continue to improve the quality of products and value-added in order to maintain competitiveness in the long term. Achieving this goal will depend on the innovation capacity of each industrial sector. Figure 37 and Figure 38 depict a gap in Indonesia's innovation capacity, either at the national or company level. The budget allocation for research and development in Indonesia is lower than that of other ASEAN countries. Most industries in Indonesia still rely on international buyers to provide design specification and technical requirements, so production is undertaken in accordance with specifications. This limits the potential capabilities of industrial sectors to be able
to innovate and participate in Global Production Networks (GPN). In fact, the product replication process is not always successfully carried out by industry in Indonesia because precision requirements are so tight and since only low tolerances are allowed. Lack of attention toward quality and design is closely related to a company’s low level of sophistication. Many companies which have been established since the 1980s already feel secure and not compelled to take risks to encourage industry design innovations. Despite this, based on information from businesspeople, only a small amount of industry has started to undertake innovations by designing a number of products for the domestic market as well as by starting to participate in the Global Value Chain (GVC).

![Figure 37. R&D Expenditures (% GDP)](image1)
![Figure 38. Quality of Research Institutions](image2)

Source: WDI, compiled

Source: World Economic Forum GCI, compiled

At the company level, investment in research and development is still considered low. Institutions to support the development of technical or design expertise in industrial sectors is still weak. The textile industry has college especially for textile technology in Bandung (equal to D4), in addition to private institutes which focus on the development of the couture industry. In 2015, the Ministry of Industry officially established the Community Academy for Industrial Textiles and Textile Products (TPT) in the Solo Techno Park in response to the growing demand for labor in this sector. This TPT provides industrial vocational education based on competency including educational facilities and infrastructure such as laboratories, workshops, and teaching factories. Besides that, this academy is also equipped with a Professional Certification Agency and Competency Test Places. The hope is that the TPT industrial academy will start to operate in the 2015 academic year.
Meanwhile, in the ICT sector (information-communications technology) there is only one Special Education Center for Electronics and Telematics in Surabaya. The Industrial Training Center (BDI) in Surabaya is managed by the Ministry of Industry and provides education and training in the fields of electronics and garments. In the future, the Ministry of Industry working with universities in Banten will establish the Banten Petrochemicals Community Academy. Establishment of this academy will help address the challenges facing the petrochemical industry regarding the quality of local human resources based on competency and, consequently, raise the competitiveness of the national petrochemical industry.

The lack of educational facilities and training for the industrial sector can be attributed to insufficient efforts by the government to innovate and also the lack of initiatives from industry itself. Nonetheless, the government is already starting to be more proactive by taking initiatives to establish training and education centers as reflected in the signing of some memorandum of understanding for the development of colleges or innovation centers in various regions.

c. Promotion of Exports and Investment

Indonesia has already invested significant resources to coordinate and attract investment to Indonesia. The Capital Investment Coordinating Board (BKPM) has been designated as the investment promotional agency (IPA) at the central level since the 1970s. The BKPM has a good relationship with the private sector and the government because it can report directly to the president and because the institution’s chairman has a position at the same level as a government minister. Besides that, there are also investment promotional agencies at the regional level, especially in certain sectors and regions. Based on the Global Investment Promotion Benchmarking Report (2009), which measures service performance and online marketing investment, Malaysia has shown the best performance followed by the Philippines and Thailand, while the performance of Indonesia is still lagging behind (Table 8).
Besides investment promotion, exports promotion has also received special attention from the government. This has been through the Directorate General for the Development of National Exports (DJPEN) under the Ministry of Trade. DJPEN has routinely attended trade fairs and international forums to promote Indonesia’s main industrial sectors, and has also held dialogues with trade ministers from other countries. In regard to trade financing or exports, the presence of the Indonesian Export Financing Agency or Indonesia Eximbank helped in the provision of working capital, guarantees, and insurance for exporters.

In relation to FDI, research shows that Indonesia presently tends to be more protective with more non-tariff barriers and investment barriers than its peers (Patunru and Rahardja, 2015). These obstacles should be eliminated, especially in export-oriented FDI.

d. Special Economic Zones (SEZ)

SEZ are predesignated areas which have geo-economic and geostrategic advantages whilst also functioning to accommodate industrial activity, exports, imports, and other economic activities that have a high economic value and international competitiveness. Within SEZ, supporting facilities and housing for workers needs to be built. In each SEZ, locations need to be provided for micro, small and medium sized enterprises (MSME), and cooperatives, either as entrepreneurs or as supporting the activities of companies that are in SEZ.

Table 8. IPI Performance Score

<table>
<thead>
<tr>
<th>IPI Name</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaysian Industrial Development Authority</td>
<td>Good (61-80%)</td>
</tr>
<tr>
<td>Philippines Board of Investments</td>
<td>Average (41-60%)</td>
</tr>
<tr>
<td>Thailand Board of Investment</td>
<td>Average (41-60%)</td>
</tr>
<tr>
<td>Indonesia Investment Coordinating Board</td>
<td>Weak (21-40%)</td>
</tr>
<tr>
<td>Invest in China</td>
<td>Weak (21-40%)</td>
</tr>
<tr>
<td>Ministry of Planning and Investment - Foreign Investment Agency, Viet Nam</td>
<td>Weak (21-40%)</td>
</tr>
<tr>
<td>Department of Industrial Policy &amp; Promotion, Ministry of Commerce and Industry, India</td>
<td>Very Weak (0-20%)</td>
</tr>
</tbody>
</table>

Source: GIPB 2009 Summary Report (World Bank)
The number of SEZ in Indonesia is similar to the number in peer countries although this number is still relatively small when the area is taken into consideration. Besides that, the development of economic zones/industrial areas in Indonesia is still limited. This owes, at least in part, to a number of factors, including:

(1) Limited infrastructure support (energy, connectivity, etc.). A number of SEZ that have been established are located far from supporting infrastructure such as ports. It would be better if the establishment of SEZ was undertaken in tandem with the establishment of supporting infrastructure.

(2) A lack of monitoring and effective management of the region along with a relative lack of promotion of the economic zone.

Source: Economic Zones in ASEAN (UNIDO)

Figure 39. Overview of Special Economic Zones in the Region

**4.1.3. Focus Group Discussions (FGD)**

FGD activities are a means to confirm the results of benchmark data/quantitative (desk analysis) with the actual conditions that occur in the field. From the FGD results, it can be seen that entrepreneurs are concerned by three main things that are related to regulations, human resources capability, and coordination. Based on the results of the FGD, their main concerns are:
a. The rule of law and legal certainty

Regulations that support the development of the industrial and trade sector in Indonesia are still considered to be sub-optimal and implementation tends to be unclear. Many regulations are overlapping between one sector and others. In regard to policies on electricity tariffs and workers’ wages, businesses expect that planned mechanisms related to the determination of tariffs and wages can be established.

b. The limited number of free trade agreements (FTA) which are undertaken by Indonesia, either multilateral or bilateral

Businesses hope for an increase in the number of trading agreements with developed countries which are destinations for Indonesia’s exports to encourage wider market access for Indonesia and they are making efforts to join in the global supply chain. Besides that, it was also revealed in the FGD that existing trade agreements were experiencing barriers in regard to their implementation (deadlocked). The obstacles to implementation owed to a lack of details from the Indonesian side in explaining points which are needed in the trade agreement. This is apparently due to a lack of coordination between the parties involved in making trade agreements and the representatives of businesses in mapping the needs of businesses which are engaged in production and trade. Besides that, the benefits of the points of agreement in regard to FTA are also still very limited such that greater efforts are needed to introduce and simplify the points of agreement in FTA.

c. Human resources capacity

In technical terms, Indonesia’s human resources are still struggling to compete with human resources in other countries. The advantage of low wages for workers in Indonesia in the past cannot be relied on anymore, especially given Indonesia’s intention to target an increase in exports to the med-tech and hi-tech industries. As such, Indonesia must upgrade the skills of workers in accordance with industry needs. Besides that, provisions for foreign workers who will work in Indonesia also should be devised more selectively to weigh up the needs of industry and the supply of domestic workers.

d. Taxation rules

Indonesia’s taxation rules can be considered a major obstacle in Indonesia’s industrial and trade sector. Issues of contention relate to multiple
value-added tax (VAT) as well as a lengthy tax restitution process as the major complaints of businesses in the field.

e. Coordination of central government and regional government, as well as with businesses

Bureaucratic obstacles and coordination, either between ministries or between central government and regional government, especially with businesses is still a major problem in creating highly competitive industries. The process to successfully develop industrial sectors depends upon the planning and development of industrial sectors which is endorsed by the government, including infrastructure aimed at supporting development of the industrial sector.

4.1.4. Linkage Analysis of Value Added

Linkage analysis of value added uses updated data on Asian I/O 2005 by using data from the year 2013 to see the position of Indonesian industry in the global value chain. This is related to changes in the pattern of global trade from trade initially based on trade in goods to trade in tasks. Generally, the results of the decomposition analysis of trade (Figure 40) show that the three countries most competitive in ASEAN-5 related to the global value chain are Thailand, Malaysia, and Singapore.

This measure of competiveness is obtained from the analysis of internal and external competitiveness. Analysis of internal competitiveness shows that Malaysia and Singapore have the highest exports capability in processing foreign value added or in having high imports productivity (the ability to export after high imports). Meanwhile, analysis of external competitiveness shows that Malaysia, Thailand, and Singapore are recorded as countries with the largest scale of exports. Comparison of the results between the years 2005, 2009, and 2013 shows that competitiveness between countries did not experience a significant change.

From the investment side, it can be seen in Table 10 that there are different types of FDI in ASEAN countries: in Thailand FDI helps encourage exports; in Indonesia FDI helps to boost employment and domestic demand; in Vietnam FDI

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6Triangular Trade and Value Chain Analysis in Asia with a Focus on Indonesia as feedback in Devising Indonesia’s National Strategy in the Era of the ASEAN Economic Community by Rakhman et al. (2015).
helps encourage capital investment, exports, and employment; and in Malaysia FDI impacts exports with the absorption of skilled labor (in skill-intensive sectors). This reinforces the findings of the trade performance analysis that Indonesia has not yet become the nation of choice for export-oriented industries, but has tended instead to create a market which is characterized by weak internal competitiveness and investment which is more centered on meeting domestic demand.

Source: Rakhman et al. (2015)

Figure 40. Internal and External Competitiveness of ASEAN5 Countries

Table 9. Comparison of the Impact of FDI in ASEAN Countries

<table>
<thead>
<tr>
<th>ASEAN–5 Productivity Ratios</th>
<th>FDI Value/Foreign Affiliates</th>
<th>Export Value/Foreign Affiliates</th>
<th>Employment/Foreign Affiliates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>USD4.85</td>
<td>USD69.39</td>
<td>809.40</td>
</tr>
<tr>
<td>Vietnam</td>
<td>USD10.80</td>
<td>USD107.81</td>
<td>896.36</td>
</tr>
<tr>
<td>Malaysia</td>
<td>USD3.48</td>
<td>USD122.25</td>
<td>388.96</td>
</tr>
<tr>
<td>Thailand</td>
<td>USD6.10</td>
<td>USD204.24</td>
<td>709.25</td>
</tr>
</tbody>
</table>

Source: ITC database
4.2 Lessons from Other Countries

“The right model for industrial policy is not that of an autonomous government applying Pigovian taxes or subsidies (i.e. lump sum taxes or subsidies), but of strategic collaboration between the private sector and the government with the aim of uncovering where the most significant obstacles to restructuring lie and what type of interventions are most likely to remove them” (Dani Rodrik, Harvard University, Industrial Policy in the Twenty First Century).

From the study undertaken of the economic transformations of a number of peer countries, several similarities can be observed. Growth models intended to move countries out of the group of lower income countries are generally founded on growth in export-oriented manufacturing industry. To achieve this, the endowment structure needs to be enhanced through capital accumulation and increased labor participation. The strategy undertaken focuses on making the country as a base of efficient industrial production and as a place where export goods can be produced. This growth is driven by private companies while the role of the government is to facilitate business activities and ensure effective competition without creating unnecessary bureaucracy or disrupting the market. To achieve this aim, reforms center on openness toward trade and investment, institutional reforms to create conducive conditions for investment and business, along with the gradual reform of industrial upgrading in accordance with the endowment structure.

As an illustration, the industrial strategy undertaken by China and a number of other countries, such as Singapore, South Korea, Thailand, Malaysia, and Vietnam is discussed in this study. Nonetheless, only China’s industrial strategy is described in this chapter while the other countries are described in the appendix.

4.2.1 China

In the space of the last 30 years, China has successfully transformed itself from a closed agrarian economy based on natural resources to a country with the world’s largest real GDP in 2014 (GDP PPP) which is export-orientated and based on manufacturing. Reform in China covers three aspects, namely structural transformation, economic liberalization, and transitional institutions. The reforms which were undertaken are essentially aimed at encouraging private sector participation (private sector-led growth).

China’s reform strategy has taken place gradually, beginning with basic
issues which are micro in nature onto complex issues which are macro in nature. This strategy is founded upon: (1) gradual market-orientated reforms, (2) openness to trade and investment, and (3) industrial strategy which is comparative advantage following (CAF). CAF is reform which follows the flow of learning and innovation to explore comparative advantage.

Figure 41. China’s Reforms

The reform process and openness occur simultaneously, and are interrelated and reinforced. The strategy for CAF industry development essentially affirms that a country cannot grow at a rate beyond its growth stage (the endowment structure which it has) or make exports in sectors where it does not have a comparative advantage.

1. China’s Strategic Industry

To develop its industry, China’s strategy has been to improve its endowment structure. There are two endowments: namely capital and labor. Capital must accumulate faster than the growth of labor and natural resources. Capital accumulation can be achieved through foreign investment in the form of FDI. FDI not only results in market access in relation to products and orders, but also facilitates the transfer of technology which encourages an improved labor structure. As the endowment structure grows, the structure of industry/technology will also improve through the learning process and knowledge accumulation. In particular, the relocation of labor and growth in
human capital will be created in a sector once prices have been liberalized and there is a comparative advantage. China’s industrial upgrading has taken place gradually as follows:

a. 1986: Transformation of China from an exporter based on natural resources to a labor-intensive manufacturing exporter in accordance with China’s comparative advantage at that time, i.e. when textile exports exceeded exports of crude oil.

b. 1995: Transformation of China from a labor-intensive industrial exporter to nontraditional labor-intensive, i.e. when exports of machinery and electronics surpassed textile exports.

c. 2001: Transformation of China to an exporter of new high-tech products which were propelled when China entered the WTO.

2. Institutional reform which is aimed at providing the necessary conditions for the private sector to act quickly by reducing the dominance and control of the government. This is achieved through micromanagement such as changing from a collective agricultural set-up to a household-responsibility based system, privatizing SOE, and loosening the resource allocation mechanism through non-state enterprises-TVE, whilst also making appropriate macro policies such as relaxing government control in the commodity price system through a dual-track price system, liberalizing prices, and relaxing the exchange rate system.

3. Investment policy which is aimed at attracting foreign investment flows to bring China into the international market, develop human resources, as well as conduct transfer of knowledge. The strategies taken were: (1) create the necessary conditions for investors to make China an exports production base, (2) encourage local entrepreneurs to enter into joint ventures with foreign investors and make exports, as well as: (3) include China as part of the global supply chain and manufacturing center. In implementing this strategy, the program: (a) harmonizes regulations for trade promotion and preferential treatment to attract FDI, (b) gives autonomy and tax assignment systems to regional governments in order to encourage the regional government to reform the region so that it is more open to trade and investment, (c) provides incentives for FDI, expands exports and growth in the private sector, and also (d) prioritizes investment in high-tech firms, managerial know-how, and talent.

4. Policies to improve human capital to support endowment growth through
learning and capital accumulation. Capital accumulation is undertaken along with the investment policies above, while human capital growth is undertaken by investing in the health and education sectors (training, student exchange, work-study training programs, apprenticeships/vocational training in other countries) as well as by providing the best conditions for the learning process for the private sector by liberalizing prices and encouraging the relocation of the workforce and human capital from the public to the private sector and for exports.

4.3 National Policy Strategy

Based on the results of the competitiveness analysis performed, Indonesia’s below-optimal trade performance stemmed from the various problems in the enablers factor (including human resources and employment), market access, logistics and infrastructure, as well as a lack of incentive schemes. To address these various challenges, strategy formulation was undertaken by using a framework like the one depicted in Figure 42. To reach the final targets in the areas of social welfare and macroeconomic stability, it is necessary to increase economic competitiveness through upgrading and deepening industry, creating value added, whilst also being exports-orientated. The industry in question refers to all industries in general, whether natural resources, labor intensive, intermediate-technology or high-tech base. As a result, a national industrial policy strategy covering seven basic elements is needed, comprising: (1) institutions and leadership; (2) trade and investment incentive schemes; (3) human resources and employment; (4) infrastructure; (5) technical efficiency and business services; (6) access to finance; along with (7) market access.
4.3.1 Institutions and Leadership

The role of institutions and leadership has become a focal point for influencing the effectiveness of strategy implementation in general because of its ability to influence the implementation of the strategies in other categories.

a. Coordination (between sectors, central-regional)

Strengthening of the coordination function is needed between sectors and between regions. This covers institutions, institutional KPI synchronization (key performance indicators), and organization in line with industrial development competitiveness. Besides that, planning synergy and control policy, regulation, budgeting, and the development of areas (RTRW) are also needed.

b. Trust and collective action

A number of things that need to be undertaken are: (1) unifying the vision and perception of all elements in supporting national development; (2) establishing good leadership character which builds up public trust and helps ensure that the performance of officers is accountable and credible; and (3) ensuring fair and consistent law enforcement.

c. The effectiveness of government management and governance

There are a number of things which need to be done to improve the
effectiveness of government management and governance, including: (1) simplifying bureaucracy; (2) selecting government officials based on their competency; (3) establishing government management which is orientated toward providing public services in a clean manner and characterized by good governance; (4) establishing a mechanism for public feedback; (5) creating partnerships between the government, the private sector, and the community in formulating public policy and development cooperation (such as cooperation between the government and the private sector in infrastructure development); along with (6) establishing public services which support industry (call centers, resource sharing, and public consultation).

### 4.3.2 Trade and Investment Incentive Schemes

a. Exports Promotion

To improve exports promotion, revitalization of the role of the Indonesia Trade Promotion Center (ITPC) as a professionally managed marketer is needed. Besides that, more intensive and permanent trade promotion is also needed, involving, among other things, the opening of outlets in a public space.

b. Investment Facilitation

In addition to the strengthening of institutional coordination (the Investment Coordinating Board and the Regional Investment Coordinating Board), greater investment facilitation can also be carried out with integrated one-stop services (PTSP) central and regional so that there is the same standard in licensing services.

c. Industrial Area

In industrial estate development, two things are noteworthy, namely: (1) the development of industrial areas outside Java orientated toward business and equitable development (Special Economic Zones); (2) the provision of land by the government for the development of industrial estates (Nusantara Bonded Zone) which is integrated with the support of connectivity and infrastructure.

d. Fiscal Incentives

A number of fiscal incentives can be provided to boost trade and investment, including: 1) the application of tax incentives for export-oriented industries; (2) removal of taxation policy barriers which aggravate industry; and
(3) more rapid and efficient settlement of tax refunds.

e. Conducive macroeconomic environment

More intensive and thorough efforts are needed to control inflation. Besides that, rupiah exchange rate stability needs to be safeguarded by having the right policy mix.

4.3.3 Human Resources and Employment

A number of things which can be recommended to the government in relation to the workforce include:

a. Improving the national education system (link and match)

A number of efforts can be made to upgrade the education system, including: (i) implementing pro policies and incentives to help meet the demand for skilled workers (non-university graduates), for example, the provision of free education for D1, D2 and D3 (diplomas) in technical fields; (ii) building a positive paradigm for a skilled workforce; (iii) undertaking talent pooling starting from senior high school /equivalent; (iv) encouraging university-industry relations by adopting curriculum applicable to the needs of industry, including apprenticeships; (v) providing postgraduate scholarships for studies related to the development of strategic industries (priority); (vi) improve the quality of teaching and laboratory and research facilities in accordance with regional industrial development needs; as well as (vii) make it easier for international quality foreign universities to obtain permission to establish themselves in Indonesia, especially in science, technology, mathematics, and health (STEM–H).

b. Skills and productivity of workers

The skills and productivity of workers can be improved through: (1) revitalization of labor training centers (covering the curriculum, instructors, and facilities); (2) the requirement for industry to allocate funds for employee training; (3) a greater active role for industry/the private sector in preparing a skilled workforce which is ready to work through apprenticeship programs; (4) standardization in Indonesia’s national labor competency for industry and supporting services (transportation, logistics, and others); and (5) efforts to encourage employees to improve their English language skills.
c. Employment policy

Policies which can be undertaken include: (1) giving incentives to industry through the allocation of funds to improve labor skills; (2) the establishment of trade unions must obtain formal permission from the central and regional governments; and (3) special regulations that facilitate the procurement of foreign labor in the industrial sector for certain periods of time.

4.3.4 Infrastructure

High logistics costs which are estimated to reach 24% of GDP (ALFI, 2015) and Indonesia’s low Logistics Performance Index in ASEAN-5 are several factors behind Indonesia’s weak competitiveness. From the perspective of the Global Value Chain, Indonesia’s high logistics costs result in Indonesia being less efficient and less likely to be selected as an offshore location and global production hub. Because of that, Indonesia tends to be chosen only as a market for end-products. This problem needs to be addressed through a variety of micro policies to improve logistics performance and trade facilitation. Reforms in infrastructure are one way to improve logistics performance.

a. Connectivity (roads, logistics, ports, and customs)

Improvements in connectivity can be achieved through: (1) diverting logistics from roads to railways and short sea shipping by increasing the number of stations and ports; (2) improving the road access from industrial estates to ports to speed up travel time and reduce transportation costs; (3) infrastructure development (including the trans Java highway, road repairs, aero cities, logistics centers, air cargo facilities, the development of the port area, and broadband); as well as (4) information systems among the integrated logistics providers.

b. Energy and utilities

To support industry, the following is needed: (1) energy policy which supports an improvement in industrial competitiveness; and (2) supporting utilities which are sustainable.

c. Fiscal policy in logistics

Fiscal policy in logistics covers: (1) tax incentives for domestic logistics service providers which support the exports industry; and (2) improvements to the modes of transportation logistics (railways and shipping).
d. Supporting Regulations

In particular, supporting regulations cover: (1) strengthening of the legal status of transportation and logistics as stipulated in Presidential Decree No. 26 Year 2012 concerning the National Logistics System becoming the Logistics Law. With the same status and legal standing as laws, this regulation which regulates logistical activities will be directed toward legal synchronization and harmonization. As such, related stakeholders will have a benchmark when rules and regulations are developed under it, either at the central or regional levels. The formation of the Logistics Law will mean that the logistics activities of businesses will obtain greater legal certainty through various institutions; (2) coordination between sectors in inspecting imported goods; and (3) the adoption of cashless payments for supervising customs clearance.

4.3.5 Technical Efficiency and Business Services

a. Technological improvement

To develop technology, the following needs to be done: (1) revitalization of machinery used by industry; (2) adoption/modification and creation of new technology which is facilitated by the government.

b. R&D and innovation

To encourage the research and development (RD) process and innovation, several things need to be done, namely: (1) the foundation of RD facilities by the government which can be used by the public; (2) the government (Ministry of Research and Technology) should provide an integrated research information system for all agencies and bodies (including universities and the private sector); (3) provision of incentives for agencies and bodies for the utilization and development of research results by industry; (4) fiscal incentives for companies with high research and development budget allocations; and (5) support for businesses and industries to establish better networking for innovation and the adoption of technology.

c. Business services

To improve technical efficiency, policies need to be taken to support/give incentives for enhancing the provision of business services (including the supply chain, marketing, and accounting, and others).
d. Intellectual Property Rights

Matters related to intellectual property rights are inseparable from achieving technical efficiency. To that end, existing policies need to make it easier to obtain intellectual property rights/patents, while in regard to the implementation of these intellectual property rights, stringent law enforcement should be taken when violations of intellectual property rights take place.

4.3.6 Access to Finance

a. Access to financing and financial inclusion

Greater access to financing can be achieved through: (1) strengthening of export financing institutions; (2) the provision of a special financing scheme for industry which is export-orientated; and (3) greater access to financing for strategic regional industries.

b. Venture capital

In relation to venture capital, awareness (social responsibility) needs to be created among successful large-scale industry to develop infant industries, including through equity financing. Besides that, polices should be taken which reduce obstacles to the entry of foreign venture capital as a way to raise alternative funding.

c. Sources of long-term financing

For sources of long-term financing, industry needs to be encouraged to look toward the stock and bond markets.

4.3.7 Market Access

a. Participation in trade agreements (TA) must be done in a strategic manner

1) A grand strategy and positioning of Indonesia toward TA is needed

Cooperation in trade (TA) can help to make companies more competitive in larger markets, attract FDI, and encourage industrial upgrading\(^7\) (Laksono and Situmorang, 2014). TA can also be a way to eliminate tariffs and relax non-tariff measures. This will lead to lower input

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\(^7\) The European Union imposes higher tariffs on finished goods than on raw materials, implying a reduction in incentives to undertake industrial upgrading.
prices (raw materials and capital goods) and the development of market access to facilitate Indonesia’s exports.

If compared to other countries in the ASEAN region, Indonesia’s trade cooperation is relatively lagging, either in terms of regional trade (Figure 43) or bilateral trade (Table 10). Indonesia’s FTA mostly fall within the ASEAN regional trading system with bilateral FTA only with Japan and Pakistan (in the form of PTA). In mega block trading, Indonesia is in the process of negotiating a regional comprehensive economic partnership (RCEP) which is also followed by other ASEAN countries.

Table 10. Trade Agreements of ASEAN Countries

<table>
<thead>
<tr>
<th>Partner</th>
<th>Indonesia</th>
<th>Philippines</th>
<th>Thailand</th>
<th>Malaysia</th>
<th>Vietnam</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASEAN</td>
<td>AFTA, ACFTA–China, AKFTA–Korea, AJCEP–Japan, AIFTA–India, AANZFTA–Australia New Zealand, and RECP (in process, founded by 10 ASEAN member states, Australia, China, India, Japan, Korea, and New Zealand)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Pakistan</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Australia</td>
<td>Consultation</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chile</td>
<td>JSG**</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>India</td>
<td>Will negotiate</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>New Zealand</td>
<td></td>
<td>✓</td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Turkey</td>
<td>JSG</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>South Korea</td>
<td>Negotiations stopped</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Europe</td>
<td>Under discussion</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Peru</td>
<td></td>
<td>✓</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Tunisia, Egypt</td>
<td>JSG</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TPP</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
</tr>
</tbody>
</table>

*) Information not available  **) Joint Study Group
2) Strategic Collaboration between the government and business in the FTA process

So that FTA can provide optimal benefits, the preparation of FTA must be done together with businesses. The results of FGD with businesses confirm that Indonesia’s market access support is not yet sufficient, especially in a number of major export destination countries (for example European countries and the United States), notably for cost sensitive sectors like TPT, cocoa and others. For the European market at the present time, Indonesia’s textile products still benefit from the generalized scheme of preferences (GSP\(^8\)) although this scheme will soon end in 2017. Without GSP the price of Indonesia’s products would be 10%–30% higher.

Besides tariffs, FTA can also become a way to lessen and streamline non-tariff barriers (NTB) which are faced by Indonesia’s export products. Indonesia’s export products, either in agriculture or manufacturing, face

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\(^8\) With the United States, Indonesia has GSP for a number of manufactured products, jewelry, carpets, agricultural products, chemicals, and plastic products as well as rubber.
“tough” NTB in the market. Laksono and Situmorang (2014) have stated that NTB tend to be strict, inconsistent, not transparent, as well as not standardized. Examples of NTB in the European market can be found in rattan (legality), palm oil (standardization, environment), and tobacco. The food and drinks sector also faces challenges related to hygiene and sanitation methods in penetrating the global exports market as well as standardization in the ASEAN market (GAPMMI, 2015). FTA can become one of the ways to reach an agreement with the relevant market standards, certification, testing, and information transparency, besides increasing Indonesia’s industrial capacity.

3) Dissemination of the benefits of FTA to businesses

According to the study by DInt (2015), although ATIGA tariffs are already low (especially for ASEAN6), the utilization of FTA facilities is still low. This may be attributable to a poor understanding of FTA and low margin preference and complex (costly) procedures to utilize ATIGA tariffs.

b. Certification/Standardization

The setting of national standards that are in line with international standards along with the strengthening of Indonesia’s infrastructure standardization, among other things, is in the form of international standards testing laboratories.

c. System information/repository

Developing and updating system information concerning FTA which is complete, transparent, and can be easily accessed.

d. Expanding markets and systems

The expansion of unconventional export markets as well as encouraging exporters to optimize the system to send goods from free on board (FOB) to cost, insurance, and freight (CIF).

Besides that, in relation to import substitution strategy and how industrial policy packages are currently related to the strategies above, they are specifically included in the attachment since they are not particularly relevant to the discussions in this research.

In terms of the timing of the implementation, national strategy can be looked at in the short-term, the medium-term and the long-term. The details on this are
explained further in Figure 44.

<table>
<thead>
<tr>
<th>SHORT-TERM</th>
<th>MEDIUM-TERM</th>
<th>LONG-TERM</th>
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<tbody>
<tr>
<td><strong>Institutional and Leadership Factors</strong>&lt;br&gt;Debureaucratization, Placements according to competence, Governance and feedback mechanism</td>
<td><strong>Institutional and Leadership Factors</strong>&lt;br&gt;Unified vision/perceptions, leadership, Law enforcement, Synergy (between sectors, between regions, planning-control, Partnerships with the private sector &amp; the general public</td>
<td><strong>Infrastructure</strong>&lt;br&gt;Logistics shift toward railways and shipping, Infrastructure development, Better modes of transportation logistics</td>
</tr>
<tr>
<td><strong>Human Resources and the workforce</strong>&lt;br&gt;Free D1/D2/D3 education (technical), talent pooling starting from senior high school, training incentives for industry, merger of trade unions, special regulations for foreign workers</td>
<td><strong>Human Resources and the workforce</strong>&lt;br&gt;Scholarship curriculum, teaching and research-scientific facilities applicable in the industry setting, permission for foreign universities, budget allocation for training, standardization of job competency</td>
<td><strong>Market access</strong>&lt;br&gt;Expansion of export markets, optimizing exporters for CIF (cost, insurance &amp; freight)</td>
</tr>
<tr>
<td><strong>Trade &amp; investment incentives scheme</strong>&lt;br&gt;Revitalization of the role of ITPC (Indonesia Trade Promotion Center), tax incentives for industrial exports, removing obstacles related to taxation, efficient tax restitution</td>
<td><strong>Trade &amp; investment incentives scheme</strong>&lt;br&gt;Intensive and permanent trade promotion, integration of institutions (BKPM–BKPMD, PTSP Central–Regional, land which is integrated with infrastructure, uphill-downhill regional integration, policy mix aimed at maintaining macroeconomic stability</td>
<td><strong>Technical efficiency</strong>&lt;br&gt;Revitalization of machinery, R&amp;D facilities for the public, research information system, fiscal incentives for R&amp;D, development of networking, incentives for founders of business service providers, enforce intellectual property rights /patents, law enforcement</td>
</tr>
<tr>
<td><strong>Infrastructure</strong>&lt;br&gt;Supportive energy policy, tax incentives, synchronization of regulations on logistics, cashless customs</td>
<td><strong>Infrastructure</strong>&lt;br&gt;Road access to industrial areas, logistics information systems, sustainable utilities, coordination in regard to importing goods</td>
<td><strong>Access to financing</strong>&lt;br&gt;Social responsibility for large-sized industry for infant industries, industries to enter the capital and bond markets</td>
</tr>
<tr>
<td><strong>Access to financing</strong>&lt;br&gt;Strengthening of financing institutions and a special financing scheme for industrial exports, Technical assistance for access to KUR, foreign venture capital</td>
<td><strong>Market access</strong>&lt;br&gt;Grand strategy for FTA, Government-business collaboration, national standards =international, infrastructure standardization</td>
<td><strong>Market access</strong>&lt;br&gt;Expansion of export markets, optimizing exporters for CIF (cost, insurance &amp; freight)</td>
</tr>
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</table>

Figure 44. Timeline for National Strategic Implementation
V. CONCLUSION

The conclusions from the results of this study are as follows:

1. The results of the trade performance analysis show that Indonesia’s exports have problems in the four dimensions (extensive, intensive, quality and sustainability). Indonesia’s exports have tended to lose ground in all aspects, especially in regard to quality and which, at the present time, are mostly resource-based with low value-added and persistently declining intensity. If compared to other countries in the region, Indonesia’s exports performance is lagging behind that of Malaysia and Thailand. Meanwhile, Vietnam achieved a significant improvement in terms of its trade performance over the last decade.

2. Competitiveness diagnostics identifies the problem of Indonesia’s weak competitiveness which mainly stems from the workforce (skill set), the unconducive business environment, and the unwieldy bureaucracy related to policies and domestic institutions, high production and logistics costs, along with weakness in market access (non-tariff measures and FTA).

3. The results of FGD confirm the findings of Competitiveness Diagnostics that the main concerns are regulations and government policies, the quality of human resources, infrastructure and logistics, as well as coordination and collective action.

4. Based on the problems found in Indonesia’s exports performance, it appears that Indonesia’s industry tends to be domestic-focused (inward looking). This is in accordance with the findings of the triangular trade (value added linkages analysis). Three countries which are most competitive within ASEAN-5 in the global value chain are Thailand, Malaysia, and Singapore. Malaysia and Singapore have the greatest exports capability in processing foreign value added (FVA), or have the highest imports productivity (the ability to export after high imports). Indonesia’s ability to engage in activities in the global value chain will be more determined by the ability of Indonesia to become a location of choice in various stages of production. FDI analysis shows that FDI in Indonesia tends to lead to job creation and increase domestic demand.

5. Studies of other country strategies in developing their industries show that the growth models adopted at the time of transforming from being a lower income country to a middle income country, generally adopt growth strategies with a
manufacturing industry backbone orientated toward exports. Industry policy to be undertaken is policy that enhances the endowment structure through capital accumulation via foreign investment, and improvements in human capital. The adopted strategy is focused on making the country as a base of efficient industrial production which is export-orientated. Economic growth is driven by private companies with the government’s role to facilitate business activities and create conditions for effective competition without excessive bureaucracy whilst affecting the market mechanism as little as possible. To achieve this goal, strategies taken in general are through openness to trade and investment, supported by institutional reform to create conducive conditions for investment and business as well as gradually undertaking industrial upgrading in accordance with the endowment structure.

Based on the study results, the following research agenda relating to the future can be recommended:

1. Research analysis of competitiveness and availability of manufacturing support services (among others: logistics services, ICT services, and others).
2. With the geography of an archipelago and the relatively high difference in the growth gap between regions, related research on industrial policy is needed which also considers the spatial aspects and the local competitive advantage of various regions in Indonesia.
3. With the majority of the nation’s population following an agricultural lifestyle, related research on industrial development policy is needed which is associated with efforts to achieve food security and sovereignty for certain strategic commodities. Developing industrial linkages for strategic commodities will create more opportunities for the growth of agro-industries that take advantage of the commodities in question.
BIBLIOGRAPHY


Department of Trade, 2011. Toward the ASEAN Economic Community 2015.


JWT, 2013. ASEAN Consumer Report.

Keliat, Makmur et. Al, 2013. Mapping of Indonesia’s Skilled Workers and Liberalization of Services in ASEAN. ASEAN Study Center UI and the Ministry of Foreign Affairs of RI.


Neng, W.W., “Pursuing Prosperity, Making a Living: Singapore’s Economic Institutions and the Pursuit of Economic Development”, Civil Service College,


Box 1. Summary of Economic Policy Packages in 2015

A series of policy packages (I-VIII) were announced starting in the beginning of September 2015 with the aim of boosting economic growth and improving the competitiveness of national industry and improving the investment climate in the country. A summary of these policy packages is as follows:

1. Economic Policy Package Volume I issued to facilitate investment, improve industry efficiency, facilitate trade and logistics, as well as to ensure the availability of raw materials in the country.

2. Economic Policy Package Volume II was intended to increase investment through deregulation and the de-bureaucratization of regulations to facilitate investment, either domestic investment or foreign investment. More concrete steps which could be directly implemented included a 3-hour investment service, faster processing in relation to tax allowances and tax holidays, scrapping of transportation VAT, providing incentives in central bonded logistics areas, reducing tax on deposits, and streamlining the process of issuing forestry permits.

3. Economic Policy Package Volume III was aimed at improving economic growth by lowering fuel prices to raise the people’s purchasing power, lowering fuel prices for industry to improve competitiveness, expanding the base of entrepreneurs who receive People’s Business Credit (KUR), along with simplifying land clearance.

4. Economic Policy Package Volume IV is intended to maintain the people’s purchasing power through the formulation of workers’ wages to improve the welfare of workers and the provision of working capital loans to SMEs in the framework of supporting exports and the expansion of KUR policies.

5. Economic Policy Package Volume V is intended to foster economic growth by giving tax incentives in regard to assets revaluation, eliminating double taxation on real estate, property and infrastructure, and deregulation of syariah banking.

6. Economic Policy Package Volume VI was conducted through the provision of incentives in the form of tax allowances and tax holidays for Special Economic Zones, legal certainties for investors in the field of managing water resources, and simplifying the process for approving drugs and their raw materials.

7. Economic Policy Package Volume VII which gave concessions to labor-intensive industries, including in the imposition of Income Tax Article 21 for employees of companies with incomes up to 50 million rupiah per year where more than 50%...
of the products are exported.

8. Economic Policy Package Volume VIII — which at the time this report was written was still new — describes a plan that will be aimed at improving product quality in the face of competition in the ASEAN Economic Community (AEC).

In general, if all the policy packages can be implemented properly and promptly and in line with expectations, then these policy packages will be very useful in improving Indonesia’s competitiveness and spurring faster and sustainable economic growth. Nonetheless, the context of the policy packages which are more short-term and upstream in nature (in a series of processes to open a business) means they should be complemented with other policies that are more long-term and downstream in nature.

These policy packages have the potential to raise consumption, improve the investment climate, and encourage the provision of infrastructure. Increased consumption can be achieved through cutting fuel prices and implementing policies to improve the welfare of workers (setting minimum wages and house/low cost apartment prices for workers). Increased investment can take place through accelerated investment procedures, guaranteeing the certainty of raw materials for industry, having less stringent licensing procedures, providing incentives to place funds in the country, lowering KUR interest rates, providing incentives for assets revaluation, providing SEZ incentives, and simplifying the process for importing the raw materials for drugs. Infrastructure itself can be supported by the elimination of VAT on transportation, the elimination of double taxation on real estate investment funds, property and infrastructure, as well as providing legal guarantees for investing in the management of water resources. Besides that, the development of bonded logistics areas is expected to facilitate the distribution of goods, either on the inputs side or their output. Nonetheless, all the intended policies will not be effective if they cannot be implemented effectively and efficiently. For that, an executor is needed who is not only skilled, but also one who has integrity and is responsible and capable. The management of human resources to achieve this goal is an important requirement besides responsible leadership principles which have integrity, something much needed at all levels of government bureaucracy.
Figure 45. Summary of the Analysis of Indonesia’s Industrial Competitiveness

Figure 45 briefly explains the Analysis of Indonesia’s Industrial Competitiveness in this research. Accordingly, it can be seen that policy packages have already touched on several aspects affecting competitiveness (such as in regard to infrastructure, investment incentives in capital-intensive and value-added industries, as well as wages policy). Nonetheless, much still needs to be done, especially over the long-term, such as developing human resources as well as downstream considerations such as land issues for industry. In short, some of the proposed policy recommendations are as follows:

1. Human capital development,
2. Promotion of exports/investment, either in Indonesia or overseas,
3. Integrated SEZ with supporting infrastructure such as energy sources and transportation infrastructure with various modes of transportation.
4. Manpower regulations which also allow for easier free entry and free exit.
5. Regulations concerning foreign workers in the framework of investment and increased industrial value added which are in accordance with the needs and conditions of the domestic workforce.
6. Real and responsible leadership, which not only sets a good example, but is also devoid of negative values such as corruption, fraud, and inefficiency.
7. Determining strategy in the framework of free trade agreements (FTA) which will be beneficial for Indonesia overall and have a positive impact on Indonesia’s
competitiveness in export markets.

8. Establishing a comprehensive information system which can be easily accessed either by businessmen, bureaucrats, academics or the general public, which contains information concerning the requirements needed to export certain products. The fact that most intra-ASEAN trade agreements and other FTA have still not been of great use to Indonesian businessmen sends a signal that information and bureaucracy for fulfilling the export provisions are still complex and costly. Besides the information system there must be institutions that can provide help, especially to small and medium sized businesses which seek to seize market opportunities as a result of the trade agreements that have already been made.

9. Apart from all of that, the implementation of the incentives and policy packages must be consistent and not merely rhetoric so that there will be tangible results thanks to the facilities provided by these policy packages.
Box 2. Retrospective on Industry Import Substitution Policy

Import substitution policy (SI) is a trade and economic policy which is based on the premise that developing countries must try to replace imported products with domestic alternatives. This policy has three main principles, namely: (1) active industry policy to promote domestic industry to produce strategic substitutes, which often involve government investment in infrastructure and strategic sectors, along with the formation of development banks to support these activities; (2) trade barriers which are protective (i.e. tariffs and quotas for protecting new/infant industry) and changing the terms of trade from main traditional export patterns; and (3) monetary policy related to the exchange rate with a multiple exchange rate system to support noncompetitive imports of intermediate goods and capital. In general, the first stage of SI is “easy” because protected industries produce nondurable goods prior to the “mature” stage, i.e. deepening SI, namely industries producing nondurable consumer goods and intermediate goods and capital.

SI policy has already been analyzed in a number of studies by the OECD, World Bank and NBER (Reinert and Rajan, 2010). Such analysis has shown that there is a macroeconomic cost related to SI policy. Firstly, SI leads to inefficiencies in allocating resources. The policy of an overvalued exchange rate leads to an exports bias and supports domestic capital-intensive sectors thereby leading to underutilized capital, a decline in capital productivity, and investment losses which do not help to bring down the unemployment rate. Secondly, SI generally causes imports to increase at a faster pace than expected because of stronger demand for capital goods and intermediate goods for supporting new industries; as a result, balance of payments problems are actually exacerbated so that instead of reducing dependency on imported inputs (energy and technology), SI strategy actually causes imports to rise more significantly. Thirdly, SI is seen to encourage directly unproductive profit seeking, which divert resources from productive activities to non-productive yet profitable activities. In turn, this will reduce investment and productivity growth as well as long-term growth. Fourthly, in countries where the domestic market is relatively small, SI creates markets which lack competitiveness, which in a number of cases has led to a decline in efficiency, productivity growth, and innovation.

In the era of the 1990s the impact of SI on economic performance was reconsidered, especially in the context of the briskly growing East Asia economy. This view contends that SI precedes export activities and is a precondition for
export-led growth. The raison d'être of this view is that it is not possible for a country to export without accumulating the technological capabilities in the preceding SI phase. The difference is in the “mature” stage of these SI policies. In this stage, Latin American countries deepened SI coupled with monetary and fiscal policy. However, East Asia countries in the “mature” stage kept conducting SI with an emphasis on exports promotion and linking incentives to exports performance. This mixed SI model is considered to be more successful than the approach of deepening SI because the government can: (1) treat the private sector in a disciplined manner based on performance standards (export targets) instead of subsidizing the private sector; (2) avoid external imbalances through exports promotion and maintaining a competitive exchange rate; and (3) promote the successful protection of designs and exports promotion which encourages the technological learning process and knowledge accumulation.

Like a number of other developing countries in Asia, Indonesia also pursued industrialization policy in the form of imports substitution in the early stages of industrialization. Nonetheless, unlike South Korea, Indonesia’s SI policy has not successfully created a competitive industry structure. The difference is that South Korea’s SI policy — which was applied selectively in certain industries — was integrated with other policies such as trade, human resources, and technology. Meanwhile, these selective policies in Indonesia were not accompanied by complementary policies in trade, human resources, and technology (Kim, 2004).

SI policies were implemented by the government in the 1970s, especially after the oil boom. At that time, the government implemented industrial SI policies which were financed from abundant foreign exchange from oil sales. The policy objective was to produce products domestically which, up to that point, had to be imported. This was done in a bid to preserve foreign exchange. From the perspective of this industry policy, the aim was to raise the capacity of national heavy industry based on large natural resource projects. This industry policy was marked by high protection and the development of heavy industry which actually conflicted with Indonesia’s comparative advantages, namely industry based on cheap labor (Basri, 2001 as Damayanthi, 2008). A number of industries which were given a push at that time were steel, natural gas, oil refining, and aluminum through soft loans channeled by state-owned banks.

The slump in oil prices in global markets in 1982 and 1986 in addition to the collapse in the US dollar exchange rate post the Plaza Accord meant that the
government had to look for other domestic financing sources (Kim, 2004). The government returned to open door policies through trade liberalization and foreign investment. To fulfill foreign exchange requirements, the industry policy adopted was export-orientated industrialization. This phase was characterized by the launch of various deregulation policy packages in the framework of market liberalization, including in the deregulation of investment licensing and deregulation of the banking and financial sector which was supported by periodic rupiah exchange rate devaluation policy to maintain competitiveness.

Indonesia’s labor-intensive manufacturing industry experienced a golden age in this era with the relocation of industries and investment in labor-intensive industries, such as apparel and shoes from South Korea, Taiwan, Hong Kong, and Singapore. Manufacturing exports which accounted for up to 53 percent of total national exports (1993) recorded real growth of nearly 30 percent per year in the period 1980–1993. GNP growth in this period was recorded at around 7%, not too far from growth rates in other East Asia countries.

According to Basri (2001), changes in policy orientation toward the direction of the market at that time occurred because of pragmatic and rational selection and not because of ideological reasons.

In the era of the ‘70s, when oil funds were available and the role of nationalists was strengthening, policy options which were non-market and protectionist … had a relatively ‘low’ cost compared to pro-market policies … because to get political support, the government will accommodate the strong pressure of interest groups at that time, while in the mid-1980s, when the price of oil fell, … policy choice which was non-market became relatively more ‘expensive’….

The liberalization which took place at that time was both partial and gradual in nature. There was still a lot of industry protection in the form of nontariff barriers and a number of industry sectors were still closed to foreigners and tightly protected. Industrialization policy in that phase was orientated to perform a technological leap. The government designated ten industries as strategic industries which had to be protected, namely: the aircraft industry, the maritime industry, the shipbuilding industry, the land transportation sector, the telecommunications industry, the energy sector, the engineering industry, the agricultural machinery industry, the defense industry and related supporting industries.

The argument at that time was that Indonesia could not rely forever on labor-
intensive industries to drive brisk economic growth over the long term. To maintain sustainable growth, investment is needed in advanced technology and high value-added industries. Large amounts of government revenues were directed toward industries which were protected by the government. Protectionist policy and subsidies given to these strategic industry groups were maintained in the period 1985–1997, as was import substitution policy for heavy industries.

This protectionism has been deemed unsuccessful because these closely protected industries have not made a significant contribution toward exports growth and national industrial growth. This is unlike South Korea, where heavy industry has become a generative sector which has also played a role in creating various other related industries and become an engine for economic growth.

Meanwhile, labor-intensive industries which provide a lot of jobs for the workforce, and which receive little or no protection actually contributed the most toward industrial and exports growth until the beginning of the 1990s. These industries included textiles and apparel, footwear, and electronics. Nonetheless, because of structural problems, the emergence of new competitors, and a lack of government support, labor-intensive export-orientated industries were not able to grow optimally. Structural problems which affected national labor-intensive industries included, among others: a narrow product base and export market base, high imports content, an absence of technological deepening, weak SMEs as supporting industries, and low productivity (Kim, 2004).

Kim (2004) viewed Indonesia’s industry structural problem as being extremely complex, across sectors and intertwined; covering also trade policy, technology, human resources, and competition. The impression has been that policies in each sector have operated independently. In fact, for the industrialization process to be successful, mutually-supportive cross sector policies are needed, which are also consistent and coherent.

The weakness of Indonesia’s industrial structure is a result of failed policies in the past which can be divided into four major sections, namely:

1) The absence of a consistent and integrated industrialization policy with other sectoral policies (trade, human resources, and technology). For example, ambitious development based on technology was not supported by technology policy at the industry level which needs to be driven by the private sector. In South Korea every industry policy is always accompanied by policies on human
resources and long-term technology development, which are coordinated in the framework of a 5-year development term.

2) Industrial strategy failure which is driven by government enterprises. The weaknesses of government companies include inefficiency, corruption, rent-seeking activities which, in turn, lead to industrial protection in the long-term and undermine the development of the private sector.

3) Failure in encouraging the development of human resources, and private research and development activities (R&D). Recalling that government industrial policy is aimed at 10 strategic industries, financial support for government and private companies in other sectors is increasingly limited, thus resulting in a decline in financing for research centers and testing labs supporting the private sector. Meanwhile, there are not any fiscal incentives to encourage innovation by private companies.

4) Failure in encouraging the development of small and medium enterprises (SMEs). The market economy can only develop if accompanied by healthy growth in MSME. MSME are not only the source of job creation, but also play an important role in innovation and competition. MSME in South Korea have connections to the manufacturing industry in a subcontracting system that signifies the close inter-industry relationships. Meanwhile, in Indonesia the subcontracting system between MSME and large scale industry has not developed well. MSME generally only fulfill the demand for end consumers and do not supply the inputs for large companies. As a result, the relationships between industries are very weak such that they hamper cost effective industrial supply growth.

Sources:


Box 3. Sectoral Policy Strategies Case Study

1. TPT Industry

Clothing is one of the oldest and largest export industries as well as the most prevalent. This industry is a springboard for national development and often acts as an infant industry for countries undergoing export-oriented industrialization because of the low fixed costs and emphasis on labor-intensive manufacturing. Historically, global expansion of the clothing industry has been underpinned by trade policy. The clothing industry is one of the most protected industries, starting from agricultural subsidies on input materials (cotton, wool, and rayon) along with a long history of quotas under the general agreement on tariffs and trade in MFA and subsequent agreements under the WTO, The Agreement on Textiles and Clothing (ATC).

The structure of the apparel value chain can be illustrated as a smiling curve i.e. the highest value-added activities of the production process are in the preproduction phase (R&D and design) and in the postproduction phase (brand marketing, logistics, and services). The actual production of clothing, which creates many jobs, has already become very competitive, concentrated, and is always subject to cost pressures. The main stages of economic upgrading in the clothing value chain are the following:

1. Assembly/Cut, Make and Trim (CMT)

   Clothing producers cut and sew woven fabrics or crocheted or knitted apparel directly from yarns.

2. Original Equipment Manufacturing (OEM)/Full Package/Free on Board (FOB)

   Clothing producers are responsible for all production activities including CMT and finishing. Companies should have the upstream logistical capacity, including procurement (sourcing and financing) of the raw materials needed, goods, and trim required for production.

3. Original Design Manufacturing (ODM)/Full Package With Design

   Business model which focuses on extra design capabilities for the production of clothes.

4. Original Brand Manufacturing (OBM)

   Business model which focuses on brands and the sale of own brand products.
Developing countries enter the lowest segment of the value chain because of the various competitive advantages they have, including beneficial trade agreements, low wages for workers, and close proximity to markets. To enter a higher segment of the value chain, some other factors need to be considered. These factors include the existence of a domestic or regional textile industry; large textile and clothing producers in a country; strong commitment toward industrial growth by the government and private sector is needed to improve designs and brands in order to develop the talents needed and to establish national brands.

Although the global clothing industry has already developed rapidly since the beginning of the 1970s and provided jobs for tens of millions of workers in a number of less developed countries across the world, this industry has already gone through two major crises in the last five years. The first crisis arose when The Multi Fibre Arrangement (MFA) — which set preferential quotas and tariffs in clothing and textile goods imported by the United States, Canada, and many European countries since the beginning of the 1970s — was abolished by the World Trade Organization (WTO) and replaced with a WTO agreement concerning textiles and clothing, namely the ATC (effective in the years 1995–2005). The MFA/ATC limited exports to main consumer markets by setting limits for each country (quotas) for the volume of certain imported products. This system was designed to protect the domestic industries of the United States and the European Union by restricting imports from competitive suppliers such as China. The concerns of small and poor developing countries which rely on clothing exports is that they will be pushed out of the global trading system by competition from larger competitors such as China, India, and Bangladesh. The second crisis related to the economy. The recent global recession, which was triggered by the banking crisis in the United States in 2008, and which quickly spread to most of the industrialized and developing countries brought the world to the brink of its most severe economic crisis since the Great Depression in the 1930s. The closure of factories and worker layoffs in industrial countries led to a decline in consumer demand which resulted in declining orders and market shrinking for the export-oriented economies of developing countries. The recession had a fairly large impact on the clothing industry and led to factory closures, a sharp increase in unemployment, along with growing fears of the emergence of social unrest due to displaced workers looking for new jobs.

The removal of quotas on 1 January 2005 marked the end of limited access to the markets of Europe and North America. Retailers and other buyers became
free to access sources of textiles and clothing in unlimited quantities from any
country, only subject to the system of tariffs and transitional safeguards which
ended at the end of 2008. This opportunity was seized upon by the lowest cost
clothing producers, namely China, India, Bangladesh, and Vietnam. This
development was reflected in the increasing share of clothing imports from these
countries in the largest clothing consumers, namely the United States, the
European Union, and Japan. Meanwhile, Indonesia’s share of clothing exports only
showed an increase in the United States market. Nonetheless, China is currently
facing a new challenge, namely increases in the wages of workers by up to 20% per
year, which, in turn, can adversely impact on the competitiveness of the products it
produces. This has been taking place amid two simultaneous trends: firstly, the
shift in CMT (Cut, Make & Trim) production to other Asian countries where
production costs are lower, and secondly, the increasing competitive pressures in
Chinese industry to achieve rapid quality improvements in order to maintain
competitiveness. The shift in production from China is an opportunity that can be
utilized by Indonesia to try to increase its market share. Various steps and
strategies can be taken, including the following:

1. Investment in education and training

   The opportunity to receive education and training can help overcome the skills
deficit which can hamper economic upgrading. Education should cover technical
expertise or soft skills, such as management, product development, design, and
market research.

2. Creating marketing functions and networking

   Companies and governments should work together to create an organization to
market the country/region and harmonize companies with international
organizations dealing with the development of standards, industry advocacy,
research and development, and best practices.

3. Promoting foreign direct investment (FDI) or joint ventures to develop vertical
capabilities

   This strategy is very good, especially for areas that are still dominated by the
assembly line production model or CMT (Cut, Make, and Trim). It will help create
backward linkages and develop expertise not in the country. The economic
authority must provide one door services for investors or suppliers who plan to
establish a new company.
4. Investment in technology and a flexible production system

Investment is needed to increase the capacity of production machinery, logistics, and information technology which enables suppliers to become more integrated in the network of buyers.

5. Develop full package capabilities

Companies must be able to have alliances with companies which can provide final products and additional services related to product development, design, logistics, and quality control.

6. Develop standards in order to meet regional and international certification standards

7. Undertake sustainable production practices

Companies which can survive are those companies which choose to compete based on their environmental credentials as well as cost, quality, and other traditional factors.

8. Diversification of buyers, products and end markets

Companies must diversify their operations into various product lines, end-user markets, and geographical markets which are different.

2. Automotive Industry

The automotive industry in Indonesia is still generally concentrated in assembly activities. However, the highest value added does not come from this activity. This is inevitable in the Global Value Chain (GVC), i.e. that a country will attempt to become efficient in one activity of the production chain that has high value added. In accordance with the smiling curve, activities which have high value added in the GVC are design, research and development, and export-oriented sales activity. Nonetheless, Indonesia still faces constraints in regard to aspects of human capital in undertaking these activities. Since the world already has countries which are efficient in designing cars such as Japan and South Korea, Indonesia would find it very difficult indeed to develop its own automotive brands and designs. In relation to this, the next possible step for Indonesia may be to improve its comparative advantage in automotive parts and components so that for automotive products in general, the value added created in Indonesia will be much higher than it was
originally. Based on the opinion of Kohpaiboon and Yamashita (2011), determining the location of production of automotive components is usually only based on cost factors.

In relation to this, Indonesia can emulate Thailand to develop this industry. As already described in the previous section, some crucial moves taken by Thailand were: (1) not being afraid to have a high level of integration in regard to investment and trade; (2) developing a centralized infrastructure, which gives strong assurances to investors, either from the aspect of regulation, logistics, or supporting industry; (3) ensuring the knowledge transfer process and “learning by doing” run optimally; and (4) promoting the role of technocrats in the development of industrial estates that is independent of the political process.

While Indonesia can learn from Thailand’s experiences, the matter of human capital needs careful consideration. In the short term, labor exemptions are needed for certain skills in accordance with investor preferences. Nonetheless, investment in human capital in the country should be started immediately. There are several supporting considerations which include: (1) intensive discussions between the ministry of manpower, investors, and ministries which cover upper secondary and higher education to ascertain the types of skills needed and efforts to incorporate them into the curriculum; (2) allowing foreign universities to open branches in Indonesia, especially in important subjects which are still not fully met by domestic universities; and (3) easing restrictions on foreign labor regulations for the temporary labor exchange mechanism. This is to support the learning process for Indonesian workers, especially for skills which can only be obtained at the head office.

3. The Information and Communications Technology Industry

The ICT Industry in Indonesia has great potential. Business monitoring International (2015) forecasts that the ICT Industry in Indonesia will grow by 12.5% on average each year with market capitalization reaching 275 trillion rupiah in 2019. Software sales are expected to reach more than 50 trillion rupiah, while in 2019 hardware sales in the form of personal computers and IT services are expected to reach 100 trillion rupiah and 80 trillion rupiah, respectively. If compared to neighboring countries such as Malaysia and Singapore, the portion of IT spending per GDP in Indonesia is still very low at only around 1.6%, while the figures for
Malaysia and Singapore are around 6.42% and 6.37%, respectively.

Indonesia currently has the worst internet connections in the Asia-Pacific. Another problem is the characteristics of Indonesia’s geographical conditions as an archipelago which means that the cost of infrastructure development is very high. Because of that, the government is trying to bolster ICT industry growth by improving the infrastructure for internet services through the Indonesia Broadband Plan 2014–2019 program. The government’s target is that all citizens residing in large cities have internet access, while for rural areas the target is that 52% of the population is reached by internet services.

For businesspeople in the ICT industry, the problems often encountered are the problems of human resources, taxation, and business competition. According to businesspeople, Indonesia’s human resources are not adequately prepared for the workplace, graduates especially. Nevertheless, those in the workforce with a vocational education background (SMK) are perceived to adapt more quickly to the world of work such that businesses need relatively little time and lower investment costs in preparing such people to enter the world of work. Besides that, the problem of double taxation is also still an obstacle to development for players in the ICT industry. Their costs are pushed up since taxes are imposed twice. The ICT industry business climate in Indonesia at the present time is also considered to be very competitive given that many foreign companies compete in tenders. Because of that, policies are needed which support growth in the ICT industry. Firstly, internships for students need to be encouraged so that their work experience can increase and enable them to adapt to the world of work. Besides that, tax policies need to be reexamined to avoid double taxation. To create a more competitive business climate, policies are needed which prioritize local companies in participating in tenders that are carried out by state-owned companies.
Box 4. Policy lessons from Singapore, South Korea, Thailand, Malaysia, and Vietnam

1. Singapore

Since achieving self-rule in 1959, Singapore has faced economic uncertainties and shocks on some occasions. Singapore views the availability of workers and decent housing as two main concerns which need to be addressed at once. In relation to providing enough job opportunities, the only answer is to create high and sustainable economic growth. With brisk economic growth, a number of other policy goals can be met more easily. In 1960, GDP/capita stood at only SGD1,310 while in 2014 the ratio had risen to SGD71,318, or up more than fifty times. The earnings of a worker with 44 hours of work/week in 1960 reached SGD120, while this figure had risen to SGD3,770 in 2014.

Since its founding, Singapore had a vision to become a first world economy within a period of 3–40 years. The key to achieving this goal was recognition of Singapore’s status as a city of trade without natural resources, but being able to harness economic dynamism, offer a high quality of life, along with having a strong national identity and a global city configuration.

A number of main strategies undertaken by Singapore were: (1) improving the quality of human resources; (2) promoting national teamwork; (3) having an international orientation; (4) creating a climate conducive to innovation; (5) developing manufacturing and services clusters; (6) spearheading economic redevelopment; (7) maintaining an international competitive advantage; and (8) reducing vulnerability.

Singapore’s economic growth is inseparable from the active role of the EDB (economic development board), which is tasked with preparing the economic development for the medium and long term, i.e. applying the principles of realignment, redirection, and reorientation conducted in a flexible manner in accordance with the current norms.

The three main stages of economic development in Singapore were (CSS, 2015):

(1) 1950s–1970s: developing a national economy;
(2) 1980s–1990s: refining strategies: deepening and diversifying engines of growth
(3) 1998–2000s: globalization and the challenges of sustainable, inclusive growth

The late Prime Minister Lee in 2012 (Neng, 2015) stated that “Without growth,
we have no chance of improving our collective being... Slow growth will mean that new investments will be fewer, good jobs will be scarcer, and unemployment will be higher. Enterprising and talented Singaporeans will be lured away by the opportunities and the incomes they can earn in other leading cities. Low-income workers will be hardest hit, just as they were each time our economy slowed down in the last decade. Over time, our confidence will be dented. Thoughtful Americans have told me that a major challenge for the US after years of slow growth has been a profound loss of optimism. The same is true for Japan, and will be true of Singapore too if ever our economy stagnates.” The main concern that needed to be addressed for Lee was the creation of economic viability which was driven by a clean and efficient administrative structure which was able to implement economic policies (Menon, 2007).

Singapore’s Industrial Strategy can be described in the following principles (CSS, 2015):

(1) In view of the existing limitations, i.e. being a small country with no natural resources, but having a strategic geographic location. Because of that, the philosophy of economic development was based on the free market system and outward orientation supported by a government which provided a legislative framework, as well as a stable and conducive business environment, good corporate governance, policies that encourage business, investment in infrastructure and the workforce, along with policies for the development of equal opportunities to enjoy a decent life.

(2) Strategic industry covers several phases (Cahyadi et al., 2004; Yue, 2005, Neng, 2015)

a. 1965–1978: industrialization process through export-oriented strategy by attracting foreign investors and developing manufacturing industries and the financial sector. Improvements in the workforce and investment climate as well as the nationalization of companies because the private sector was not able to provide sufficient capital and expertise, including companies such as Singapore Airlines, Neptune Orient Lines, the Development Bank of Singapore, and Sembawang Shipyard.

b. 1979–1985: renewed emphasis on developing the workforce through education and training. Encouraging industrial automation, mechanization, and computerization. Providing an incentive to switch to technology with
greater added value and policies which encourage investment in capital-intensive and knowledge-based industries.

c. 1986–2000: deepening the industrial technology base, developing industrial clusters, as well as promoting the manufacturing and services industries as the twin pillars of the Singapore economy. Regionalization or encouraging companies in Singapore to spread their wings to regions surrounding Singapore, including harnessing of the Riau–Johor–Singapore golden triangle.

d. 2000–now: switching attention toward innovation, knowledge, as well as research and development. Research and development will play a crucial role in the development of Singapore’s economy in the future (Goh, 2005). To that end, the protection of intellectual property rights has been adopted and supported by strong law enforcement. Because of that, the focus on information technology should include web–based commercial strategies and e–government initiatives. So that entrepreneurship can develop, it continues to be encouraged and is incorporated as an important part of the research and development. Finally, human potential is continuously being developed, including in management change so that company performance can be improved.

(3) In 2010 there were three main priorities to be achieved, which were as follows:

a. Encourage expertise in each job so that a higher wage could be maintained. Companies were encouraged to innovate, improve efficiency and create better jobs, as well as improve the skills of workers at all levels. As far as possible, reliance on foreign workers should be avoided.

b. Deepen the company’s ability to seize opportunities in Asia. Companies need to foster a diverse business ecosystem but be strong enough to withstand shocks, commercialize R&D as a source of competitiveness, and develop market-based facilities to widen the financing of international banks.

c. Establish Singapore as a distinctive global city and endearing home. This has been achieved through deepening expertise in various fields, attracting high-potential human resources from abroad, and making Singapore a distinctive global city.

(4) The main strategies to achieve these three main priorities over the next decade cover:
a. Achieving growth through expertise and innovation
b. Becoming a Global-Asia Hub for manufacturing and services industries
c. Diverse company ecosystems
d. Cutting-edge innovation
e. Smart energy economy
f. Increasing land productivity
g. Global city, endearing home

In principle, Singapore has already implemented what is required for a productive and successful transformation (Nubler, 2014), which is supported by a good industrial policy (Lin and Treichel, 2014) and by utilizing the GVC which is increasingly significant in the global economy at the present time (Milberg, Jiang and Gereffi, 2014).

2. South Korea

In a period of only around 60 years, South Korea has been able to transform itself from an undeveloped country, even one of the world’s poorest countries in the 1960s, into a developed country. This remarkable achievement is often described as “The Korean Miracle” and stands out as the most successful economic development in the 20th century. Gross National Income (GNI) per capita increased from USD85 in 1961 to more than USD20,000 in 2006. South Korea’s economy ranked as the 13th largest in the world in 2014. The development of South Korea’s economy is noteworthy because it was equitable, poverty alleviation rapidly transpired, and inequality did not increase during the transition process. Elements which made South Korea a main player in the global economy included aid from the international community, the hard work ethos of the South Korean people, consistent efforts by the government to open up its economy, and the efforts of companies to innovate and improve competitiveness in the international market.
Investment in education has already played an important role in South Korea’s brisk and sustainable growth. Strategic development has focused on achieving sustainable productivity growth by consistently increasing the value added of output. To achieve this, a highly educated workforce has been crucial. From the end of the Korean War until the 1960s, South Korea adapted the policy of import substitution to develop its economy. The main economic target in this period was to increase employment and improve the balance of payments. South Korea started to promote industry export and import substitution beginning with subsistence farming (rice) and labor intensive, and light manufacturing sectors (textiles and bicycles). South Korea’s economy at that time was extremely reliant on foreign aid, especially from the United States which provided the raw materials needed for “three white industries” in 1950 in South Korea, namely sugar, cotton and wheat flour. Capital accumulation and investment in basic education during this period facilitated a gradual shift in the value added chain toward more sophisticated commodities. The key to this shift was the use of technology which was obtained through foreign licensing and adapted for domestic production.

At the start of the 1960s, the economy of South Korea was still trapped in a cycle of poverty. To free the country from the shackles of poverty, the Government of South Korea launched its Five-Year Economic Development Plan in 1962. In the early stages of economic development, the Government assisted the development of import substitution industries which produced intermediate basic goods, such as
cement and fertilizer. After that, the Government promoted labor-intensive export industries such as textiles and plywood which had international competitiveness thanks to low labor costs and were able to absorb the unemployed and underemployed. In the framework of supporting export industries, extensive measures to promote exports were taken. Loans with low rates of interest were channeled to help export companies which experienced financial difficulties. Various forms of differential tax treatment were applied to the exports industry, such as tax exemptions and tax rebates. The Government also focused on the efficient mobilization and allocation of investment resources. Some special banks were founded to finance backward strategic sectors such as MSME and housing construction. At the same time, in an effort to encourage foreign capital inflows, the Foreign Capital Inducement Act was enacted in 1966 and foreign banks were allowed to open branches starting in 1967. The rapid industrialization process of South Korea’s economy under the tutelage of the Government during the 1960s shows impressive performance. While the industrialization process was growth-orientated, a large amount of foreign capital was encouraged because domestic savings were not enough to finance investment demand which was very large. Because of that, the supply of money rose rapidly to finance various government projects.

In the mid-1970s implementation of appropriate industrial policy by the Government led to a shift toward the development of heavy industry (e.g. chemical materials, iron and steel, automotive, and shipbuilding). Along with industrial targeting, various policies were taken to further enhance the technological capabilities simultaneously by improving access to and the quality of technical and vocational training. The aim of encouraging HCI was to promote the defense industry, overtake Japan in industrial HCI, respond to increased protectionism in light industry, as well as achieve import substitution in capital goods. Investment in new sectors was supported by tax and financial incentives whilst assistance was provided to large enterprise groups (Chaebol). The successful transformation from heavy and chemical industries to new export sectors helped South Korea to maintain brisk growth during the 1970s. Nonetheless, in carrying out ambitious economic development plans with insufficient domestic savings, the economy suffered a fairly large shortfall in funds. This savings-investment gap was bridged by encouraging the entry of foreign funds or by increasing the money supply. As a consequence, foreign debt continued to build up and chronic inflation persisted. The side effects of this culminated in a shift in the government’s policy stance.
toward a strategy of stability-oriented growth.

At the start of the 1980s, the side effects of growth-oriented economic management became more conspicuous. The second oil crisis and domestic political turmoil had a fairly significant impact. As a result, the South Korean economy faced some difficulties during the 1980s and the country recorded its first negative growth since its Development Plan was first launched whilst also recording a large current account deficit. To meet the challenges, the Government undertook structural adjustment measures in order to boost economic efficiency. Firstly, the Government shifted the priorities of economic policy from growth to stability and actively encouraged multiple investment adjustments and the liquidation of troubled companies. Along with this policy, the shift toward a more open economy and deregulation was undertaken gradually, as part of a move towards private initiatives in economic management. Unfortunately, these efforts have not been entirely successful because of the fragile economic political situation. Nonetheless, tight monetary and fiscal policies along with the recent stability in international oil prices have contributed to stable economic development in South Korea. Despite this, persistently high economic growth led to price instability. Besides the increase in inflation, wages also increased.

South Korea continued to pursue high value-added manufacturing in the 1990s by promoting high-tech innovation. Increases in the wages of domestic workers and appreciation of the Won created a fairly large current account deficit, which prompted a series of reforms, including reform of the financial market. Along with the establishment of easier-to-access modern information infrastructure, the expansion of research development capabilities was still carried out in South Korean industry, which ultimately attracted skilled workers who had benefitted from government expansion of the higher education system. Post-financial crisis in the mid-1990s, policy efforts were taken to transform South Korea’s economy into a knowledge-based economy. This, in turn, led to numerous innovations and boosted overall productivity so as to sustain economic growth. Many factors have played a role in South Korea’s rapid economic transformation, including the development of information infrastructure and the harnessing of the potential of science and technology.
3. Thailand

Thailand has managed to become the “Detroit of Asia”, establishing itself as the center of ASEAN’s automotive industry. This was achieved thanks to workforce skills, technology, supporting industries, and clusters through learning and the accumulation of capabilities. Product space analysis shows that in 2013 compared to the year of 2010, the amount of products with comparative advantage for garments in Thailand declined.

Thailand’s declaration to become a country which excels in the automotive industry has been made for at least three decades. From the 1980s until the beginning of the 1990s, Thailand’s economic growth was very high. It was driven by a very high level of investment with 20% of the long-term growth contributed by the stock of physical capital (Warr, 2011). In relation to this, Warr (2011) explained that Thailand has not been afraid to have a high level of integration in aspects of investment and trade with the rest of the world over the last few decades.

Source: Research calculations with Cytoscape and Product Space Explorer. Exports data from WITS.

Figure 47. Thailand’s Product Space in 2000 and 2013
In particular, infrastructure development of Thailand’s Eastern Seaboard has played a major role in the development of the automotive industry (Hosono, 2013). This infrastructure acted as an export hub and as a technological and industrial center. The infrastructure is home to 14 industrial estates — which absorbed 360,000 workers — as well as 1,300 factories, of which 516 are associated with automotive production. The parts and components industry has grown thanks to the learning mechanism with the utilization of very high investment.

According to JICA/JIBC (2008), there were several key factors behind the successful development of Thailand’s automotive industry including: (1) the participation of highly skilled technocrats who are independent from politics; (2) a checks and balances mechanism and transparent political process; and (3) centralized development orientation which is efficient from a spatial perspective.

Nonetheless, there are risks associated with the paradigm of industrial development such as that which has taken place in Thailand. Despite the success of switching comparative advantage directly to machinery to fit the profile of comparative advantage in high-income countries, there are workforce risks, especially if there is a demographic bonus. Related to that, ERIA (2013) stated that one of the problems in Thailand was a human capital bottleneck in the manufacturing sector.

Source: Hosono (2013)

Figure 48. The Development of Thailand’s Automotive Industry
4. Malaysia

Malaysia implemented an exports-led development strategy which resulted in a successful transition to an upper middle income country (current GDP per capita of USD10,800). Malaysia’s vision for 2020 is to become a high income country (GDP USD15,000/capita) which will be achieved by lifting the economy to a high value chain by promoting investment in the high value added and services sectors.

The HIC strategy was undertaken through the government program called the Economic Transformation Programme which has the following characteristics:

a. Private sector-led growth model. The government facilitated a conducive environment to achieve social improvements and stronger economic growth.

b. Growth driven by market-friendly strategy and reforms, centered on innovation and increased value added, and focused on increased quality, standards and productivity in Malaysia’s leading sectors.

c. The main policy centered on market liberalization, increasing competition, providing investment incentives, eliminating barriers, and allowing the private sector to "lead".

Malaysia’s program is focused on the following:

1. Industrial strategy undertaken by devising 12 National Key Economic Areas (NKEAs) which will contribute significantly toward GNI. In general, the industrial strategy is centered on creating large-scale industry and moving up to a higher value chain by making Malaysia a production or services hub. Some examples of the sectoral strategies are shown in the table below.

<table>
<thead>
<tr>
<th>No.</th>
<th>Sector</th>
<th>Strategy</th>
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<tbody>
<tr>
<td>1.</td>
<td>Electronics and electrical</td>
<td>Aimed at: 1) revitalizing industry, 2) accelerating revenues growth and 3) preparing industry in response to external shocks such as global demand shocks. Consisting of 5 clusters, namely: 1) services/ manufacturing design, 2) advanced assembly, 3) industrial/integrated electronics, 4) advanced materials, and 5) wafer technology. The purpose of the clusters is to guide the industry toward higher value-added activities such as design, assembly, packaging and providing total solutions.</td>
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9 i) oil, gas, and energy, ii) education, iii) tourism, iv) wholesale and retail, v) electronics and electrical, vi) health services, vii) palm oil, viii) communications content infrastructure, ix) agriculture, x) business services, xi) greater Kuala Lumpur/Klang Valley and xii) financial services.
Table 11. (Continued)

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<tbody>
<tr>
<td>2.</td>
<td><strong>Oil, gas, and energy</strong></td>
<td>Aimed at transforming Malaysia into a regional center of trade and oil storage in addition to ensuring energy security for the domestic market. Some projects are: 1) supporting investment in the Oil &amp; Gas Services and Equipment industry, 2) supporting local companies to export their services and products, 3) reducing dependency on local projects, and 4) enticing MnCs to establish their operations in Malaysia by forming partnerships with local companies.</td>
</tr>
<tr>
<td>3.</td>
<td><strong>Palm oil and rubber</strong></td>
<td>The strategy undertaken is to encourage industry to move higher in the value chain by producing high-end food and health products and to encourage land productivity to achieve a more efficient palm oil supply chain.</td>
</tr>
<tr>
<td>4.</td>
<td><strong>Education</strong></td>
<td>Aims to develop education in Malaysia and utilize the position and access of Malaysia to become a regional education hub. This aim is to be achieved by increasing private sector participation, attracting reputable foreign universities to open branches in Malaysia and to build new educational clusters.</td>
</tr>
<tr>
<td>5.</td>
<td><strong>Agriculture</strong></td>
<td>Aimed at transforming small-scale agriculture into a large-scale agribusiness industry. The strategy is capitalization which is focused on market premiums and harmonizing the goal of food security that raises GNI and participation in the regional value chain.</td>
</tr>
<tr>
<td>6.</td>
<td><strong>Health Care</strong></td>
<td>Implementing a sector development strategy by inviting private investment in the industries of pharmaceutical products, medical equipment, clinical research, care services for the elderly and encouraging collaboration between government health service providers and the private sector.</td>
</tr>
<tr>
<td>7.</td>
<td><strong>Financial Services</strong></td>
<td>Aimed at developing the financial industry where the main obstacles include a lack of scale in some segments in the banking industry as well as limited investors, products and currencies in the capital market.</td>
</tr>
</tbody>
</table>

2. Human Capital improvements, especially in regard to high-skilled labor, were undertaken by increasing the capacity of domestic workers through training, vocational education, university programs or attracting talent from overseas by providing incentives and improving facilities and immigration requirements.

3. Forward looking infrastructure development through the development of broadband to support the communications, electronics, finance, retail, business and education sectors, whilst also supporting infrastructure improvements, such as roads, ports, and airports to support business and the movement of people and goods.

4. Improvements in the business climate to support the program to promote
investment by establishing the PEMUDAH institution (a special unit to facilitate the business world) in addition to deregulation to reduce costs and complexities whilst also improving government efficiency to bolster private sector activities.

5. Vietnam

In 1986 Vietnam implemented the policy of Doi Moi (renovation) which was aimed at reforming Vietnam’s economic system from centrally-planned economy into a socialist-oriented market economy. This reformation was undertaken to integrate Vietnam into the global economy. To realize this vision, Vietnam adopted a 10-year socio-economic development strategy which was then further broken down into a five-year development strategy.

Vietnam’s vision is to accelerate the process of industrialization and modernization as well as create the foundations to make Vietnam an industrial country in 2020, while for 2025, Vietnam has a clear vision to establish the structure of its industrial sector. The industrial sector will be a competitive sector, technologically-advanced, and active in the global value chain as well as fundamentally strong enough to meet export requirements. Vietnamese workers will have qualifications which meet the needs of a modern production system. The ratio of industrial exports to total exports will reach 85%–88% and the value of hi-tech industrial products will reach 45% of GDP.

Vietnam’s vision for 2035 is that its industrial sector will be driven by industry specialists who are technologically advanced and whose products meet international standards, participate deeply in the global value chain, and compete fairly in international integration. The workforce must be professional, disciplined, highly productive, as well as active in research, design, and manufacturing. The ratio of industrial exports to total exports should reach 90% and the value of hi-tech industrial products should reach 50% of GDP.

The policy of Doi Moi taken by Vietnam gives a positive image of Vietnam in international trade relations. In 1994, the United States revoked its embargo on Vietnam. Besides that, bilateral trade agreements were established between Vietnam and the United States in 2001. Vietnam continued to open up to international trade markets by joining the WTO in 2007. Vietnam also became a member of the Trans-Pacific Partnership (TPP) in 2013. Vietnam’s penetration of international markets will intensify with its plans to form a free trade agreement
Trade agreements which have been implemented by Vietnam with other countries provide many benefits for Vietnam, not only improving the competitiveness of Vietnamese products through lower tariffs, but also by enhancing the attractiveness of Vietnam for foreign investors, especially investors in the global value chain (GVC). Chaponniere and Cling (2009) stated that foreign direct investment was the key to success in Vietnam’s exports-led growth strategy. Besides that, Cushman and Wakefield (2015) also stated that Vietnam ranked first in 2014 as the most suitable country for investment in the manufacturing sector.

Over the last 25 years, industry in Vietnam has continued to undergo transformation. In the period 1990–1995, the Vietnamese government focused on boosting the growth of heavy industry, such as the cement and steel industries to meet domestic demand in post-war development. Besides that, Vietnam also focused on developing its manufacturing industry to meet domestic demand, especially the food and beverages industry. Vietnam also promoted industries which were based on natural resources, such as the mining industry and the oil and gas industry. In the period from 1996 until 2000, Vietnam began to focus on export-oriented manufacturing industries, such as the textile industry, apparel, footwear, and paper. After 2001, Vietnam started to focus on boosting its hi-tech industry.

To bolster foreign direct investment inflows, the government of Vietnam gave several incentives to investors, including the following:

1. Low corporate income tax for a certain period of time.
2. Reduction or elimination of corporate income tax.
3. Reduction or elimination of import taxes for imported goods which are fixed assets, raw materials, supplies and spare parts.
4. Reduction or elimination of the cost of land leases.
APPENDIX

1. Intensive Margin

1. Trade openness

Trade openness is an indication of how important exports and imports of goods and services are in an economy. It reveals the dependency of domestic producers on overseas demand and domestic consumers on overseas supply. Trade openness is measured as the ratio of trade to GDP as expressed in the following equation.

\[
\frac{X_{it} + M_{it}}{Y_{it}}
\]

Explanation: \(X\) is total exports, \(M\) is total imports, and \(Y\) is GDP; subscript \(i\) and \(t\) represent the country and time respectively.

2. Trend in trade growth

Several indicators used in analyzing the trend in trade growth are: (i) exports volume, (ii) exports growth, and (iii) ratio of trade to GDP. Source of data: WDI.

\[
Share\ of\ Merchandise\ Trade = \frac{MT_{it}}{GDP_{it}} \times 100
\]

Annual growth rate of total exports = \(100 \times \left( \frac{X_t}{X_{t-1}} - 1 \right)\)

Explanation: \(MT\) is the total merchandise trade and \(X\) is total exports; subscript \(i\) and \(t\) represent the country and time respectively.

3. Exports composition, RCA and trade integration

\[
CAGR_{ijk} = 100 \times \left[ \left( \frac{x_{ijkt_2}}{x_{ijkt_1}} \right)^{\frac{1}{t_2-t_1}} - 1 \right]
\]

Explanation: \(x_{ijkt}\) is the value of export product \(k\) from country \(i\) to country \(j\) at time \(t\); \(t_1\) indicates the start year and \(t_2\) indicates the end year.

Revealed comparative advantage (RCA) measures the level of relative advantage or disadvantage in an industry.
\[ RCA_{ijk} = \frac{x_{ijk}}{X_{ij}} \times \frac{X_{wjk}}{X_{wj}} \]

Explanation: \( RCA_{ijk} \) is RCA for product \( k \) which is exported from country \( i \) to country \( j \); \( x_{ijk} \) is the value of export product \( k \) from country \( i \) to country \( j \); \( X_{ij} \) is the total exports of country \( i \) to country \( j \); \( x_{wjk} \) is the value of global exports (\( w \)) to country \( j \) for product \( k \); and \( X_{wj} \) is the total global exports (\( w \)) to country \( j \).

RCA index value between 0 and 1 shows there is a comparative disadvantage. If the RCA index > 1, country \( i \) has comparative advantage in sector \( k \).

4. Trade intensity index

The trade intensity index shows the level of exports intensity of a country to its trading partners. This index is used to see whether a country exports more to its trading partners in comparison to the global exports to those countries. The trade intensity index uses the same logic as RCA, but for a market and not a product.

\[ Trade \text{ intensity index} = 100 \times \left( \frac{x_{ijk}}{X_{ik}} / \frac{x_{wjk}}{X_{wk}} \right) \]

Explanation: \( x_{ijk} \) is the value of export product \( k \) from country \( i \) to country \( j \); \( X_{ik} \) is the total exports of product \( k \) from country \( i \); \( x_{wjk} \) is the value of the exports of product \( k \) from the world (\( w \)) to country \( j \); and \( X_{wk} \) is the total world exports (\( w \)) for product \( k \).

Trade intensity index > 100 indicates trade relations between country \( i \) and \( j \) that are more intensive compared to the global average (\( w \)) with country \( j \).

5. Trade complementarity index

The trade complementarity index is used to see whether the profile of a country's exports is in accordance with the imports profile of its trading partners, or exactly complementary in nature. A high index value indicates both countries gain benefits from their trade relationship.

\[ Trade \text{ complementarity index} = 100 \times \left[ 1 - \frac{1}{\sum_k} \left| \frac{m_{jk}}{M_j} - \frac{x_{ik}}{X_i} \right| \right] \]

Explanation: \( x_{ik} \) is the value of the exports of product \( k \) from country \( i \); \( X_i \) is
the total exports of country $i$; $m_{jk}$ is the value of the imports of product $k$ from
country $j$; and $M_j$ is the total imports of country $j$.

Trade complementarity index = 100 indicates an ideal trading partner;
while a trade complementarity index = 0 indicates that both these two
countries are perfect competitors.

6. Value vs volume growth

The export value index and the export volume index are used to gauge
the growth of exports that may be caused by changes in prices, the volume of
exports, or both of them. The export value index is the value of the exports
(c.i.f) converted into USD and expressed as a percentage of the average of the base year. The export volume index is the ratio of the export value index to its
unit value index.

\[
Export\ value\ index = 100 \times \frac{X_t}{X_{t=2000}}
\]

\[
Export\ volume\ index = \frac{Value\ index_t}{Unit\ Value\ Index_t}
\]

Explanation: $X_t$ is the value of exports at time $t$ and $X_{t=2000}$ is the value of
exports in the year 2000.

7. Growth Orientation (Product and Market)

There are two indicators of growth orientation (GO), namely GO product and GO market:

a. GO product evaluates the potential growth of exports by comparing the
CAGR of a country’s main export products to the growth in world trade for
those products. A country with exports growth higher than the global
growth means that this country is increasing its share in the world
market. Countries for which their main exports are from a high growth
sector are well placed for future growth. Growth below global growth
indicates there are barriers which inhibit growth.

\[
CAGR_{ijk} = 100 \times \left[ \frac{\frac{1}{(X_{ijkt_2}/X_{ijkt_1})^{\frac{1}{(t_2-t_1)}}} - 1}{\frac{1}{(X_{ijkt_2}/X_{ijkt_1})^{\frac{1}{(t_2-t_1)}}}} \right]
\]

Explanation: $x_{ijk}$ is the value of the exports of product $k$ from country $j$ to
country $i$
b. GO market evaluates the potential growth of a country’s exports markets by comparing the CAGR of exports to a market relative to growth of that market’s imports from the rest of the world.

2. Extensive Margin

1. Number of Products and Markets

This indicator measures the number of trading partners and products exported by a country, which are calculated at the 6-digit HS level. Trading partners are calculated if at least one item has been exported with a minimal value of USD10,000 and the number of products is counted if they are sent to at least one country with a value of at least USD10,000. The higher the number of products and markets, the more diversified a country’s exports are. Indonesia experienced a moderate increase in the number of its products over one decade. By comparison, Vietnam was seen to be very successful in increasing the variety of its products.

2. Exports share

The share of 3 or 5 highest items/export destinations to total exports is calculated at the HS-4 digit level. The smaller the percentage the smaller the market concentration, and the more that exports are diversified.

3. Growth Orientation (Product and Market)

There are two indicators of growth orientation (GO), namely GO product and GO market:

a. GO product evaluates the potential growth of exports by comparing the CAGR of a country’s main export products to the growth in world trade for those products. A country with exports growth higher than the global growth means that this country is increasing its share in the world market. Countries for which their main exports are from a high growth sector are well placed for future growth. Growth below global growth indicates there are barriers which inhibit growth.

\[
CAGR_{ijk} = 100 \times \left( \frac{x_{ijk_t}}{x_{ijkt_1}} \right)^{\frac{t_2-t_1}{t_2-t_1}} - 1
\]

Explanation: \( x_{ijk} \) is the value of the exports of product \( k \) from country \( j \) to
b. GO market evaluates the potential growth of a country’s exports markets by comparing the CAGR of exports to a market relative to growth of that market’s imports from the rest of the world.

4. Value of Exports Reach

Economic growth is generally accompanied by the emergence of new products. A country’s ability to maintain trade relations is generally a sign of economic maturity. This indicator provides information on the introduction, survival, and extinction of a product along with the value and the number of markets. A high level of decline in various sectors indicates economic volatility; while if concentrated in some industries, this indicates the evolution of domestic production.

5. Hummels-Klenov Product and Market

This indicator measures the intensive margin and the extensive margin for products and markets. This concept captures diversification (how far a country adds products and markets to its portfolio) and survival (sorting exports growth in the growth of mature products in mature markets versus others). By calculating the IM and EM, it is possible to conclude the following: (1) whether a country is a big player in a product which it exports (IM) and (2) how important are the goods which it exports to the world (EM).

\[
IM_i = \frac{\sum_{k} X_{ik}}{\sum_{k} X_{w,k}}
\]

\[
EM_i = \frac{\sum_{w} X_{w,k}}{\sum_{k} X_{w,k}}
\]

Explanation: \(K^i\) denotes a set of products which are exported by country \(i\); \(X_{ik}\) is the value of exports of country \(i\) for product \(k\) to the rest of the world; \(X_{w,k}\) is the value of global exports for product \(k\); \(IM_i\) calculates the country’s share of exports of its products; and \(EM_i\) calculates the coverage of its exports in global exports.

3. Quality Margin

1. Technology content

This indicator measures technology content in the exports of a country through export product types. The classification of technology uses SITC 3 digits based on Hatzichronoglou (1997) and Lall (2000). Products are divided
according to five classifications, namely primary, resource-based, low technology, medium technology, and high technology. Data sources are from the World Bank.

2. Quality

Product quality is gauged by using unit values from each export product. This is based on the assumption that when there is competition in supply, high prices are generally associated with greater product differentiation based on quality. Comparison of unit values between countries is undertaken based on SITC 5 digits or HS 6 digits with the calculation of relative quality as follows:

$$ R_{itc} = \frac{uv_{itc}}{uv_{itc}^{90}} $$

Explanation: $uv_{itc}$ is the unit value of commodity $i$ at time $t$ in country $c$, and $uv_{itc}^{90}$ is the 90 percentile unit value of commodity $i$ at time $t$ compared to peers.

3. Sophistication

The exports sophistication of a country is measured by $EXPY$ which is obtained from the level of sophistication of each product ($PRODY$). The calculation of $EXPY$ uses the following formula:

$$ EXPY_i = \sum_k \left( \frac{x_{ik}}{X_i} \right) PRODY_k $$

The measurement of $PRODY$ is based on the assumption that a product which is generally produced in a country with a high per capita income will have a higher level of sophistication.

$$ PRODY_k = \sum_j \left( \frac{x_{jk}}{X_j} \right) Y_j $$

Explanation: $Y_j$ is the income per capita of country $j$, $x_{jk}$ is the exports of commodity $k$ of country $j$, and $X_j$ is the total exports of country $j$.

4. Revealed factor intensity

The revealed factor intensity measures the intensity level of using capital (RPCI) as well as the intensity of using human capital (RHCI). 
\[ RPCI_k = \sum_j \left( \frac{x_{jk}}{X_j} \right) K_j \sum_j x_{jk} L_j \]

\[ RHCI_k = \sum_j \left( \frac{x_{jk}}{X_j} \right) H_j \sum_j x_{jk} H_j \]

Explanation: \( \frac{K_j}{L_j} \) is per capita capital stock, \( H_j \) is the average years of schooling, \( x_{jk} \) is the exports of commodity \( k \) of country \( j \), and \( X_j \) is the total exports of country \( j \).

5. Product space

The concept of product space makes reference to Hidalgo et. al. (2007). Product space explains the position of a country's comparative advantage, linkages between products, and indicates whether existing competitive advantage can sustain long-term economic growth. Mapping is done using the product category data in SITC 4 digits.

![Figure 49. Product Space by Product Type](image)

If the product space shows there is comparative advantage in denser forest, it indicates an opportunity for diversification and enhanced technology. Because of that, countries which shift toward denser forest will have higher
economic growth.

4. Sustainability Margin

a. Exports Duration

This indicator shows the number of relationships between new products - trading partners with trading value of at least USD10,000 in the start year and the number and percentage of these relationships which survived until the specified end year. The indication for the duration of exports is calculated based on the standard product groups in HS code 2002.

\[ \text{share}_t = \frac{n_{ijt}}{n_{jt, \text{start}}} \times 100 \]

Explanation: \(n\) is the number of products which are exported from country \(i\) to trading partner \(j\) in year \(t\); \(t_{\text{start}}\) is the specified start year

b. Decomposition of Exports Growth Along Trade Margins

Exports growth can be divided into the expansion of trade flows at the present time (intensive margin) and the addition of new products and markets (extensive margin). This indicator groups all the growth and contractions of a product into one of seven intensive and extensive margin categories. The categorical breakdown is illustrated by using a vertical bar chart. Each category is entered on the horizontal axis, while the portion of these categories in total exports growth is entered on the vertical axis. The value of these portions can be positive or negative depending on whether the product which is exported in the group sees growth or contraction. This indicator is calculated based on standard product groups in HS code 2002.

\[ \text{share}_{\text{bin}} = 100 \sum_{k \in \Omega_{\text{bin}}} \frac{x_{ijkt}}{X_{ijt}} \forall \text{bin} \in \{1 \ldots 7\} \]

\(X\) is the total value from all exports from exporter \(i\) to partner \(j\), and \(x\) is the value of exports of product \(k\) in year \(t\). The start and end years can be expressed as \(t_1\) and \(t_2\). \(\Omega_{\text{bin}}\) represents the group product with all products divided into 7 groups in the intensive and extensive margins. Products are grouped by the following characteristics:

\[ \text{Bin} (1)x_{ijkt} > 0 \text{ untuk } t = t_1, t_2 \text{ dan } x_{ijkt2} - x_{ijkt1} > 0 \]
\[ Bin (2)x_{ijkl} > 0 \text{ untuk } t = t_1, t_2 \text{ dan } x_{ijkl1} - x_{ijkl2} < 0 \]

\[ Bin (3)x_{ijkl1} > 0 \text{ dan } x_{ijkl2} = 0 \]

\[ Bin (4) \sum_j x_{ijkl1} = 0, \; X_{ij1} = 0, \; \text{dan } x_{ijkl2} > 0 \]

\[ Bin (5) \sum_j x_{ijkl1} = 0, \; X_{ij1} > 0, \; \text{dan } x_{ijkl2} > 0 \]

\[ Bin (6) \sum_j x_{ijkl1} > 0, \; X_{ij1} = 0, \; \text{dan } x_{ijkl2} > 0 \]

\[ Bin (7) \sum_j x_{ijkl1} > 0, \; X_{ij1} > 0, \; x_{ijkl1} = 0, \; \text{dan } x_{ijkl2} > 0 \]

**Intensive Margin**

1. Increase of existing products in established markets,
2. Decrease of existing products in established markets,
3. Extinction of exports of products in established markets,

**Extensive Margin**

4. Introduction of new products in new markets,
5. Introduction of new products in established markets,
6. Introduction of existing products in new markets,
7. Product diversification in established markets.

c. Export Suspension and Factor Endowments

This indicator identifies trade flows of at least USD10,000 which disappeared since the selected early year and compare the product's intensity factor with the supporting factor (endowments) of a chosen country. The intensity factor is measured as a weighted average of the supporting factors (endowments) of all exporting countries of a product. As such, the inverse of the euclidean distance between the supporting factor and the intensity factor of a product is used as a measure of comparative advantage.

This indicator is used to explain why the exports of a country cannot be maintained. One of the areas that can be investigated is whether exports which become extinct represent efforts to produce goods that require a wide variety of supporting factors which are supported by the economy.

\[
share_t = \frac{x_{ijk}}{X_{ij}} \times 100
\]

Explanation: \( X \) is the total value of all exports from exporter \( i \) to trading partner \( j \) and \( x \) is the value of exports of product \( k \).
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<thead>
<tr>
<th>Target Group</th>
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<td>3</td>
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<td>5</td>
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<td></td>
<td>7</td>
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<td>Baba Rafi (Food MSME)</td>
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</tbody>
</table>

Table 12. Target Group FGD
Figure 50. Number of Products and Markets

Source: WITS World Bank, compiled

Figure 51. Share of Exports to Developed Countries (2013)

Source: WITS World Bank, compiled

Figure 52. China’s Exports Reach 2010–2013

Source: WITS World Bank, compiled
Introduction of old products in new markets
Creation of old products in old markets
Extinction of exports of old products in old markets
Increase of new products in old markets
Increase of new products in new markets

Extensive Margin
Intensive Margin

Source: WITS World Bank, compiled

Figure 53. Decomposition of Exports Growth in the Years 2003–2013
Source: WITS World Bank, compiled

Figure 54. Exports Relative to Endowment – Malaysia 2013

Figure 55. Exports Relative to Endowment – Philippines 2013

Figure 56. Exports Relative to Endowment – Vietnam 2013
Source: WITS World Bank, compiled

Figure 57. Exports Relative to Endowment – China 2013