

ERIA Discussion Paper Series**Current State and Issues of the Automobile and
Auto Parts Industries in ASEAN**

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Abstract: *This paper provides an overview of the current situation of the automotive industry in ASEAN and certain member states. The current state of the ASEAN automobile industry will be explained by putting into global context, including the ASEAN strategy of original equipment manufacturers (OEMs) from Europe, Japan, and other countries. Thereafter, the impact of the ASEAN Economic Community (AEC) on OEMs and parts suppliers will be discussed using case studies.*

In general, AEC 2015 is likely to influence the automotive industry in distinct patterns: on one side, there is production in developed markets with an integrated supply chain while on the other side, there is production in developing markets that is mainly based on assembly of imported completely-knocked-down (CKD) kits. While Toyota's Intelligent International Multi-Purpose Vehicle (IMV) project represents the former, those of Tan Chong and Truong Hai Auto Corp. (THACO) represent the latter. Thus, cases will be investigated to show the distinct effects of AEC 2015 on automobile production within the ASEAN region.

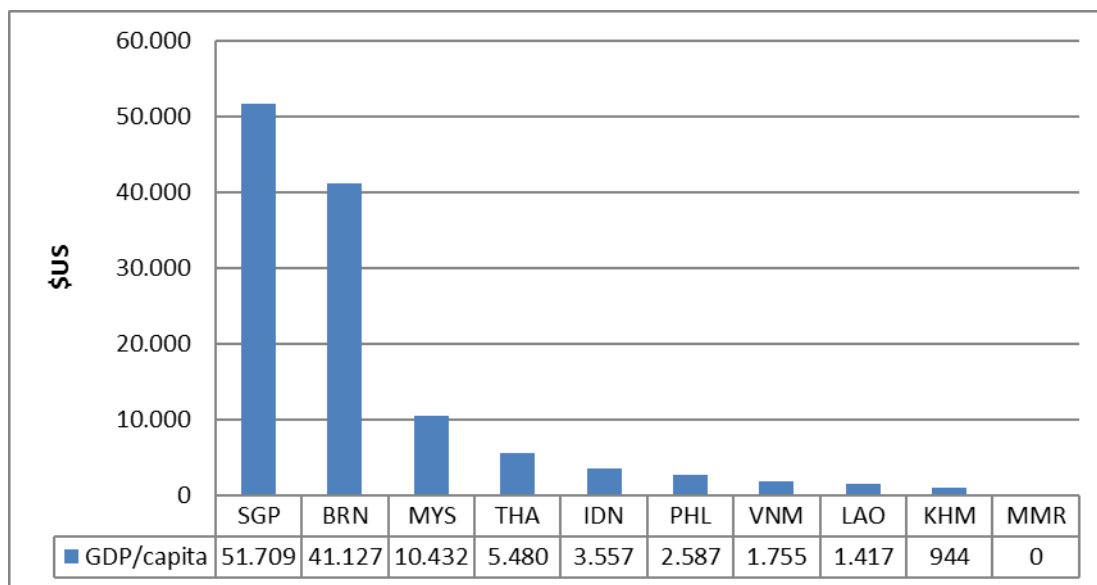
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1. Outline of the Chapters

In 2012, Singapore was the most advanced economy among the ASEAN5 countries in terms of gross domestic product (GDP) per capita and its gap from trailing countries Brunei, Malaysia, or Thailand was considerable (see Figure 1). However, at present, Viet Nam, Laos, and Cambodia have reached high income levels that the current phase can only be labelled as the dawn of motorisation, which is commonly associated with US\$2,000-3,000 GDP per capita.

Figure 1: GDP per capita of ASEAN member states, 2012



*Note:** Data for Myanmar are not available

Source: World Bank.

According to the ASEAN Automotive Federation (AAF), the ASEAN5 countries (Indonesia, Malaysia, the Philippines, Thailand, and Viet Nam) produced 4,439,474 units of automobiles in 2013 or a growth rate of 4.8 percent in comparison to the 4,327,980 units in 2012 (see Figure 2).

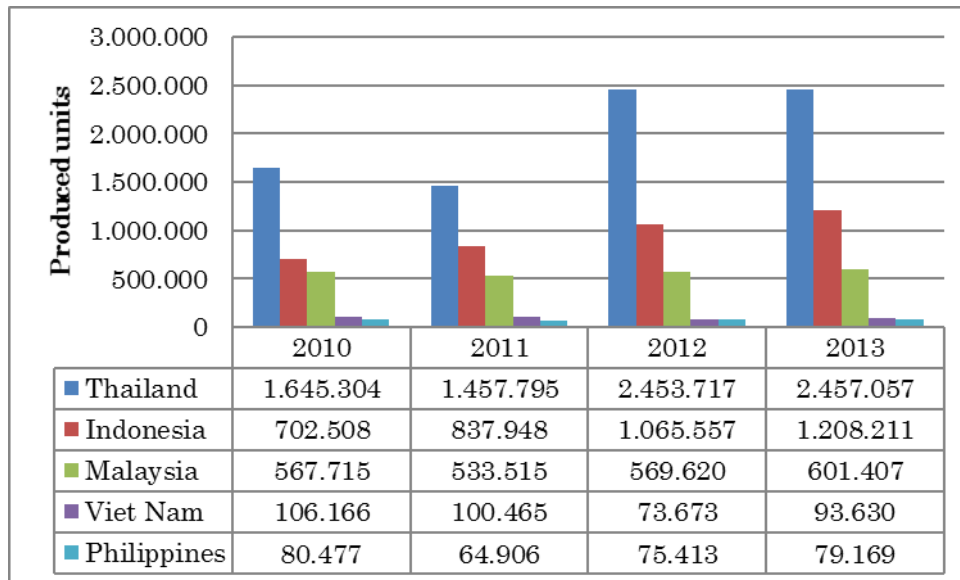
Regarding production figures at the national level, two ASEAN5 countries, Thailand (2,457,057 units) and Indonesia (1,208,211 units), account for 83 percent of gross production. The following places are occupied by Malaysia (601,407 units), Viet Nam (93,630 units), and the Philippines (79,169 units).

Breaking down gross production in 2012, Thailand has achieved a minimal growth of 0.1 percent and Indonesia has grown by 13.4 percent, which indicate that

Indonesia is developing into the second largest automobile-producing country in ASEAN. Production in the remaining three countries dropped in the last few years (2010-2013) but Viet Nam still registered a 27.1 percent growth in 2013 while the Philippines almost stagnated at 5 percent growth in the same year. As the only highly industrialised country among the ASEAN5, Malaysia posted a 5.6 percent increase.

It can be stated that Thailand continues to play a major role in the ASEAN automotive industry. However, Thailand's growth rate is marginal while Indonesia's automobile industry has posted a stable growth in production figures although Thailand's production figures is still unmatched. Its production for the domestic market is increasing, along with its exports suggesting that growth can still continue further. Contrarily, automobile production in the Philippines and Viet Nam continue to be mediocre. In the Philippines, Ford and Mazda have ceased production and Honda plans to reduce the number of vehicles built thus decreasing the country's role in automotive assembly. Moreover, while production in Viet Nam has increased again in 2013, it still cannot be said that the country is back on a stable growth path.

Figure 2: Total vehicle production in ASEAN5 countries, 2010-2013



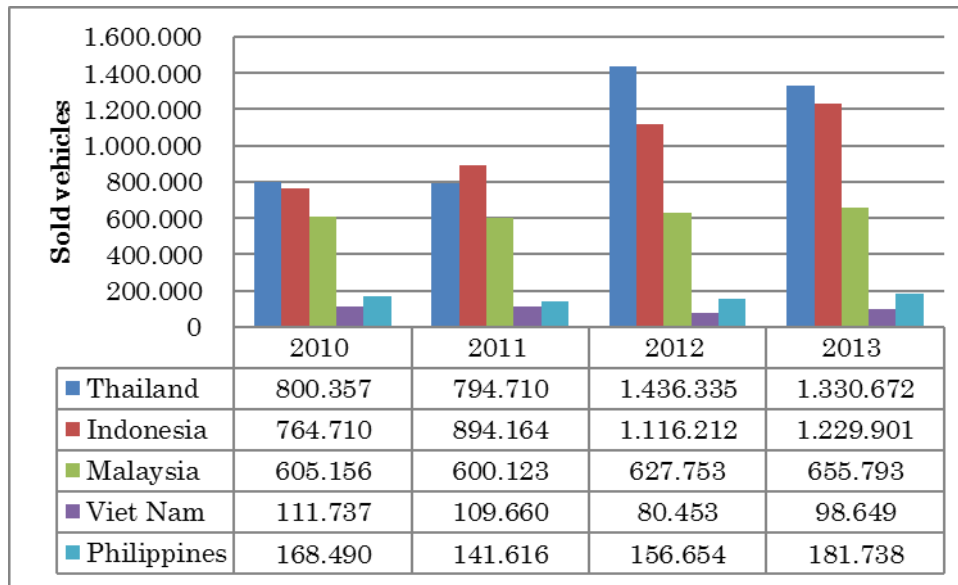
Source: AAF.

2. Concerning the State of Automotive Sales in ASEAN 5

In 2013, a total of 3,496,753 units have been sold in ASEAN5 countries, which is an increase of only two percent from the 3,417,407 units sold in 2012. This meager increase shows a varying rate of fluctuation in the markets. Thailand was by far the largest market with 1,330,672 units sold but this is a decrease of 7.4 percent on a year-on-year basis, making the country the only ASEAN 5 member posting a negative trend. Following Thailand are Indonesia with 1,229,901 sold units (or a 10.2percent increase), Malaysia with 655,793 units (4.5 percent), the Philippines with 181,738 units (16 percent), and Viet Nam with 98,649 units (22.6 percent).

In both production and sales, Thailand has become ASEAN's largest market. However, recent government policies such as the removal of consumer incentives (refer to section 4.1) are the main factor for the decline of Thai automobile sales in 2013. In contrast, Indonesia's automobile market is consistently growing. Its automobile sales have grown parallel to the general economic growth of the nation. Since 2013, the Indonesian government has nurtured the industry in a way that is similar to Thailand's previous strategy such as the low-cost green car (LCGC) promotion policy (refer to section 4.1). Another is that instead of importing from neighbouring ASEAN countries such as Thailand and Malaysia, domestic production in Indonesia has been increased, which seems to have contributed to the total increase of sales. As to production and sales in Malaysia, no significant change has occurred. But at a time when Japanese cars captured most sales, the number of imports from other countries has increased.

Figure 3: Total vehicle sales in ASEAN5 countries, 2010-2013



Source: AAF.

3. ASEAN’s Position in the Global Automotive Industry

In 2012, global production of passenger cars and commercial vehicles totaled 84,100,167 units, of which the ASEAN5 countries produced 3,882,277 units. Although these countries share in global production is just 5 percent, it is expected that the Thai automotive industry will recover, and that Indonesia and other ASEAN member states will continue to grow so that ASEAN’s automotive industry will play an important role in the global industry. Furthermore, Thailand and Indonesia are already strategic assembly bases for Japanese and American OEMs as well as bases for automobile research and development (R&D) directed at emerging countries, hence strengthening the position of these countries.

Concerning Thailand, Japanese OEMs such as Toyota, Honda, Nissan, Mitsubishi, Mazda, Isuzu, and Suzuki as well as Western manufacturers GM, Ford, BMW, and Mercedes-Benz have production sites in this country.

Thailand plays a central role in Toyota’s IMV project directed at emerging markets, especially concerning the production of Hilux pickup trucks and Fortuner SUVs (or sport utility vehicles) that are based on a similar platform. These models are mainly exported to ASEAN and the Middle East, making Thailand an important

base of operations. The Hilux is also exported to Europe and Australia. Until 2013, Toyota has developed a compact car platform directed at emerging countries and using this platform, production of the Yaris hatchback (versions for Europe, North America, and Japan have slight differences in design and specifications) and Vios sedan (also exported to the Middle East) has been started in Thailand. Although the upper sedan Camry and mid-level sedan Corolla are also produced in Thailand, these models are only exported within ASEAN. Moreover, Toyota established an R&D facility in 2003 where local engineers develop solutions for tough road conditions in ASEAN and other emerging countries.

In its Thai plant, Honda produces the Brio (which fulfills the criteria for the Thai eco-car standard), the strategic global compact car Jazz (called Fit in Japan), the compact sedan City, the mid-sized SUV CR-V, and the upper segment sedan Accord. The Brio has been jointly designed and developed by both local and Japanese engineers in the Thai R&D centre. Concerning exports, the Accord is shipped to ASEAN markets and Australia, and although advanced technology is required, Honda decided that the Thai production plant is capable of this task.

Meanwhile, Nissan produces the pickup truck Navara (or Frontier in other markets), the luxury sedan Teana, the mid-sized sedan Sylphy, the compact hatchback March, and the compact sedan Almera (or Sunny, which is based on the March platform) in Thailand. Nissan uses Thailand as a strategic export base especially for the March and Almera, which are exported to ASEAN, Europe, Japan, and Australia.

Mitsubishi produces the mid-sized sedan Lancer, the pickup truck Triton, the SUV Pajero Sports (which shares the same platform as Triton) as well as the compact hatchback Mirage and its compact sedan derivate Attrage. With the exception of North America, the Triton is exported to the rest of the world and the Mirage is exported globally from Thailand.

Mazda produces the compact hatchback Mazda2 (or Demio in Japan), the derived sedan Mazda3 (or Axla in Japan) in Thailand for the domestic and ASEAN markets as well as the BT-50 pickup truck, which is sold domestically and in ASEAN and Australia. On the other hand, Isuzu produces the D-Max pickup truck

and the SUV MU-7, both of which use the same platform. The D-Max is exported to the ASEAN region, Australia, Europe, and Africa.

Interestingly, Ford and GM produce with Mazda and Isuzu, respectively, but for separate markets. Using the same components, Ford produces Mazda's BT-50's sister model, which is sold domestically and abroad as Ranger. Ford also produces the compact hatchback Fiesta and the mid-sized hatchback Focus. GM produces Isuzu's D-Max sister model Chevrolet Colorado for the ASEAN and the Australian market where it is sold under the local brand as Holden Colorado. GM also produces the mid-sized sedan Cruze and the Trailblazer SUV in Thailand.

Turning to Indonesia, Japanese OEMs Toyota, Daihatsu, Honda, Suzuki, Nissan, and Mitsubishi have built production bases in the country.

Japan's largest manufacturer Toyota uses Indonesia like Thailand for the production of IMV models such as the Fortuner SUV and the Innova multi-purpose vehicle (MPV). These two models are exported within ASEAN and to the Middle East. While all Vios models used to be imported from Thailand, the updated Vios is now produced in Indonesia.

In Indonesia, Daihatsu trails Toyota in terms of market share, but because it is part of the Toyota group, Daihatsu produces and sells main models in cooperation with Toyota. Daihatsu produces the popular compact MPV Xenia and its sister model, the Toyota Avanza. While –with the exception of the brand logo– these two models are identical, the Avanza is exported to ASEAN, South Africa, and some countries in the Middle East. Daihatsu also produces the Ayla that conforms to the LCGC policy as well as its sister model Toyota Agya since 2013. Again, these two vehicles are identical. As to the Agya, there have been plans to export to the Philippines from February 2014. Lastly, Daihatsu assembles the Terios SUV and the rebadged version of the Toyota Rush.

In order to conform to the LCGC policy requirements, Honda assembles the subcompact Brio Satya. To increase localisation, it plans to produce the Mobilio MPV, which is based on the Brio's platform. Moreover, the company produces the Freed, which is exported to Thailand and Malaysia.

Suzuki uses Indonesia as its strategic base where it produces the compact Swift, the Grand Vitara SUV, and the compact MPV Ertiga where it is rebadged as Mazda

VX-1. Regarding exports, all models that are produced in Indonesia are exported to the ASEAN market. To meet the LCGC requirement, Suzuki has developed the Karimun Wagon R, which is based on Wagon R.

Nissan produces the Livina MPV and the Juke SUV in Indonesia. In order to expand sales, it will introduce the Datsun brand that will be sold domestically through Nissan dealers starting with the Go model. Although not a Nissan brand model, the Go is Nissan's response to the LCGC policy.

Malaysia promotes its national OEM brand Proton, which is mainly sold in the domestic market. Another national carmaker, Perodua produces and sells rebadged Daihatsu models. As to exports, both brands ship few units to the UK and Australia as well as to neighbouring countries Thailand and Indonesia.

Automobile production in the Philippines and in Viet Nam are almost exclusively directed at the domestic market but the time for increasing exports can be expected. There are mainly Japanese brands in the Philippines while Viet Nam hosts production by Chinese and Korean OEMs. The Philippines produces the Vios and the IMV-based Innova for Japan's Toyota. Due to quality issues in Viet Nam, IMV models and the Corolla, Camry, and Vios are only produced from CKD kits. Honda and Nissan have also set up plants in Viet Nam but they also operate through CKD assembly.

Korean's Kia has contracted production to Truong Hai, a Vietnamese company, which already produces Kia's Picanto for the popular small car segment, but production has not really started yet. The same goes to Hyundai, which contracted production to Thanh Cong.

4. Recent Trends in the ASEAN Automobile and Auto Parts Industries

4.1. Thailand

For a long time, Thailand has been playing the leading role in the ASEAN automotive industry. Against this background, Thai governments have used the

automobile and auto parts industry as the central pillar of their industrialisation policies, which have not only provided consumer incentives for car purchases but also promoted export growth and attracted investment from foreign automobile OEMs.

However, as aforementioned data have revealed, the number of domestically produced vehicles has stagnated between 2012 and 2013. The main reason for this is domestic policy to refund more than half of automobile acquisition tax (government incentive) has ended in 2012. Furthermore, CBU exports from Thailand depend on the economic condition in importing partner countries and should domestic demand not compensate for declining exports then the central position of the automotive industry in Thailand can turn into a vicious circle for the domestic economy. From 2007, the first phase of the eco-car promotion policy started to reduce the environmental impact of cars in Thailand and promote modernisation of the industry. The policy's second phase was slated to end in March 2014, during which all OEMs were asked to fulfill the requirements. However, if one compares the emission requirement in phase two with those of phase one, the standard has become stricter so that OEMs are concerned that instead of a modest investment, huge sums are required to meet the requirement.

In addition, the domestic political turmoil since the latter part of 2013 undermines a positive outlook because there is the fear that present tensions could turn into prolonged instability, which in turn would negatively affect components and automobile production as well as automobile sales.

In contrast to this negative perspective, Thailand's highly developed level of automobile and components production should not be overlooked because it is the main reason why OEMs and suppliers regard the country as a very good business location. For this reason, it can be observed that more companies such as Toyota and Denso have shifted their Asia-Pacific headquarters from Singapore to Bangkok. More and more leading and intermediate parts makers have also opened R&D facilities in Thailand to develop and design components for the ASEAN region and other emerging countries, hence the transfer of responsibility from Japan to Thailand. So as not to lose against Japanese and German rivals, domestic Thai parts makers increasingly invests in advanced technology and human resource development. The

large domestic Thai Summit group has acquired company O and further tries to increase its production capacity by creating joint ventures with Japanese, German, and American competitors.

4.2. Indonesia

Since 2010, the automotive industry in Indonesia has grown quickly such that it looks like it could come close to that of Thailand. This trend is related to the economic development, which allows the growing urban middle class to buy a car for the first time. Since 2013, Indonesia's government has implemented an industrial promotion strategy that includes OEMs and parts makers by aiming at achieving growth through promotion of eco-friendly and low budget cars, otherwise known as low cost green car or LCGC.

LCGC policy means that the government gives a tax holiday on the 10 percent luxury tax that has to be paid when buying a car if the vehicle does not cost more than JPY 650,000, can drive at least 20km per liter, and the vehicle has a local content ratio of more than 80 percent. Therefore, Japanese OEMs have introduced models that meet these LCGC requirements; Daihatsu, Honda, and Nissan have constructed new assembly plants for LCGC production, hence it can be stated that Japanese companies contribute much to the development of the automotive industry in Indonesia.

The strength of the Indonesian automotive industry is that it enjoys political stability and that LCGC policy gives the industry a clear perspective. Political stability deserves attention as the political environment before 2004 was often erratic, which negatively affected the economy. However, since the 2004 election of Susilo Bambang Yudhoyono as president, Indonesia's political affairs have stabilised and the economy has become stronger and Indonesia has turned into an ASEAN driving force.

However, there are remaining issues. First, there is the drastic increase in wages. In 2014, wages in Jakarta are 60 percent higher than in 2012. From a long-range perspective, this may increase the potential number of people that can afford a car, but currently these sudden increases are a huge problem for companies. It follows that there is the potential that labour-intensive industries will be shifted to Laos,

Cambodia, or Myanmar, which would then be a problem for both company and government.

Second is the domestic economic gap. The economic difference between Jakarta and the country's second largest city Surabaya on one side and the rest of Java as well as Sumatra, Kalimantan, and New Guinea on the other side, is still huge. Thus, at the moment, a further growth of automobile sales outside of Java cannot be expected due to this gap. Therefore, only when the economic gap is bridged can the market potential of Indonesia's large population be realised.

Third, road and port infrastructure is still insufficient. Against the background of quickly increasing car ownership, the road infrastructure in Jakarta appears inadequate. Thus, OEMs and parts suppliers located in the suburbs of Jakarta experience severe problems in meeting just-in-time (JIT) schedules due to traffic jams. Moreover, the import and export of CBUs and auto parts is negatively affected by the limited capacity of port facilities that can process deliveries on a JIT basis. As Indonesia attempts to rival Thailand for the leading position in the ASEAN automotive industry, it follows that building adequate infrastructure is an urgent task.

Finally, on the number of Indonesia's auto parts suppliers, there are only 550 or a mere third of Thailand's supplier industry. Tier 1 to Tier 3 suppliers mainly consist of foreign parts makers while locally owned companies are hardly found. While, at the moment, high-tech components must be imported from Thailand, it is assumed that the LCGC policy will promote the upgrading of technology so that Indonesian parts suppliers can play an important role when foreign parts makers do invest and transfer technology.

4.3. Malaysia

Malaysia is a unique case in ASEAN as it locally produces Japanese cars under the Proton brand since 1983 and the Perodua brand since 1993. While the two brands are – or used to be – national companies, the main components technology is provided by Mitsubishi and Daihatsu. By promoting national cars this way, Malaysia has achieved a high diffusion rate of 369 cars per 1,000 people. However, in the second half of 2000, the popularity of national cars somewhat declined and the presence of foreign OEMs in Thailand and Indonesia in combination with the

domestic focus of the national car producers left Malaysia behind these countries in terms of production. Furthermore, AFTA is surely the main reason why national cars came under pressure; while Toyota and Honda have constructed their own plants, Nissan, Mitsubishi, Suzuki, Mazda, and Subaru have relied on local distributors and CKD assembly. Since 2011, German Volkswagen (VW) models are assembled via CKD and semi-knocked-down (SKD) by its Malaysian partner DRB-HICOM while Peugeot use Naza to assemble CKDs since 2006, hence making Malaysia likely to become the production centre in ASEAN for this brand. Thus, as foreign OEMs contribute to the development of the industry in Malaysia and the government must liberalise due to pressure from ASEAN, it appears that national car policy is gradually being replaced. In January, the Malaysian government declared the National Automotive Policy '14, its new national car policy that contains five relevant items. First, Malaysia should become the hub for eco-friendly vehicles (referred to as Energy Efficient Vehicles; EEV). Second, production of high value-added parts should be promoted. Third, automotive exports should be promoted. Fourth, until 2020, CBU exports should reach 200,000 units and components exports should reach 10 billion Ringgit. Fifth, acquisition taxes should be reduced in the future. And sixth, national carmakers and bumiputra companies should be included.

On the first point, the promotion of EEV will not be limited to national brands but to foreign OEMs as well. As Honda is going to produce the compact hatchback Jazz Hybrid, then EEV planning is in progress.

The number of automotive parts makers in Malaysia stands at 690, which are classified as A or bumiputra companies, B or Chinese companies (A and B are local companies) and C are foreign companies. Due to the lasting effect of the national car policy, Malaysia's supply system is mainly directed at the domestic market, as only 26.8 percent of production is exported. Due to the renewed automotive government policy, it does not appear unlikely that Malaysia can become the centre of eco-friendly production through the localisation of parts makers with advanced know-how.

4.4. The Philippines

As Figure 1 shows, automobile production in the Philippines is decreasing. On the other hand, domestic sales are increasing. This situation occurs because OEMs are using AFTA to relocate production to Thailand or Indonesia and export from these countries. Remaining domestic production bases are operated by Toyota, Honda, Nissan, and Mitsubishi. Mitsubishi follows Toyota in terms of sales and has announced that it will construct a new factory until 2015.

So, why is automobile production in the Philippines declining? One reason is that the alliance of Ford and Mazda has ended production in the country by relocating the base to Thailand. While the companies did not explain the move, answers can be gleaned from research by Rosellon & Medalla (2011) on the automotive and electronics industry supply chains in the Philippines. An interview with Ford¹ provided the following important detail: In comparison with Thailand, production in the Philippines has a cost of US\$1,500-2,000 per unit. Therefore, shifting production to Thailand can be understood as a business decision to decrease cost. Moreover, Ford pointed out that suppliers in the Philippines could not produce components in the required quality so that certain parts had to be imported, which further jacks up the cost. This indicates that the level of the auto components industry is insufficient, which is partly due to the absence of a clear automobile industry support policy such as the one in Thailand or Indonesia.

Nevertheless, the Philippines continues to function as a source of OEMs' inhouse parts production (e.g. transmission). Mitsubishi set up a localised production along the lines of the Progressive Car Manufacturing Program (PCMP) policy which required companies to produce parts domestically by founding Asian Transmission Corporation during the 1960s. Similarly, Toyota made the Philippines part of its ASEAN strategy by making the country its transmission manufacturing hub. This continued under AFTA and the brand-to-brand complementation (BBC) scheme such that the Philippines played an important role in the overall concept. This explains why the country had a positive trade balance in the automotive sector: The value of

¹ Rosellon & Medalla did not identify the company as Ford. However, they stated that the interviewed company was an American assembler. As Ford was the only American OEM with assembly operations in the Philippines, it follows that the unidentified company is indeed Ford.

components exports was higher than that of vehicle imports. However, it has been shown that vehicle imports are increasing, leading to a shrinking trade surplus in the sector (Rosellon & Medalla 2011). As the trend continues, the Philippines might no longer be able to maintain a trade surplus in this sector.

Under the forthcoming AEC 2015, it can be assumed that motorisation in the Philippines is going to continue through increasing imports. However, without concrete government policy, the automotive industry of the Philippines may continue to stagnate.

4.5. Viet Nam

Automobile production in Viet Nam in 2012 reached only 67,000 units but the industry recovered in 2013. Assembled CBUs in Viet Nam use only a few domestically produced parts with the main components imported from Thailand and Indonesia as well as a small fraction from Japan. After assembly, these vehicles are mainly sold in the Vietnamese market. The reason for such large parts imports is that the domestic components industry is underdeveloped and there are little signs of growth.

Recently, Viet Nam has attracted global attention as the production site of Samsung smartphones. However, in the electronics industry, components are simply imported from countries of origin and neighbouring countries (in case of Samsung, these are from South Korea and China) so that production in Viet Nam merely consists of assembly. Therefore, it can be stated that Viet Nam's automotive industry is similar to its electronics industry.

As in the Philippines, absence of clear government policy towards the industry contradicts considerations of foreign OEMs to set up production in Viet Nam, which is further complicated by lengthy bureaucratic approval procedures. Thus, the Vietnamese automotive industry is at a critical phase and a concrete government policy is required in order to ensure its future viability.

The Vietnamese automotive industry is going to face a challenge with the upcoming AEC 2015, which requires Viet Nam to eliminate all import tariffs on ASEAN products until 2018. Thus, it appears possible that in the worst case scenario, the country is going to face the same situation as the Philippines where a

growing domestic demand is satisfied by imports from Thailand and Indonesia, and Viet Nam will not play a role as a production base for OEMs.

4.6. Cambodia, Laos, and Myanmar

It is not appropriate to say that the automotive industry in Cambodia, Laos, and Myanmar (collectively known as CLM countries) has reached the initial stage. While Cambodia and Myanmar allow for the imports of used vehicles from Japan and North America and then sell these in the domestic market, Laos has banned used car imports but allow import of newly produced vehicles from Thailand, Korea, and Japan.

Of the CLM countries, Cambodia and Myanmar are engaged in CBU production through CKD kits. In Cambodia, Hyundai joined with KH Motors and the conglomerate LYP Group, both of which are locally based, to produce the H1 from CKD kits in the Koh Kong industrial zone near the border of Thailand. China's Beijing Automotive Industry Holding Co., Ltd (BAIC) and a local company founded Khmer First Car, which is located near the Phnom Penh airport and produces light trucks with components imported from China. Among the triad OEMs, Ford was the first to enter Cambodia. Ford's plant is located in the Sihanoukville Special Economic Zone in the city port. This plant is operated by the Thai automobile distributor RMA, which produces the Everest SUV with parts imported from Thailand. In Myanmar, China's Chery produces its rebadged model as the Myanmar Mini. In the same fashion, ZX Auto (Hebei Zhongxing Automobile) produces pickup trucks with a company affiliated with Myanmar's Ministry of Industry. Local company Super Seven Star licenses designs from China to produce commercial vans via CKD assembly. Under military rule in Myanmar, Suzuki produced the minitruck Carry and the small car Wagon R until 1998. Due to internal conflicts that influenced the market, Suzuki suspended production until democratisation commenced. Since May 2013, Suzuki restarted local production of the Carry. Suzuki has a positive attitude towards the market and plans to build a new factory within the Tirawa Special Economic Zone in the outskirts of Yangon by 2015.

It appears possible that the production of labour-intensive parts will be shifted from Thailand and Indonesia to CLM countries.

5. The Foundations of the Regional Free Trade System in ASEAN

ASEAN was founded in 1967 by Indonesia, Malaysia, the Philippines, Singapore, and Thailand, mainly in order to create peace and stability in Southeast Asia. Despite these truly political functions, ASEAN extended to the whole of Southeast Asia after the end of the Cold War and simultaneously assumed a function to promote regional economic cooperation. In the economic sphere, the creation of a free trade system is especially remarkable because it is unique throughout all of Asia. Thus, in 1993, the so-called ASEAN6 (original five members plus Brunei) have agreed to create the ASEAN Free Trade Area (AFTA). AFTA incorporated a phased approach wherein, with some exceptions, tariffs between members were first gradually lowered to below 5 percent and by 2010, all tariffs are to be eliminated. After the creation of AFTA, Viet Nam (1995), Laos and Myanmar (1997), as well as Cambodia (1999) – collectively known as the CLMV countries – joined ASEAN. Due to their late entry, these countries were granted a delay schedule for tariff elimination. Nevertheless, the CLMV countries must reduce tariffs on some goods before 2015 and eliminate all tariffs until 2018, so that the regional free trade zone will be completed.

As mentioned, the strategic decision on trade liberalisation was made in the first half of the 1990s. In fact, Japan's Mitsubishi Motors introduced the plan to reduce import tariffs on components produced in different member countries. This idea was implemented in the form of the BBC scheme in 1988. After the creation of AFTA, this project was extended as the ASEAN Industrial Cooperation (AICO) scheme in 1996 to incorporate not only OEMs but also parts suppliers. It follows that the basic idea for the creation of the ASEAN free trade system and regional division of labour has its roots in the automotive industry during the second half of the 1980s.

6. ASEAN Economic Community (AEC) 2015 and the Automotive Industry

Since 2003, ASEAN has established three communities – ASEAN Security Community (ASC), AEC, and ASEAN Social and Cultural Community (ASCC) – that should be in place by 2020, a sign that can be regarded that ASEAN plans to further deepen integration. In 2007, all member states have agreed to realise the aims of these communities until 2015 so that a more integrated ASEAN community will be in effect by next year.

Of these three communities, the development of AEC is the most necessary and one with the most expectations. AEC contains the consolidation of a common market through policy coordination, reduction of the socio-economic gap between member countries, and addressing the issues of ASEAN+1 FTAs, especially concerning the elimination of tariffs and non-tariff barriers. Through AEC, ASEAN will implement the targets of the 2007 Blueprint of creating a common market by 2015. It indicates a relation to local production bases. The community's plan rests on four pillars, which are the free trade of goods or the elimination of tariffs, services liberalisation, finance and investment liberalisation, and free movement of skilled workers. As to free trade, it appears that ASEAN will achieve the 20-year old aim without problems. On the other hand, because all ASEAN member states have some highly sensitive issues with at least one of the items, it appears very unlikely that liberalisation of services, finance, investment, and individual movement of persons is going to achieve meaningful results. The automotive industry has been explicitly mentioned as a priority field in the Blueprint and the industry has hopes for standardisation of technical, environmental, and safety requirements within the ASEAN region.

The elimination of tariffs is the most anticipated issue in the automotive industry but given the advanced state of tariff reduction in ASEAN especially the presently existing elimination in ASEAN6 countries, this step appears unproblematic. On the other hand, the timeframe between AEC implementation in 2015 and 2018 will be a decisive phase for the economic lot of the CLMV countries. The reason being that CLMV countries must eliminate tariffs until 2018, including those currently protected through negative lists, including automobiles. In short, the import and

export of vehicles and auto parts will be liberalised. Using Viet Nam as an example, this means that although assembly plants currently assemble CBUs domestically, these products have to compete against products from Thailand or Indonesia by 2018. As these countries are already the regional centers of sourcing and assembly operations, the potential for shifting production to these countries and replacing local production through imports cannot be denied as tariff elimination makes concentrated operations more attractive.

Contrarily, labour-intensive production of components such as wire harness is likely to be shifted from countries with considerable wage increases to CLMV countries, hence it cannot be ruled out that countries such as Thailand, Indonesia, and Malaysia are going to experience a hollowing-out of their domestic parts and components industry, which means that the auto component supply system may evolve into an entirely new form.

7. Case Study on the Utilisation of AEC 2015 by Automotive Firms

7.1. Toyota's IMV project

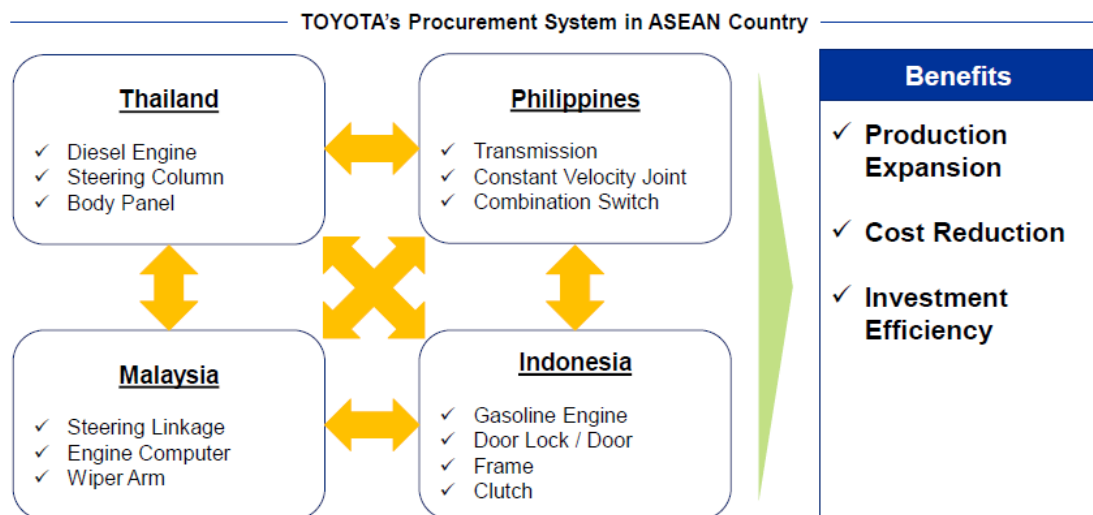
Toyota's IMV project was announced in 2002 with the aim to increase brand sales in emerging markets. IMV's characteristic is that a single platform is used to produce pickup trucks, SUVs, and mini vans, which simultaneously allows to increase productivity, decrease cost, and to greatly extend the ratio of locally sourced parts. IMV models are produced not only in ASEAN (Thailand, Indonesia, the Philippines, Malaysia, and Viet Nam) but also in South Asia (India and Pakistan), Latin America (Argentina and Venezuela), and South Africa.

While IMV models are produced in these countries, the IMV project is especially remarkable in the ASEAN region. The company used the ASEAN free trade system that is characterised by "reciprocal parts supply" and "intra-regional inter-process division of labour" so that it is possible to organise intra-regional import and export of components as well as to export parts to countries outside the region such as India or South Africa. The IMV project was a success because Toyota greatly increased procurement of parts from this region (as most components were produced in

Thailand, Indonesia, Malaysia, and the Philippines) and then exported using AFTA or other country-specific FTAs to reduce costs of CBUs.

In the future, it can be expected that not only OEMs such as Toyota but also parts suppliers will utilise AFTA and AEC to establish their own systems of reciprocal parts supply. Parts makers will adapt their production to local conditions especially concerning the costs and skills of labour as well as technological capabilities so that it can be expected that the supply chain is going to diversify even further. While the supply system of Tier1 suppliers already strongly resembles that of OEMs, this pattern will supposedly become a major point of emulation for Tier2 and Tier3 suppliers.

Figure 4: Organisation of the IMV project



Source: Toyota Motor Asia, 2014.

7.2. The cases of Truong Hai and Tan Chong

As AEC 2015 will eliminate tariffs on parts and components, the use of regionally shipped CKD kits that are utilised for final assembly into CBUs in countries with comparatively small sales volumes such as Viet Nam and the Philippines are likely to increase. Truong Hai Auto Corp. (THACO), a passenger car, bus, and truck manufacturer from Da Nang is a representative case for the Vietnamese automotive industry. Founded in 1997, the company has more than 7,000 employees today. It started to produce Kia buses from 2001 and in 2003, the

company established a new factory in the Chu Lai Industrial Zone in Quang Nam Province, south of Da Nang. Truong Hai today assembles passenger cars for Korean Kia, Japanese Mazda, and French Peugeot, all from CKD kits, from this new factory. Since locating in Chu Lai Industrial Zone, Truong Hai has expanded its operation to include 23 subsidiaries with around 4,000 employees working in the automotive division. From different workshops, wire harness, seats, and truck frames are produced that are used to completely assemble CKDs. The company operates a training centre where its future employees are trained for six months before they start actual work. Moreover, Truong Hai built its own harbour terminal which is roughly one kilometer away from the workshops and assembly line so that CKD kits and other components can be directly shipped to assembly plants. Kia's small car model Morning and its successor Picanto are so popular that the Koreans overtook Toyota in the small car segment and became the market leader. Key components such as engine and transmission are all directly shipped in containers from Korea. While Mazda originally formed a joint venture (JV) with Truong Hai that imported passenger cars and pickup trucks from Japan and Thailand that the Vietnamese distributed domestically, the arrangement since 2010 was changed to a local CKD assembly. Similar to the Kia case, more than half of the components are imported from Mazda plants in Japan and China. Mazda has started test exports of locally assembled passenger cars to Laos. Similarly, Peugeot has started cooperation with Truong Hai as its local distributor and since 2013, CKD assembly has been initiated with the French manufacturer, which is considering making Viet Nam an export base for other emerging markets. CKD parts are not only imported from France but also from China. Truong Hai has a technical cooperation with China's Foton Motors in truck production and also produces Hyundai Kia trucks from CKD kits.

Similar to the Truong Hai case is the Tan Chong company located in Da Nang and founded in 1957 by two Chinese Malaysian brothers. Tan Chong has a long and strong business relationship with Nissan: in 1976, the company started to assemble Nissan cars from CKD kits; in 1977, the production of Nissan Diesel trucks was contracted; in 1994, production of vans was initiated; and in 2004, operates a CKD assembly for Nissan's French partner, Renault. Moreover, the company has produced Subaru models since 2012 and the CKD assembly of Mitsubishi SUVs was initiated

in 2014. Tan Chong operates two factories in Malaysia. In 2010, the company formed a majority JV with Nissan (74:26) that operates Nissan's Vietnamese subsidiary and produces the small car Sunny by CKD assembly. Tan Chong also plans to produce the licensed Sunny from 2015 onwards in Myanmar.

It can be concluded that in the shadow of the forthcoming AEC 2015, two types of automobile production can be identified. The first type is the traditional fully integrated production of CBUs where main and heavy components are produced in close proximity to the final assembly location and light components are sourced regionally by respective headquarter or procurement unit. This represents one way of using AEC 2015. The second type is embodied in the cases of Truong Hai and Tan Chong, which are importing almost all components as CKD kits from overseas and simply assembling these locally. As the anticipated tariff elimination further disadvantages low volume production, it is necessary to contract production from several OEMs in order to make operations viable. The first type of production is observed by most Japanese manufacturers and by Ford while the second type can be in a minority of Japanese OEMs (Nissan and Mazda), Korea's Hyundai-Kia group, European, American GM, and Chinese producers such as Chery.

8. The post-2015 ASEAN Automotive Industry: Thailand and Indonesia

As mentioned earlier, tariffs between ASEAN members are to be eliminated between 2015 and 2018. This will supposedly be accompanied by shifting production of components such as wire harness, small motors or automotive seat cover, which require many manual inputs and are therefore labour-intensive, to Cambodia, Laos, and Myanmar.

Against a background of sudden wage increases in Thailand and Indonesia as well as political instability in Thailand and also due to exploitation of country-specific conditions (specifically labour cost and skills) to reduce costs and avoid the

risk of overconcentration in certain countries, it can be expected that the model of Thailand and Indonesia+1 will become more common.

What we mean by the label Thailand and Indonesia+1? Let us demonstrate using actual industry cases of two Japanese companies. Company Y is a major wire harness supplier and Company TB mainly produces interiors; both export materials or intermediate products from Thailand to plants in Cambodia and Laos. These inputs are then assembled and subsequently re-imported to Thailand for final production steps. Thus, production is partly shifted to plants located in industrial zones close to the Thai border.

Then consider Myanmar, which has been called Asia's last frontier: Company A, a subsidiary of a major component maker, already set up a factory in a suburb of Yangon. This plant is going to be responsible in producing parts currently manufactured in Indonesia and these components will be exported to Indonesia and probably also to Thailand.

The extension towards CLMV countries depends on resolution of certain issues, especially on infrastructure and human resource. As to infrastructure, Cambodia and Myanmar both face similar issues: first, reliable electricity supply, which is indispensable for factory operations, is not guaranteed. Second, road conditions are wanting and make transportation of parts very problematic. Concerning human resources, there is information that due to low literacy rates and a limited number of people who have completed high school education, it is often even difficult to find qualified employees for relatively simple production steps. In Laos, the abundant sources of electricity and the linguistic similarity to the Thai language makes human resource training and plant operation relatively unproblematic. However, the relative lack of permanent employment (otherwise known as job hopping) is a negative situation found in many developing countries.

Conclusion

From 2015 onwards, all ASEAN member states – especially the CLMV countries – will most likely face substantial changes. While these countries have a high potential to host satellite production for Thai automobiles, Viet Nam and

Myanmar have the most potential to develop independent automobile production bases. Regarding future developments under the conditions of AEC 2015, a differentiation into either fully integrated or CKD production is likely. However, it is probable that SKD and CKD productions are merely the starting phase in a phenomena that will gradually develop into integrated production by OEMs.

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