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Cooperation in Greater Mekong Sub-region (GMS): Implication and Lesson Learned for Indonesia's Industrial Development

Abstract

The progress of Greater Mekong Sub-region (GMS) is presumed to pose challenges and implications for Indonesia. This study has the aim to investigate the impact of the recent development of sub-regional cooperation and cross-border economic development within GMS on Indonesia's industrial development. Using qualitative methods, this study analyzed some variables, i.e., the background of GMS cooperation, infrastructure and investment progress, and Indonesia's related economic policies and development. Data and information were collected from many sources (i.e., statistical databases, articles, newspapers, websites, un- and published documents, etc.) and presented qualitatively. This study found that GMS economic cooperation and development have lessons learned and implications for the industrial development in Indonesia. The efficiency of the service sector within GMS was contributed by the successful implementation of policies on infrastructure development since the beginning of the 1990s. The flying geese behavior and industrial fragmentation within GMS were contributed by a different stage of industrial development, different comparative advantage, and improvement of the service sector. The implication of GMS cooperation for Indonesia is the importance of public policy stability, more attractive investment of high-end products in GMS than Indonesia, and potential diminishing of Indonesia's export.

Keywords:

industrial development; Indonesia and Greater Mekong Sub-region; policy change and stability, foreign direct investment, sub-regional cooperation.

Introduction

Initiated and partially funded by Asian Development Bank (ADB) since 1992, development and cooperation in Greater Mekong Sub-region (GMS) evolved in China (Province of Yunnan and Province of

Guangxi Zhuang), Vietnam, Laos, Myanmar, Thailand, and Cambodia (ADB, 1993, 2018a, 2018b). Better development of GMS attracted an inflow of Foreign Direct Investment (FDI) into GMS before and after the outbreak of Covid-19 (Bloomberg

News, 2020; Hoshi et al, 2019; Witchell & Symington, 2013). The improved infrastructures within GMS enabled fragmentation of foreign manufacturing companies from Thailand to other countries in GMS (Chen & Kwan, 1997; Oizumi, 2013) and establishments of Special Economic Zones (SEZs) in borderlands (Asia Perspective, 2019; Dutta et al, 2018; MekongInstitute, 2020), paving the way for cross-border trade. Regarding industrial fragmentation, many experts discussed the topic concerning service sector improvement, international trade, and the location of manufacturing companies (Jones & Kierzkowski, 2000, 2018; Baldone et al, 2001). Moreover, Japanese scholars (Akamatsu, 1962; Kojima, 2000) developed a model of flying geese to explain the movement of industries from a country to another country.

The recent development of GMS and its industrial fragmentation has impacted industrial development in Indonesia. It seems that implementation of Indonesia's economic policies, such as the 2014 Law on Industrial Affairs, national development plans, industrial development plans, and the 2020 Law on Job Creation and its derivatives (GoI, 2014, 2015a, 2020a, 2020b) will face a bumpy road amidst competition among ASEAN (Association of Southeast Asian Nations) countries in attracting FDI and industrial development.

This paper is important in filling the gap of previous researches. Many researchers only covered social, political, and economic aspects of GMS without making association with its impact on Indonesia (Irewati & Raharjo, 2018; Rahman, 2018; Nufus & Luhulima, 2018; Tongurai & Fujioka, 2017; Oizumi, 2013; Dutta et al, 2018; MekongInstitute, 2020; Hardaker, 2020; Raharjo, 2018; Pudjiastuti, 2018). Other researchers (Kimura & Ando, 2005; Kojima, 2000; Kosai & Tho, 1994) investigated flying geese and industrial fragmentation from Japan to ASEAN countries.

They did not compare the impact of improvement in GMS on Indonesia. The other researchers (Peng, 2003; Nakayama, 2018; Tang & Thant, 1994; Hamanaka, 2015) investigated the impact of sub-regional cooperation on economic development in the sub-region and they did not pay attention to the impact of GMS development on Indonesia's economic development.

To industrial development in Indonesia amidst the recent development of GMS, it is essential to propose a research question about: To what extent does the recent development of GMS have lessons learned and implications for Indonesia's industrial development? This major question requires the following sub-questions: 1) to what extent did the GMS infrastructure development improve the efficiency of the service sector within the sub-region? 2) how did manufacturing industries fragment within GMS before and during the Covid-19 pandemic? 3) what is the potential impact of the GMS on Indonesia's industrial development? This paper has aimed to investigate the potential impact of the recent development of sub-regional cooperation and cross-border economic development within GMS on Indonesia's industrial development.

This paper was structured as follows: the first section discussed debate on GMS development and industrial policies in Indonesia, research questions and objectives, and literature review. The second section would discuss the research methods adopted in this paper. The third section would discuss the recent development of GMS cooperation, flying geese and industrial fragmentation within GMS, and the potential impacts of the sub-regional cooperation and industrial fragmentation within GMS on industrial development in Indonesia. The last section would cover the research conclusion, scientific recommendation, and policy recommendation.

Literature Review

a. Industrial Development

In this section, author would cover manufacturing development and policies on industrial development. Industrial policies play significant roles in the evolution of industrial development. The manufacturing industry undergoes five stages of development, that is, introductory stage, import substitution stage, export stage, mature stage, and reverse import stage (Yamazawa, 1990).

Industrial development has three dimensions, as follows: first, the growth dimension: industry-specific economic growth effect, world market size, market growth, and competitive pressure; second, pro-poor dimension: industry-specific employment effect and inclusive growth; third, environmental dimension: energy and material efficiency and resource development (Günther & Alcorta, 2011).

The other rationale of manufacturing development is its strategic roles: the first is the “engine of growth” that “the faster the rate of growth of the manufacturing sector, the faster will be the rate of growth of Gross Domestic Product/GDP” (Thirlwall, 2015), and the second is the ability to deal with the middle-income trap in developing countries (Yülek, 2018).

Industrial development is fuelled by effective industrial policies. The industrial policies consist of the three layers, as follows: the first is the general industrial policy that is aimed at changing the production structure of the economy in favor of the manufacturing industry by channeling the government’s selected budgetary and non-budgetary resources, and by channeling labor towards the manufacturing sector; the second is the sectoral industrial policy that is aimed at changing the sub-sectoral composition of the manufacturing sector to increase the value-added generated by the existing set of resources; the third is science, technology, and innovation policies that governments allocate

budgetary funds to assist private firms’ research and development activities to develop innovative products, processes, and technologies (Yülek, 2017, 2018).

The industrial policies are then categorized into some purposes that are pertinent to the situation of least middle-income countries, that is, the import substituting industrialization, export-oriented industrialization, resource-based industrialization, export processing zones, and industrialization through innovation (Greenaway & Milner, 1993; Guadagno, 2015; Low & Tijaja, 2013).

b. Flying Geese Pattern, Production Fragmentation, and FDI

The evolution of manufacturing industries is pertinent to the concept of “flying geese pattern” that was first developed by Akamatsu (1962) and then developed by other economists such as Yamazawa (1990) and Kojima (2000). The evolution of the manufacturing industry is also related to industrial fragmentation. Thus, FDI is induced not only by the nature of the industry in the origin country but also by efficiency and potential market in the host country. Author would explain the fragmentation in a later paragraph.

In describing the pattern, Akamatsu (1962) had two arguments: the first is “wild geese fly in orderly ranks forming an inverse V, just as airplanes fly in the formation”; the second is “the flying pattern of wild geese is metaphorically applied to three-time series of inverted-V curves denoting respectively import, domestic production, and export of the manufactured goods in less-advanced countries”. Kojima (2000) implied the relationship between flying geese pattern, FDI, and industrial development.

Based on Yamazawa (1990), Akamatsu (1962), Kojima (2000), author then re-illustrated interplay among stages of industrial development, flying geese pattern, and investment frontier in Figure 1. The concept works as follows: the first

is companies in country X import product A in period 1 (stage 1 for industry A). The second is in period 4, country X's companies get lost the comparative advantage of product A (mature stage of industry A) but gain the comparative advantage of product B. Thus, country X's companies produce product B (industry B is at stage 2-3) and relocate production facilities of product A to country Y (industry A is at stage 2-3 in country Y). Now, country X is renamed as lead goose and country Y is renamed as follower goose. The FDI flows from lead goose to follower goose to produce product A. The companies from lead goose invest financial capital and transfer their technologies and managerial resources to the company in follower goose. Product A produced in follower goose then are sold in the domestic market and exported to lead goose (reverse import by country X). The third is in period 6, product A, which is produced by country X's companies get lost its comparative advantage in country Y (industry A is at stage 4 in country Y). Country X's companies then relocate production facilities of product A from country Y to country Z, that is, followed by financial capital

investment and transfer of technologies and managerial resources in country Z (industry A is at stage 2-3 in country Z). The fourth is country X's companies in country Z produce product A and then country X imports product A from country Z (reverse import of product A by country X). Because product B gets lost its comparative advantage in country X (industry B is at stage 4 in country X), then country X's companies relocate production facilities of product B to country Y that is followed by investing financial capital and transferring its technologies and managerial resources in country Y (industry B is at stage 2-3 in country Y). The fifth is country X's companies in country Y produce product B and then Country X imports product B from country Y (reverse import of product B by country X). Moreover, companies in country X gain the comparative advantage of product C (industry C is at stage 2-3 in country X). The first to the fifth process above can be iterated for the next products.

It is supposed that flying geese pattern fragments manufacturing industry from the origin country to other countries. Industrial

Figure 1.
The interplay among Stage of Industrial Development, Flying Geese Pattern, and investment Frontier

Source: Reconstructed by author based on Yamazawa (1990), Akamatsu (1962), and Kojima (2000)

fragmentation refers to the division of “previously integrated production block” into some separated “production blocks” or “fragments” in the domestic or international market, enabled by efficiency of “service link” (due to improvement of ICT and transportation infrastructure) and efficiency of labor cost (Jones & Kierzkowski, 2000, 2018). As a result, a firm can handle the newly disintegrated blocks and supply inputs to other firms (Jones & Kierzkowski, 2018). Alternatively, the parent company can establish new branches to handle the new blocks in different geographical areas (Kimura & Ando, 2005).

Kojima (2000), Oizumi (2013), Kosai and Tho (1994) then found fragmentation of manufacturing companies, especially Japanese companies, within GMS. Based on the study conducted by Kimura and Ando (2005), Oizumi (2013) then developed a fragmentation model within the sub-region, the so-called “Thailand-plus-one strategy,” that many Thai-based Japanese companies fragmented their production blocks to Cambodia, Laos, and Myanmar due to lower cost of labor and efficiency of logistics.

In line with findings from Oizumi (2013), Baldone et al (2001) also found that the choice of destination of international fragmentation was determined by “labor costs, along with geographic and cultural proximity.” The other determinants of FDI are ease of doing business and good governance in destination countries (Bénassy-Quéré et al, 2005).

c. Sub-regional Economic Cooperation and Development

The sub-regional cooperation has different names, that is, “cross-border economic development”, “sub-regional economic zones”, “natural economic territories”, and “extended metropolitan regions” (Guo, 2015; Tang & Thant, 1994). The sub-regional economic cooperation was fueled by “geographical proximity”, “complementarity in economic structures”,

“outward-looking” approach of development, Cold-War termination, adoption of “economic reforms” and “open-door policies”, and decentralized “political power” (Chen & Kwan, 1997). To reach cross-border/sub-regional economic development, participating parties provide the following facilities: special economic zones (SEZs), free trade zones (FTZs), export processing zones (EPZs), free economic zones (FEZs), industrial parks, and free ports (Guo, 2015).

Some experts (Chen & Kwan, 1997; Tang & Thant, 1994) agreed that the successful sub-regional economic cooperations were determined by geographical proximity, different stages of economic development, open economic system, economic complementarity, political commitment, policy coordination, and infrastructure development. Guo (2015) then classified types of success and failure of cross-border cooperation by providing four parameters, as follows: the first is the successful cross-border economic development that the economic gap (or divergence) between the lagging and the advanced regions will diminish at first and vanish eventually; the second is the effective cross-border economic development that the economic gap (or divergence) will not vanish in the long run, though it will diminish at the early stage; the third is ineffective cross-border economic development that the economic gap (or divergence) will not change over time; the fourth is the failed cross-border economic development that the economic gap (or divergence) between the lagging and the advanced regions will increase even if a cross-border economic development is announced.

d. Policy Change and Stability

To comprehend stability and change of industrial policy and sub-regional economic cooperation, it is essential to view the theory of Advocacy Coalition Framework (ACF), proposed by Weible and Jenkins-Smith (2016) and Sabatier (1987). The ACF distinguished between major

and minor policy change (Weible & Jenkins-Smith, 2016), as follows: firstly, the minor policy change is the changes in the secondary aspects of the policy subsystem, such as how a policy instrument is designed to achieve a particular goal; secondly, the major policy change is the change of the direction or goals of the policy subsystem as they bear on the policy core and deep core beliefs of the coalitions.

Weible and Jenkins-Smith (2016) developed four pathways to the policy change, as follows: the first pathway is external events originating outside of the policy subsystem and the coalition that exploits the opportunity associated with the event; the second pathway is internal events that occurred inside the policy subsystem; the third pathway is contributed by policy learning that leads to policy change when policy actors change their beliefs about the issue; the fourth pathway is originated from negotiated agreements when opposing coalitions reach an agreement about a public policy.

As pointed above that the belief system plays a significant role in major policy change

and the pathway of the change (Weible & Jenkins-Smith, 2016), Sabatier (1987) then elaborated three following beliefs: firstly, deep core beliefs are fundamental normative and ontological axioms; secondly, policy core beliefs are the fundamental policy positions concerning the basic strategies to achieve normative axioms of deep core beliefs; lastly, secondary aspects are instrumental decisions and information searches necessary to implement policy core beliefs.

Methods

This paper aims to discuss the implication of the recent development of sub-regional cooperation and cross-border economic development within GMS for Indonesia. This paper used qualitative research methods. To answer the research questions, this research developed some variables such as the background of GMS cooperation, the current state of infrastructure and investment, and Indonesia's related economic policies and development, as presented in Table 1.

Table 1.
Summary of Variables, Data, and Sources of Data

No	Variables	Data and Information	Sources
1	Backgrounds of GMS	Profile of Mekong River and GMS Hub of GMS The population of GMS, and neighboring countries Cross-border economic cooperation	Irewati (2018) Unpublished: Nippon Express (2021) Population Pyramid (n.d.) ADB (2018b, 2018a); GMS Secretariat of ADB (2014, 2016)
2	Infrastructure development	Infrastructure performance	Nippon Express (2021) and other sources
3	Investment	Ease of Doing Business The inflow of FDI Names and location of SEZ Industrial fragmentation	World Bank (n.d.-a) WorldBank (n.d.-a) GMS Secretariat of ADB (n.d.); World Bank (n.d.-b) Many sources Tongurai and Fujioka (2017); JETRO (2020); Hoshi et al (2019)
4	Indonesia-related economic policies and development	Population of Indonesia Ease of Doing Business Performance of regional development Economic and industrial policy (including sub-regional cooperations involving Indonesia)	PopulationPyramid (n.d.) & Badan Pusat Statistik/BPS (Indonesia Statistics Agency) WorldBank (n.d.-a) BPS Many sources

*It might be that a small number of variables/data/information is not mentioned in the table

Source: Author

Data and information were collected from some papers, un-published and published reports, textbooks, workshop presentations, websites, statistical data, relevant news, etc.

The qualitative information was taken from initial sources and paraphrased by author. Another qualitative information was taken from initial sources and then author enriched the data by compiling new information from new sources. The other qualitative data was compiled and (re) classified into relevant components/variables. Author also identified some information from various sources, compiled it, and paraphrased it. The necessary picture was added to provide clear information about the discussed subjects. Author transformed some statistical data into arguments. Then qualitative and statistical data were interpreted in line with the proposed research questions.

Results and Discussion

Recent Development of GMS Cooperation

Having an interest in commons, the countries traversed by Mekong River established long-period cooperation of GMS. The characteristics of the Mekong River and the countries are elaborated as follows: the first is the social, political, and economic profile of the sub-region: a) conflict potential by armed militia; b) relatively high sensitivity of conflicts due to border disputes among countries within GMS i.e., Thailand and Vietnam; c) conflict due to utilization of resources of the river (China controls the upper part of the river, having risks to other countries in downstream); d) human trafficking, prostitution, illicit trade of drugs across GMS; e) landlocked and isolated states; f) economic inequality among countries within GMS; g) countries within GMS collocates with highly populated countries (Irewati & Raharjo, 2018; Rahman, 2018; Nufus & Luhulima, 2018; Raharjo, 2018; Pudjiastuti, 2018).

The second is the political meaning of the river and sub-region: a) the river is the political

borders as the potential of latent conflict; b) Mekong sub-region having conflict potential has been unified into more positive cooperation; c) GMS is the access point to the South China Sea (Irewati & Raharjo, 2018; Rahman, 2018; Nufus & Luhulima, 2018; Raharjo, 2018; Pudjiastuti, 2018). The third is the economic meaning of the river and sub-region: a) potential of natural resources of the Mekong River gives incentives for the countries within the sub-region to cooperate under economic corridors and some other cooperation; b) GMS is the access point to investment and trading traffic to the global market through Southeast Asia (Irewati & Raharjo, 2018; Rahman, 2018; Nufus & Luhulima, 2018; Raharjo, 2018; Pudjiastuti, 2018).

Since the establishment at the beginning of the 2000s, three main economic corridors of GMS connecting the involved countries (ADB, 2018a, 2018b) were recently improved, as follows: firstly, North-South Economic Corridor (NSEC): from China, Myanmar (even reached the border of India and Bangladesh), Laos to Thailand and Vietnam; secondly, East-West Economic Corridor (EWEC): from Myanmar, Thailand, Laos, to Vietnam; lastly, Southern Economic Corridor (SEC): from Myanmar, Thailand (intended to connect with Malaysia), Cambodia to Vietnam and Laos (Figure 2). The development projects and cooperation will continue to 2030 (ADB, 2018a, 2018b).

Flying Geese, Industrial Fragmentation, and Its Antecedents

a. The Efficiency of Service Sector

Recently, cross-border trade within GMS becomes better. The flow of goods in/out of GMS and within GMS has improved as a result of the development of transportation infrastructure. Thus, GMS has a comparative advantage in terms of logistics costs. In the perspective of export, the time required for export in GMS countries decreased (World Bank, n.d.-a). The fastest time for export occurred in Thailand, followed by Laos, Vietnam, Cambodia, and Myanmar (World Bank,

Figure 2.
GMS Economic Corridors

Source: GMS Secretariat (n.d.-a)

n.d.-a). However, the major change took place in Laos and Cambodia. It takes more than 69 hours to export goods from Laos in 2019, decreasing from more than 1.500 hours in 2006 (World Bank, n.d.-a). In the Cambodian case, it takes time, 180 hours, to export goods in 2019, decreasing from more than 1.000 hours in 2006 (World Bank, n.d.-a).

With the improvement of export time, countries in GMS reduced the costs required to export goods. The most efficient exporting country within GMS is Thailand, followed by Laos, Vietnam, Cambodia, and Myanmar (World Bank, n.d.-a). Again, Laos takes more advantage of the improvement of transportation infrastructure within GMS by a major reduction of exporting costs to USD 375 in 2019, decreasing from USD 1.700 in 2008 (World Bank, n.d.-a).

In the perspective of import, countries within GMS enabled the sourcing of manufacturing inputs (materials) from other countries in

efficient ways. In terms of time required for import, companies in Thailand can import materials fast, followed by those of Laos, Vietnam, Cambodia, and Myanmar (World Bank, n.d.-a). Laos and Cambodia were noted to have the most revolutionary measures in reducing import time (World Bank, n.d.-a).

The reduction of time to import to GMS contributed to the reduction of import costs. Thailand is the most efficient country for importing goods, followed by Laos, Cambodia, Vietnam, and Myanmar (World Bank, n.d.-a). The major improvement took place in Laos, having importing costs below USD 340 in 2019, decreasing from USD 1.930 in 2008 (World Bank, n.d.-a).

One of the causes of logistics cost reduction in GMS is the ability of the infrastructure to reduce transport lead time. Before infrastructure development, most goods are transported by sea, requiring a longer time. The development of land infrastructures and border opening drove

a reduction of the time required to transport goods. The efficiency of land transportation within GMS are as follows (Nippon Express, 2021): a) transportation of good from Bangkok to Yangon takes 3 days by truck, improving from 14 days by sea; b) transportation of good from Kunming to Bangkok takes 6 days by truck, improving from 24 days by sea; c) transportation of good from Shenzhen to Hanoi takes 2 days by truck, improving from 7 days by sea; d) transportation of good from Bangkok to Hanoi takes 4 days by truck, improving from 8 days by sea; e) transportation of good from Bangkok to Phnom Penh takes 2 days by truck, improving from 5 days by sea; f) transportation of goods from Ho Chi Minh to Phnom Penh takes 1 day by truck, improving from 3 days by sea; g) transportation of goods from Bangkok to Kuala Lumpur takes 2 days by truck, improving from 10 days by sea; h) transportation of goods from Bangkok to Singapore takes 3 days by truck, improving from 8 days by sea.

b. Business Environment and Investment

Countries within GMS (mainly Thailand and Vietnam) successfully improved the business environment to maintain current FDI and invite more incoming FDI. As showed by the Ease of Doing Business (EoDB) rank, Thailand was able to maintain a business environment with top 30 EoDB global rank for more than ten years (World Bank, n.d.-a). Vietnam was also able to improve its business environment achieving top 70 EoDB global rank in 2019, improving from below the 90th rank in 2006 (World Bank, n.d.-a).

Due to the improvement of connectivity and business environment, countries within GMS successfully attracted a great deal of inflow of FDI. The inflow of FDI to GMS in 2017 was USD 31,858 million, increasing from USD 3,405 million before the initiation of infrastructure projects in 1992 (GMS Secretariat, n.d.-b). Vietnam, Thailand, and Myanmar gained more FDI in terms of value according to GMS' data (GMS Secretariat, n.d.-b).

Lao PDR and Cambodia had a relatively small value of investment but their FDIs grew much higher from 1992 to 2017 (GMS Secretariat, n.d.-b).

The countries within the sub-region also developed various SEZs. Both foreign and domestic companies invested and did their activities within GMS' SEZs. This study found that Thailand has 11 SEZs, Vietnam has 4 key economic regions (KERs) with a lot of SEZs inside, Myanmar has 30 SEZs, Laos has 12 SEZs, and Cambodia has 46 SEZs (Phonvisay, n.d.; Asia Perspective, 2019; EECO, n.d.; IPD of Laos PDR, n.d.; Dutta et al, 2018; Mekong Institute, 2020; Open Development Cambodia, 2016; Open Development Laos, n.d.; Open Development Myanmar, n.d.; Royal Thai Embassy, n.d.; Hardaker, 2020; Rastogi, 2018). Most of the SEZs are located in border areas and economic corridors enabling seamless coordination between suppliers and buyers. Moreover, governments of the GMS countries are trying to connect economic corridors with SEZs with poor transportation infrastructures.

c. Flying Geese to and Industrial Fragmentation within GMS

The foreign companies collocated their production and logistics facilities with more than one country within GMS to avoid supply chain risks and gain comparative advantages. Tongurai and Fujioka (2017) found the phenomenon of supply chain diversification from Thailand to other countries within GMS ("Thailand-plus-one strategy") before the Covid-19 pandemic, cited in Table 2.

This study found new phenomena, as presented in Table 2. First, Japanese manufacturing industries (mainly, medical equipment and tool, electronic and electrical, component and part industry) moved from China to countries within GMS during the Covid-19 outbreak (JETRO, 2020). The phenomena confirmed the flying geese pattern of Japanese companies (Kojima, 2000; Kosai & Tho, 1994). It also confirmed

the phenomenon of “China-plus-one strategy” (Witchell & Symington, 2013). Second, the Japanese manufacturing industries fragmented their production blocks not only from Thailand to other GMS countries, as found by Nippon Express (2021), but also from Vietnam to other countries within the sub-region (JETRO, 2020; Hoshi et al, 2019). The findings also confirmed that Japanese companies maintain a Thailand-plus-one strategy, as suggested by Tongurai and Fujioka (2017), and Oizumi (2013). Even the Japanese companies also considered the Vietnam-plus-one strategy. However, the Vietnam-plus-one strategy was still supported by little evidence and thus needs further investigation. Flying geese pattern during Covid-19 outbreak drove transfer of resources by companies from lead geese to follower geese, as suggested by Kojima (2000). Moreover, the flying geese pattern during the outbreak was supported by the government. Japan’s Government financed the companies to diversify their supply chain and to GMS (JETRO, 2020).

Finally, flying geese to and industrial fragmentation within GMS before and during Covid-19 pandemic were contributed by “comparative advantage” (Kojima, 2000) of GMS countries due to efficiency of “service link” and “labor cost” (Jones & Kierzkowski, 2000, 2018), and “business environment” (Bénassy-Quéré et al, 2005; Yülek, 2017, 2018). In this case, the successful implementation of GMS projects and the development of cross-border SEZs played the important role in improving the comparative advantage of GMS.

The implication of GMS to Indonesia’s Industrial Development

a. Policy Change of Infrastructure policies for Economic Development

The lesson learned is related to the change of infrastructure policies for economic development. The discussion of infrastructure projects makes GMS and Indonesia comparable. The considerable

progress of GMS is due to policy stability or minor change in infrastructure development for at least 2 decades ago. The master plans of GMS development were regularly reviewed and revised. It should be a lesson learned for Indonesia’s policies on economic development. Policies on infrastructure development 2015-2024 seem somewhat unstable. The government of Indonesia (GoI) initially developed the overarching transportation infrastructures and then is willing to relocate the new capital city to Borneo (Table 3).

As reported, GoI completed 92 national strategic projects from 2016 to December 2019, costing IDR 467 trillion or USD 33.36 billion (Suwiknyo & Margrit, 2019). However, GoI then decided to relocate its capital city to Borneo costing IDR 466 trillion or USD 33.29 billion (GoI, 2020a; Kusuma, 2019). It is irony of policy priority amidst Indonesia’s severe debt burden (Guild & Chen, 2019) that the difference of the cost of the national strategic projects, covering many provinces, and the development of a new capital city, covering one province, is only IDR 1 trillion or USD 71.43 million.

The reason to relocate to the capital city is to accelerate regional development in Indonesia and to reduce the ecological and economic burden of Jakarta (ELiraz, 2020; GoI, 2020a; Lyons, 2019). Regional inequality in Indonesia was severe for many years with the domination of the Java region. Statistical data (BPS, 2017, 2020) showed that the Java region increasingly shared Gross Regional Domestic Products/GRDP (59% in 2019 increasing from 57% in 2013) to national GDP and manufacturing value added (71.4% in 2019 increasing from 70.9% in 2013) to national manufacturing value added. In terms of value, outside Java’s GRDP and manufacturing value added increased but diminished in terms of shares.

Even if Indonesia’s policy on regional development underwent the change of policy

Table 2.
Flying Geese and Industrial Fragmentation within GMS:
Thailand- and Vietnam-Plus-One Strategy

No	Companies	Sector	Location					Period
			C	L	M	T	V	
1	Daiwa Sangyo	Automotive parts		x		x		Before Covid-19
2	Denso	Automotive parts	x		x	x		Before Covid-19
3	Minebea	Automotive parts	x			x		Before Covid-19
4	Sumitomo Wiring Systems	Automotive parts	x			x		Before Covid-19
5	Toyota Boshoku	Automotive parts		x		x		Before Covid-19
6	Yazaki	Automotive parts	x	x		x		Before Covid-19
7	Nataka Seiko	Automotive parts				x		During Covid-19
8	Yokowo	Automotive parts					x	During Covid-19
9	Panasonic	Automotive parts				x		Before Covid-19
10	Suzuki Motor	Automotive	x	x	x	x		Before Covid-19
11	Yamaha Motor	Automotive	x			x		Before Covid-19
12	Inoue Iron Works	Pharmaceutical manufacturing equipment					x	During Covid-19
13	Showa International	Long sleeve gown/medical mask					x	During Covid-19
14	Showa Glove	Commercial gloves			x			During Covid-19
15	Techno Global	Medical face shield					x	During Covid-19
16	Able Yamauchi	Medical protective clothing/gown					x	During Covid-19
17	Hashimoto Cross	Non-woven mask, medical alcohol wet wipes, medical hair cap					x	During Covid-19
18	Plus Corporation	Medical-surgical mask					x	During Covid-19
19	Matsuoka Corporation	Infection control protective clothing/gown					x	During Covid-19
20	Maruhachi Cotton	Medical gown		x				During Covid-19
21	Riki	Medical gown				x		During Covid-19
22	Nikkiso	Blood circuit for dialysis				x	x	During Covid-19
23	Nikki Fron	Parts for production lines such as vaccines and semiconductors				x		During Covid-19
24	Nidec Corporation	Parts for precise motor	x			x		Before Covid-19
25	Fujikin	Semiconductor manufacturing equipment parts (parts for ultra-precision valve equipment)					x	During Covid-19
26	Meiko Electronics	Parts for smartphones (electronic circuit boards)					x	During Covid-19
27	Pronics	Air conditioner parts (motor)					x	During Covid-19
28	HOYA Corporation	Hard disk drive parts (glass substrate for storage media)		x			x	During Covid-19 outbreak
29	G.S. Electech Inc.	Wire harness	x			x		Before Covid-19
30	Akiba Daicast Industry	Power module parts					x	During Covid-19
31	Ricoh	Printers				x		Before Covid-19
32	Koycera	Printers					x	Before Covid-19
33	Sharp	Personal computers					x	Before Covid-19
34	Nintendo	Video game consoles					x	Before Covid-19
35	Amtec	Disinfectant (for hemodialysis machine)				x		During Covid-19
36	Sun Alloy Industry	Rare metal (cemented carbide)				x		During Covid-19
37	Shin-Etsu Chemical	Rare earth magnet					x	During Covid-19
38	KUBOTA	Agriculture machinery				x		Before Covid-19
39	Nikon	Precise machinery		x		x		Before Covid-19
40	Yamaki	Apparels		x		x		Before Covid-19
41	Osaka Maruni	Shoemaker		x	x	x		Before Covid-19
42	Asics	Running Shoes					x	Before Covid-19
43	Oji Holdings	Corrugated Containers etc.	x	x	x	x		Before Covid-19
44	Cashio Computer	Wristwatches				x		Before Covid-19
45	Citizen Watch	Wristwatches				x		Before Covid-19
46	Aderans	Wig		x		x		Before Covid-19
Total Cambodia, Laos, Myanmar, Thailand, and Vietnam (CLMTV)			9	11	5	26	19	70

Source: Compiled by author based on data from Tongurai and Fujioka (2017); JETRO (2020); Hoshi et al (2019)

Table 3.
Comparison of Determinants of Policy Change and Stability of Economic and Infrastructure Development between GMS and Indonesia

Beliefs		GMS*	Indonesia**
1. Deep core beliefs			
a. Initial belief	The interplay between sub-regional security and economic development	<ul style="list-style-type: none"> • Economic sovereignty • Economic equality 	
b. Later belief	No change	<ul style="list-style-type: none"> • Economic sovereignty • Partial regional development • Pragmatism 	
2. Policy core beliefs			
a. Initial belief	<ul style="list-style-type: none"> • Proper scope: government and private funding • Orientation on policy conflict: 1) improving sub-regional security by economic cooperation; 2) improving economic development through infrastructure development; 3) improving welfare. • The magnitude of perceived threat: conflict is high risk and latent 	<ul style="list-style-type: none"> • Proper scope: government funding with large share • Orientation on policy conflict: 1) economic development; 2) regional economic equality; 3) national independence; • The magnitude of perceived threat: 1) no attention to Jakarta's condition; 2) less issues on government debt 	
b. Later belief	No change	<ul style="list-style-type: none"> • Proper scope: government and more emphasis on private funding • Orientation on policy conflict: 1) ecological burden and unsustainability of Jakarta; 2) paradox between comprehensive regional economic development and Borneo economic development (distortion of regional development); 3) national economic independence; • The magnitude of perceived threat: 1) Jakarta's condition was the most serious and paid attention; 2) serious debt problem 	
3. Secondary aspects			
a. Initial action	Development of infrastructure enabling economic development	<ul style="list-style-type: none"> • Massive development of infrastructure to whole regions (lead) • New capital city project was not initiated 	
b. Later action	<ul style="list-style-type: none"> • Change in dynamic nature of sub-regional development; • Minor change by setting up economic corridors; • Minor change for functioning economic corridors and maximizing welfare; • Consistent development of infrastructure enabling economic development by regular review and target adjustments • Revision of master plan and creating the 2030 master plan, including adjustment of required financing of the regional investment framework from USD 51.500 million (2013-2022) to USD 62.905 million (2014-2020). 	<ul style="list-style-type: none"> • Massive (promotion of) development of new capital cities in Borneo (lead) • Massive development of infrastructure to whole regions (lead) • Creation of 2020-2024 national medium-term plan covering new capital city (budgetary indication: IDR 466 trillion or USD 33.29 billion) 	

**The initial refers to the beginning of GMS cooperation and the latter refers to the current development of the cooperation*

***The initial refers to the early time of Joko Widodo's First Term (2014-2019) and the latter refers to his later time of first and second term (2019-2024).*

Source: Developed by author from many sources (ADB, 2018a, 2018b; Janitra, 2020; Suwiknyo & Margrit, 2019; Ekayanta, 2019; ELiraz, 2020; GMS Secretariat, 2014, 2016; GoI, 2015b, 2020a; Kusuma, 2019; INDEF & Jakarta Post, 2020; Guild & Chen, 2019; Lyons, 2019; Sabatier, 1987).

means, it involves the change in deep core beliefs, policy core beliefs, and secondary aspects. With the changes, the acceleration of the eastern part of Indonesia will cause Borneo-centric economic development because of infrastructure development and the increasing population in the new city (INDEF & Jakarta Post, 2020). It means that the regional development policies implicitly underwent a major change from equally regional development to Borneo-centric development (Table 3).

The major change of policies on promoting regional development was asserted by Ekayanta (2019), arguing that Indonesia's infrastructure development became pragmatic. The pragmatism was confirmed by Janitra (2020) arguing the alleged involvement of business lobbyists in the infrastructure development in the new capital city. The development of a new capital city indeed tends to be forced because the project will potentially contribute to the small share of Indonesia's economic development (INDEF & Jakarta Post, 2020) and GoI persists to build a new capital city even during the Covid-19 pandemic. Based on the national budget situation (Guild & Chen, 2019), the experience of GMS cooperation (ADB, 2018a, 2018b), and the potential impact of the new capital city (INDEF & Jakarta Post, 2020), it is better for GoI to focus on policies balancing regional development, instead of building the new capital city.

b. Preference of Inflow of FDI

With improved infrastructures and comparative advantages within GMS, foreign companies preferred GMS to Indonesia as an investment destination, according to WorldBank (n.d.-b). The other attractiveness of GMS is the number of GMS' total population approaching Indonesia's number of population (BPS, 2021; Population Pyramid, n.d.). The GMS is also nearby South Asia as one of the most populated regions (Population Pyramid, n.d.).

The inflow of FDI in Indonesia decreased from 2015 to 2018 and then increased after that period (World Bank, n.d.-b). Java region will be more attractive for FDI, mainly for manufacturing companies producing high-end products, than outside-Java region because Java has a better infrastructure and large population (BPS, 2021). Java shared 56% of the total Indonesian population in 2020 or higher than the total population of Thailand, Myanmar, Cambodia, and Laos (BPS, 2021; Population Pyramid, n.d.). The infrastructure attractiveness of Java drove US companies to relocate their production facilities from China to Central Java, Indonesia (Anwar, 2020).

Even if outside-Java region has contributed 53% of national FDI in 2020, increasing from 39% in 1994 (BPS, 1996, 2021), the investment in the region will be more attractive for the resource-based industries with excluding Batam. The higher share of FDI in the outside-Java region in 2020 was contributed mostly by provinces with abundant resources such as Central Sulawesi, Southeast Sulawesi, North Maluku, Riau, Riau Islands, and North Sumatra (BPS, 2021). It means economic inequality will continue to occur in some other provinces out of the Java region and without resources in abundance. The regional imbalance is also shown by facts that the outside-Java region shared 41% of Indonesia's GDP in 2019, decreasing from 43% in 2013, and contributed 28% of the Indonesia's manufacturing value added in 2019, decreasing from 29% in 2013 (BPS, 2017, 2020).

c. The Potentially Diminishing Share of Export Market to South and Southeast Asia

The GMS countries will potentially have self-sufficiency, especially for consumer goods. As a result, manufacturing companies within GMS will mostly import inputs from outside. In other words, Indonesia will possibly export most of the materials for industrial inputs to the sub-region. Moreover, a reduction of the export of Indonesia to South Asian Countries will possibly take

place. Some facts strengthen these arguments. First, Indonesia's export time is still longer than Thailand, Vietnam, and Laos (World Bank, n.d.-a). Second, the cost of export of Indonesia is higher than Thailand and Laos (World Bank, n.d.-a). Third, Thailand plays a key role in the consolidation of procurement and production for GMS-based manufacturing companies into a single basis in Thailand (Nippon Express, 2021). Fourth, the current progress of GMS transportation project has reached the border of Myanmar and South Asia (Figure 2), having a large population in the world; Population Pyramid, n.d.).

Conclusions

In this section, author discusses the major findings of the study and some recommendations. Generally, this study found that economic cooperation and development of GMS have lessons learned for and impact Indonesia's industrial development. Some findings of this research are as follows: First, stable policy implementation of GMS cooperation resulted in considerable progress of GMS development including the efficiency of the service sector. Some countries within GMS even have better logistics performances than Indonesia. Second, different stages of industrial development within GMS, the different comparative advantage of GMS countries, improvement of the service sector continued the flying geese pattern and industrial fragmentation out of Thailand and Vietnam. Third, this study found some implications of GMS cooperation for Indonesia. For example, public policy stability of GMS cooperation should be a lesson learned for Indonesia. The instability of Indonesia's policies on infrastructure and economic development will potentially exacerbate Indonesia's regional disparities. GMS is more attractive for FDI than Indonesia, especially most of outside-Java regions with a lack of infrastructure. The export share of high-end products of Indonesia to GMS and South Asia will potentially diminish because GMS

countries produce more competitive products and have closer proximity to South Asia. As a result, Indonesia will potentially export most of the raw materials and intermediate goods into GMS.

This paper also found the relevance of theories of flying geese (Yamazawa, 1990; Akamatsu, 1962; Kojima, 2000), industrial fragmentation (Kimura & Ando, 2005; Tongurai & Fujioka, 2017; Oizumi, 2013; Jones & Kierzkowski, 2000, 2018), industrial policy (Greenaway & Milner, 1993; Guadagno, 2015; Yülek, 2017, 2018; Low & Tijaja, 2013), ACF and policy change (Weible & Jenkins-Smith, 2016; Sabatier, 1987), sub-regional economic cooperation and development (Chen & Kwan, 1997; Nakayama, 2018; Tang & Thant, 1994; Guo, 2015; Hamanaka, 2015).

Departing from the aforementioned findings, this paper suggests some improvements to deal with the challenges, as follows. First, set up more stable policies on regional development. Regular review of master plans/development plans is essential to realign/reconfigure the programs formulated in previous years. Second, consider the stage of industrial development in Indonesia and other countries, mainly current lead geese and sequential follower geese, to attract FDI. Third, improve the quality and effectiveness of public policies on improving the business environment. Even if Indonesia adopted policy reforms on EoDB for many times from 2008 to 2019, Indonesia's ranks of EoDB were not better than that of GMS countries with minimum policy reforms in the same period, according to WorldBank (n.d.-a). It means Indonesia's policy effectiveness and efficacy are questioned.

Fourth, it is essential to optimize current sub-regional cooperations. Sub-regional cooperation is important to promote export-oriented policy and interconnection of sub-regional supply-demand. Indonesia is currently involved in some sub-regional cooperations such as Sijori-GT, IMT-GT, and BIMP-EAGA (Nakayama, 2018). Building cross-border infrastructure networks mainly among members of the sub-regional cooperation

will enable Indonesia to integrate into regional and global production network. The optimization of sub-regional cooperations will enable Indonesia to balance regional development and to build regional production basis. It will take place by the development of SEZs in border areas.

This paper finally suggests further necessary scientific researches. First, it is necessary to research the flying geese pattern within GMS and Indonesia because this paper inadequately covered the phenomena. Second, this study covered a small proportion of belief systems in policy change. Thus, this study suggests the importance of studying belief systems in and pathway of policy change in the future, especially pertinent to sub-regional cooperation and infrastructure development. Third, author also suggest the importance of studying the causes of different performances of the business environment because minimum measures in GMS have a significant impact on the improvement of the business environment. Fourth, it is necessary to conduct further research on the success and failure of sub-regional economic cooperation, as classified by Guo (2015).

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