A GLOBAL STUDY ON DEVELOPMENT ISSUES FOR MIDDLE-INCOME ECONOMIES IN THE ASEAN

Review Paper[1]

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Abstract
This paper lies on a research problem of how to build an ASEAN economic development strategy, presenting future development possibilities. A statistical lens to understand the economic growth trajectory and the status in the ASEAN was employed. Also, the development issues relevant to the Middle-income Trap (MIT) and identify research problems were extracted through literature review. These methods help us identify development issues, notably of responding to insufficient factor input development and shifting to total factor productivity development towards changes in the external environment would be a significant hallmark, considering the trend of premature de-industrialization. With three significant global trends of geopolitical risk, digitalization, and resource environmental constraints, a suggested framework on development strategies, especially under the lower-middle-income and higher-middle income economies, was presented. Particularly, in the context of overcoming the MIT in the ASEAN economy, the respective governments should promote their development policies and revise the development strategy repeatedly.

Keywords: ASEAN Economy, Middle-income Trap, Development Issues, Geopolitical Risks, Digitalization, and Resource Environmental Constraints

1 Introduction

As well-recognized in the world, “ASEAN” stands for the Association of Southeast Asian Nations, established by the Bangkok Declaration in 1967. The original member countries are Thailand, Indonesia, Singapore, the Philippines, and Malaysia. Brunei joined in 1984, followed by Vietnam, Cambodia, Laos, and Myanmar, all located on the Indochina Peninsula. As of 2022, the ASEAN is composed of 10 countries (MOFA, 2022). As a recent activity, the signing ceremony for establishing the ASEAN Economic Community (AEC) was held in Kuala Lumpur on November 22, 2015. With the establishment of the AEC, the movement of capital, labor, and various services can further be liberalized, and infrastructure development will dramatically increase the connectivity of the entire region. Therefore, the AEC is expected to develop the ASEAN economy further.
However, everything is not bright for the future of the ASEAN economy. In particular, there have been global problems that no one expected, including the impact of the new coronavirus, which has spread worldwide since early 2020, and Russia invasion into Ukraine since early 2022. The effect of these problems on the world economy is immeasurable. These uncertain times are so-called “VUCA,” which is a coined word that takes the first letters of the four words "Volatility," "Uncertainty," "Complexity," and "Ambiguity" and means a situation where it is challening to predict the future for

[1] This article is primarily based on the previous working paper edited by Karikomi, Hashi, and Hara published in May 2023 through the *Teikyo University Economic Review Vol.*56, which was written in Japanese language.

economy and business (Globis, 2022). Here, ASEAN countries are currently positioned as middle-income economies. However, from historical experience, many economies have fallen into the so-called "middle-income trap (MIT)," where development stagnates at the middle-income stage. In the age of VUCA, there is no guarantee of success even if the economies follow the development experiences in the past. Unless effective responses to the development challenges that each country faces, there will be further risks that a progress to a higher stage cannot be attained.

The economic progress in the developing world has been based on the "development stage theory," in which the development proceeds from the low-income stage, the middle-income stage, and then to the high-income stage. It has been the primary theory supported in the study area of Development Economics, while phenomena that a "development stage theory cannot explain" have occur in the ASEAN economy. For instance, people using electronic products, including mobile phones and smartphones, can be seen in emerging and developing countries. Smartphone penetration is remarkable even in low-middle-income countries, i.e.) Indonesia, Lao P.D.R., the Philippines, and Vietnam. In this regard, in the developing countries where existing social infrastructure has not yet been developed, the so-called "leapfrog type of development" has been paid attention to by scholars, in which new services, etc., leapfrog over the technological progress gained through developed countries.

Our essential study concern here in this paper is what kind of development strategy will be necessary for the ASEAN economy in such a VUCA world? With this problem in mind, this paper attempts to extract points of discussion and study gaps for future development strategies. In this paper, the trajectory of ASEAN's economic growth will be followed for grasping the current status and presenting the research problems that ASEAN is facing as study gaps. Next, considering that ASEAN is positioned at the middle-income stage, we will overview research trends on middle-income trap presenting hypotheses and points of contention as for the economic development strategies that should be adopted and finally suggesting future study potentials regarding ASEAN economic development strategies.

2 Review of Literature

Literature review is composed of “Trajectories, Status, and Issues in the ASEAN Economy,” “Middle-income Trap,” and “Pioneering Studies on the Middle-income Trap,” accordingly.

2.1 Trajectories, Status, and Issues in the ASEAN Economy

2.1.1 Trajectories in the ASEAN Economy

Looking at the per capita GNI of ASEAN countries, shown in Table 1, as of 1990, Thailand and Malaysia were the only countries other than Singapore that exceeded 1,000 US$. In 2000, the Philippines was added as a country with more than 1,000 US$, followed by Indonesia, Lao P.D.R., the Philippines, and Vietnam in the 2010s. In 2015, all ASEAN countries exceeded 1,000 US$, leaving the low-income stage with less than 1,045 US$[2]. In particular, Malaysia exceeded 10,000 US$ in 2012, and Thailand exceeded 5,000 US$, reaching the upper middle-income stage (4,096 US$ to 12,695 US$), respectively. In 2021, while Singapore is in the high-income stage, Indonesia, Malaysia, and Thailand, are in the upper-middle-income stage. Also, Cambodia, Lao P.D.R., Myanmar, the Philippines, and Vietnam are in the lower-middle-income status.

Interestingly, the trajectory of the development of the leading group of, primarily East Asian and some Southeast Asian countries, that reached the high-income stage can theoretically be explained. One of the most popular theories in a country's industrialization process is the flying geese morphology theory. This theory was proposed by Akamatsu (1935) and is an analytical framework to explain the catch-up

[2] Principally, the income classification of Low-income, Lower-middle-income, Higher-middle-income, and High-income, is followed by the World Bank (2023).

process of the least-developed countries. The basic model is first to shut out imported foreign products through tariffs and non-tariff barriers, gradually replace them with domestic products (Import-substituting Industrialization), and after satisfying domestic demand, export to foreign countries.[3] Indeed, Taiwan, South Korea, Hong Kong, and Singapore faced the limits of import substitution industrialization, thus shifting to export-oriented industrialization in the mid-1960s. As a result, these countries achieved more than 20% growth in the manufacturing industry and GDP growth in the 10% range (Fujita, 1995). Stimulated by the precedents of these three countries, other ASEAN countries, especially of Indonesia, Malaysia, the Philippines, and Thailand, have also promoted policies to shift to export-oriented industrialization since the 1970s[4]. This export-oriented industrialization policy is supported by Mint's "export substitution theory." (1971)

Area/Year	1990	2000	2012	2015	2018	2021
East Asia						
Japan	27,820	36,810	50,060	39,380	41,770	42,620
South Korea	6,450	11,030	25,660	28,720	32,750	34,980
China	330	940	5,910	7,890	9,540	11,890
Hong Kong	12,660	26,930	36,340	41,180	50,050	54,450
ASEAN						
Singapore	11,450	23,680	51,710	53,160	56,670	64,010
Thailand	1,540	1,980	5,520	5,710	6,610	7,260
Malaysia	2,400	3,460	10,180	10,680	10,650	10,930
Indonesia	560	580	3,580	3,430	3,840	4,140
Philippines	830	1,180	2,860	3,380	3,710	3,640
Vietnam	130	380	1,970	2,460	3,030	3,560
Myanmar	40	130	990	1,170	1,220	1,140
Lao P.D.R.	190	280	1,370	1,980	2,490	2,520
Cambodia	n.a.	300	880	1,060	1,380	1,550
World	4,205	5,522	10,540	10,664	11,179	12,070

Table 1. GNI per capita in East Asia and ASEAN (1990 to 2021)
Note: "n.a." is shown due to the missing data
Source: Based on the World Development Indicators (2022), authors summarized the data.

On the other hand, another major external factor for the ASEAN economy is the change in the international environment after the Plaza Accord[5]. After this agreement, Japanese companies made the foreign direct investment (FDI) in Thailand, Malaysia, and Indonesia due to the yen's rapid appreciation and actively transferred machinery industries, including home appliances and automobiles, from Japan to ASEAN. Triggered by this, many of the advanced ASEAN countries (Singapore, Thailand, and Malaysia) have succeeded in shifting from import substitution to export-oriented industrialization. Tran (1999) analyzed the situation in East Asia until the mid-1990s when ASEAN countries, mainly in the machinery industry, had caught up with the developed and pioneering

[3] Nonetheless, in these four countries, there was a strong tendency toward import substitution, and the period of industrialization policies and regulatory measures as a "secondary" position to promote exports along with import substitution continued for a relatively long time. Thus, the economy at that time was a feature of the policy (Fujita, 1995).

[4] Kojima (2003) analyzed issues that needed to be sufficiently considered in Akamatsu's (1935) theory of the flying-geese pattern, primarily the phenomenon of re-importing some products, including intermediate goods, that are produced overseas, which was developed.

[5] From the 1980s to the 1990s, to correct the dollar's appreciation, the G5 (the meeting of finance ministers and central bank governors of the five industrialized nations (the United States, the United Kingdom, Japan, West Germany, and France)) in September 1985 This is a statement on stabilization (Nomura Securities, 2022).

countries and revealed that ASEAN had been fully incorporated into the dynamic division of labor in East Asia.[6]

In January 1993, the ASEAN Free Trade Area (AFTA) was established. In 2010, a comprehensive trade agreement with China was established to mutually reduce tariff barriers and mutually expand intra-regional trade and investment. The Economic Cooperation Framework Agreement (ACFTA) was launched.[7] By fulfilling these agreements, a high level of economic liberalization, including the complete elimination of tariffs on goods within the ASEAN region, has been achieved, and further economic boost in the long run has pursued.

2.1.2 Current Status in the ASEAN Economy

The ASEAN economy using statistical data was introduced and discussed in the previous syllable, while here the current status of the ASEAN from the following four perspectives will be raised as a major discussion.

First, the ASEAN economy primarily consists of service industries in terms of industrial structure. As mentioned earlier, since the 1960s, many ASEAN economies have been making efforts to transform their industrial structures, in other words, industrialization, in following the precedents of South Korea and Taiwan. Consequently, there was a shift from primary industry (agriculture, forestry, and fisheries) to secondary industry (manufacturing) and then to tertiary industry (service industry).

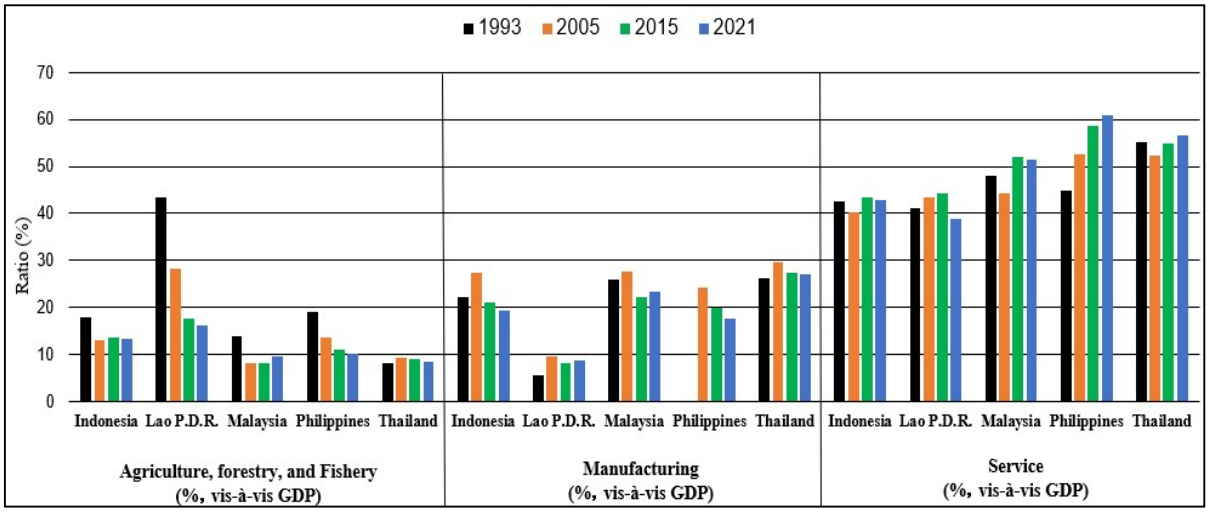


Figure 1. The Trend of the Industrial Structure in ASEAN (1993-2021)
Source: Based on World Development Indicators (2022), authors made.

Figure 1 shows changes in the industrial structure (1993-2021) in five countries (Indonesia, Laos, Malaysia, the Philippines, and Thailand) by the value-added ratio of agriculture, forestry and fisheries, manufacturing, and service industries. In all five countries, the balance of the service industry is overwhelmingly higher than that of the agriculture, forestry, fisheries, and manufacturing industries, regardless of the specified time. In the agricultural sector, Indonesia, Laos, Malaysia, and the Philippines were in the 20-40% range in 1993. However, since the 2000s, they have remained in the

[6] Yamazawa and Hirata (1991) point out that industrial adjustment by the governments of developed countries since the 1980s may have a significant impact on developing countries, including ASEAN, e.g.) market share adjustments and the spread of technological innovation.

[7] It is an agreement to establish a free trade area between the Association of ASEAN countries (10 countries) and China. It consists of three main agreements: the Trade in Goods Agreement (TIG), the Trade in Services Agreement, and the Investment Agreement. It has been conspicuous since 2016 (JETRO, 2016).

10% range except for Laos. In the manufacturing industry, some countries (Indonesia, Malaysia, Thailand) were prominent until 2005, while the ratio was gradually decreasing toward 2021. Instead, the service industry has been on the rise, except for several countries. In particular, the Philippines increased from around 45% in 1993 to over 60% in 2021. Based on data on the value-added ratio of each industry, the service industry accounts for a large proportion of the ASEAN economy.

Second, there is an increasing trend in the number of multinational or multi-national corporations entering into the country. Figure 2 shows changes in the cumulative balance of foreign direct investment (FDI) in ASEAN countries (1990-2021).

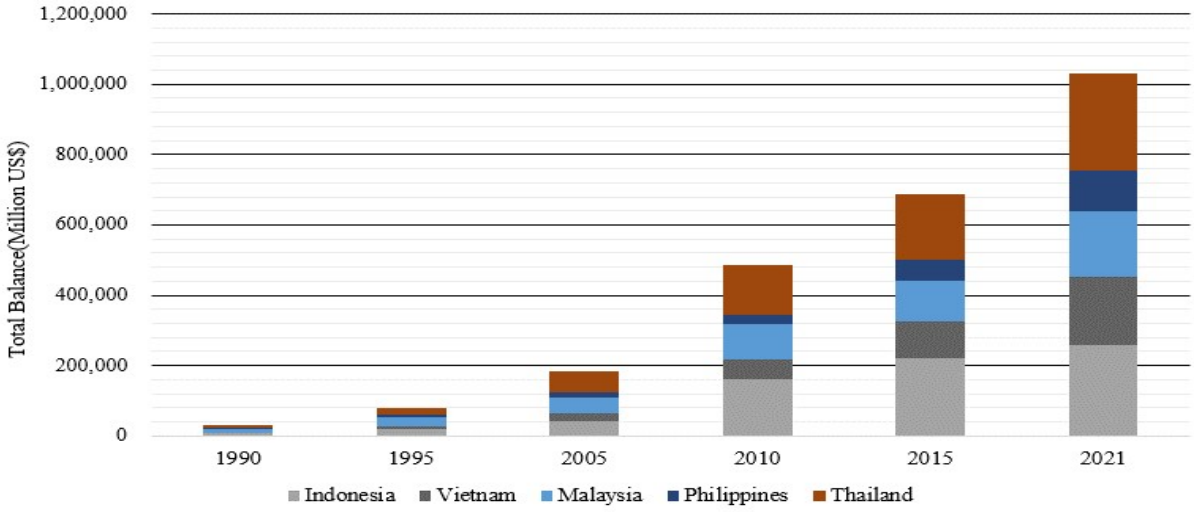


Figure 2. The Amount of FDI Balance in ASEAN (1990-2021)
Source: Based on World Investment Report (2022), authors made.

Except for some countries, the ASEAN economy has had a significant increase in investment stock over the past 30 years. Primarily, since 2005, Thailand and Indonesia have doubled and tripled every five years, reaching over 250 billion US$ in 2021. Malaysia and Vietnam followed, although less than Thailand and Indonesia, and have grown since 2000, reaching nearly 200 billion US$ in 2021. The improvement in the business environment can be cited as the background to the increase in the FDI balance. The World Bank (2022) has estimated the Ease of Doing Business Index (EDBI) since 2015. At least in the five economies shown here, the EDBI has improved over the past five years, making it easier to do business as "Easy" or better. Direct investment from overseas may increase in the future, depending on the improvement of the business environment.

The third point is the continuous expansion of the middle class. As shown in Table 1, ASEAN has continued to grow economically over the past 30 years, even though many countries have remained in the lower middle-income stage. As a result, it is evident that the middle class is expanding in each country. Figure 3 shows the estimated population numbers of the middle class (lower limit of 5,000 US$ to upper limit of 35,000 US$) in ASEAN from 1990 to 2030, estimated by The Brookings Institution (2022). The estimation results show that the middle-income class's most notable growth was in Indonesia. Indeed, in 1990, the number of middle-class people was about 2.54 million, whilst by 2021 it increased to approximately 84.6 million. The Brookings Institution (2022) estimated that the middle class in Indonesia will exceed 100 million by 2025 and 120 million by 2030. Further, in the other four countries of Thailand, the Philippines, Malaysia, and Vietnam, the number of middle-class people has continued to grow compared to 1990, reaching 20 million to 40 million by 2021. Some countries increasing to 60 million people can then be seen by 2030, as well.

Figure 4, on the other hand, shows the estimated average annual consumption per capita of the middle class in ASEAN (1990, 2021, 2030). As mentioned above, the middle class has a wide range from the lower limit of 5,000 US$ to the upper limit of 35,000 US$. Mizuho Research Institute (2011)

classified the middle class into two levels: the lower middle class (5,000 to 10,000 US$) and the upper middle class (10,000 to 35,000 US$). Based on this threshold, Thailand and Malaysia, which are at the upper middle-income level, are expected to reach 8,000 to 10,000 US$ in 2021 and 12,000 US$ in 2030, joining the ranks of the upper middle class. On the other hand, Indonesia, the Philippines, and Vietnam, which are low-middle-income economies, reached around in 6,000 US$ in 2021 and will overpass 8,000 US$ in 2030, remaining in the lower middle class but gradually approaching the upper middle class. In this way, in ASEAN, it can be expected that an "expansion of quantity" that the middle class and the wealthy class will increase and an "improvement of quality" that the thickness of the upper middle class with higher purchasing power will increase among the middle class. It is therefore anticipated that the middle class will further expand in the ASEAN market.

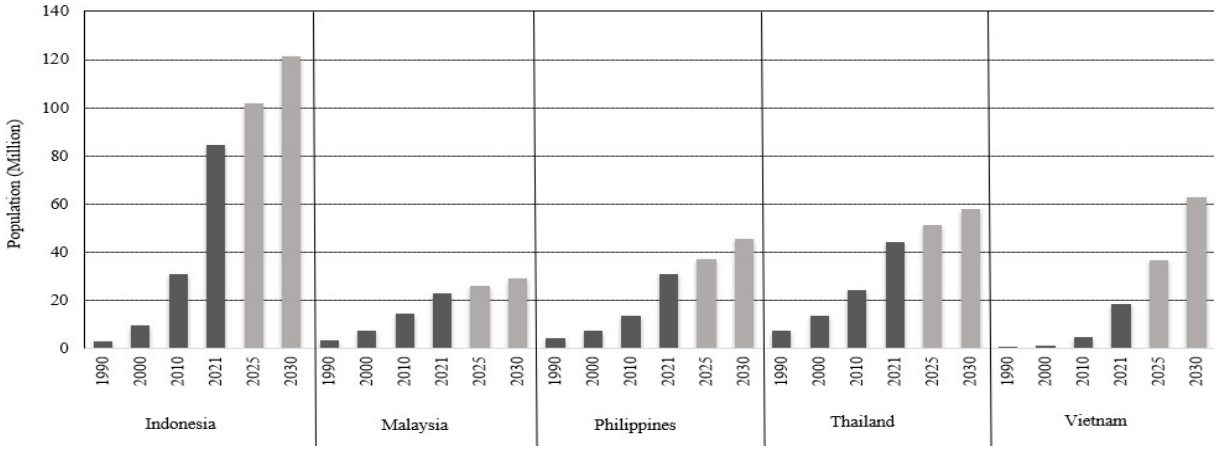


Figure 3. The Estimated Population Numbers of the Middle-income Class in ASEAN (1990-2030)
Source: Based on Brookings Global Data Indices Raw Data (2022), authors made.

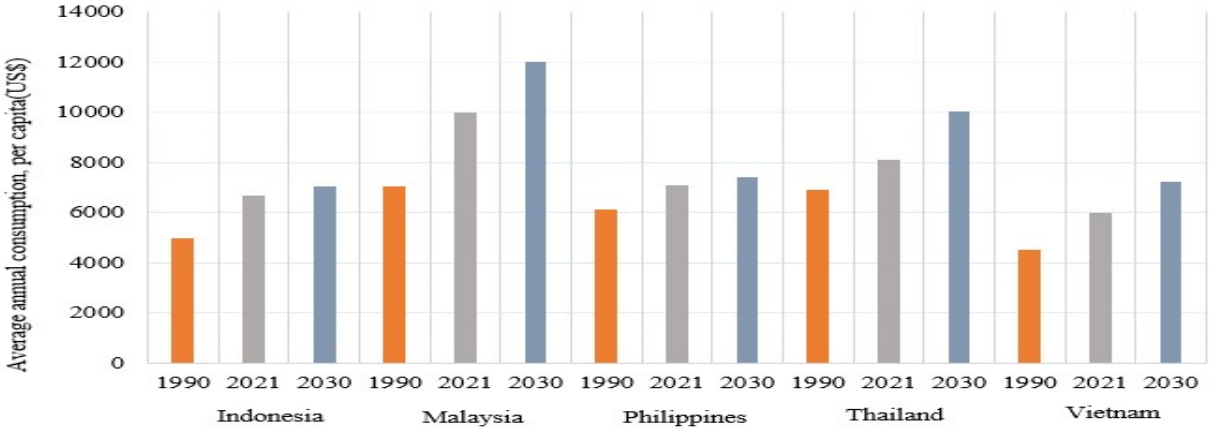


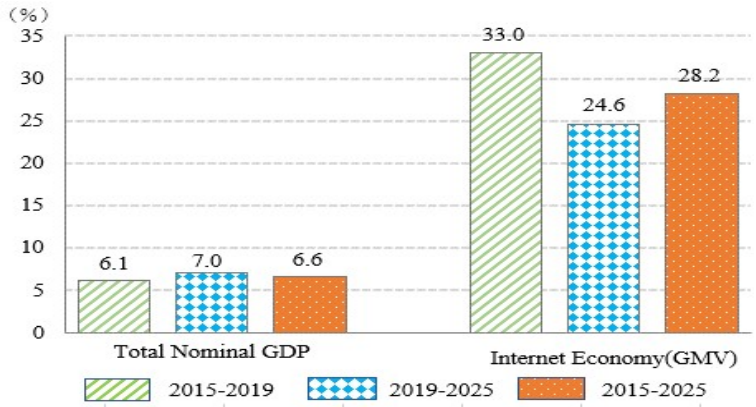
Figure 4. The Estimated Average Annual Consumption in ASEAN (1990-2030)
Source: Based on Brookings Global Data Indices Raw Data (2022), authors made.

Finally, the fourth point is the germination of the digital economy. Figure 5 shows the estimated average annual growth rate of GDP and internet economy (GMV) [8] for the six ASEAN countries

[8] GMV stands for the abbreviation of "Gross Merchandise Value" GMV with the calculation of "the number of transactions times average order unit prices."

(Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam), according to the Ministry of Economy, Trade and Industry in Japan (2020). As for the actual figures, the nominal GDP growth rate over the past five years (2015-2019) was 6.1%, while the Internet economy growth rate was 33.0%. One of the reasons behind this rapid growth is the significant increase in the frequency of Internet use by young people in each country.

At this moment, with the new coronavirus spread, the economy's digitalization is also strongly recommended in ASEAN countries. For example, every household owns at least one smartphone or tablet device, and mobile infrastructure has been improved to connect to the Internet. The emergence of such a digital economy is expected to play a driving role in large-scale economic activities eventually.



According to the Yusof Ishak Institute (2020), a government-affiliated think tank in Singapore, from 2019 to 2025, the Internet economy growth rate (annual average) in these six ASEAN countries will be estimated as 28.2%, compared to the nominal GDP growth rate of 6.6%. It is therefore expected to see that an increase of 4 times or more in the volume of the GMV until 2025.

Figure 5. The Estimated Growth Rate of the GMV in ASEAN (2015-2025)
Source: Based on METI (2020), authors made.

2.1.3 Issues in the ASEAN Economy

We have discussed the growth trajectory and status of the ASEAN economy. Here is the summary of the current issues facing the ASEAN economy.

The first research problem is whether it is possible to shift from factor input type growth to total factor productivity type growth. In 1993, the World Bank revealed the "East Asian Miracle" and highly estimated the economic progress in East Asia, while Krugman (1994) criticized it as follows. Growth in East Asia is based on the input of factors, and the contribution of technological progress is generally tiny. Growth based on the input of factors would eventually come to a dead end, just as it did in the former Soviet Union. Here, the factor input type is an investment in labor and capital. The source of investment is savings, and by investing based on a high savings rate, a correspondingly high growth rate can be expected (ITI, 2022). However, there is a limit to how much savings rate can rise. Eventually, investment efficiency is needed, which is the so-called Total Factor Productivity (TFP) type of growth. In this regard, an increase in output without an increase in labor or capital input can be explained as an increase in production efficiency through labor productivity (Comin, 2006). Factors that improve the TFP include technological innovation and the improvement of human capital.

It is expected that the ASEAN economy is eventually unable to grow if it simply increases the input of production factors, including capital and labor. Therefore, production efficiency must be improved through innovation in production technology and the improvement of human capital through education and medical health. However, middle-income economies generally need more resources and technological capabilities to bring about technological innovation. Thus, TFP-type development can be considered as a challenging task. In the future, ASEAN will need to formulate policies and strategies to achieve so-called TFP-type growth accompanied by increased productivity.

The second point needs to be more “factor input” type growth. As explained above, ASEAN countries will eventually need to shift their development pattern to a TFP-driven model through technological

innovation. However, Tran and Karikomi (2019) point out that countries remaining in the lower middle-income stage have a surplus labor force before reaching the Lewisian turning point (Lewis, 1954), and industrialization through the input of capital and labor is the so-called “factor input” type growth is likely to be promoted. However, they pointed out that the current situation in the ASEAN economy is that resources need to be allocated efficiently due to corruption and that the procedures of the administrative permits and licenses are totally complicated, costly, and time-consuming. Thus, the authors argued that the governments should strive for sound development of the labor and capital markets and ensure sufficient factor-input type growth. Then, what will happen if the ASEAN economy are developed with inadequate factor input or without improvement in TFP-driven?

Then, here we introduce the term "premature de-industrialization." Dasgupta and Shin (2007) have clarified that the phenomenon of "premature de-industrialization" occurs in developing countries, as detailed in previous research in the next section in this paper. In addition, Rodrik (2016) pointed out that it is brought about by globalization and becomes a development obstacle for developing countries.

Premature deindustrialization is thought to occur as manufacturing declines as a powerful engine of growth, leading to distortion in labor markets and social inclusion. In these countries, highly productive sectors (or firms), including manufacturing, have less capacity to absorb employment, while the majority of workers, who have fallen out of it, are found in low-productivity firms and sectors or the informal sectors. Consequently, as a whole, the economic growth can stagnate. In the event of premature deindustrialization in developing countries, considering how it should be interpreted, and whether it will hamper development is a fundamental development issue when looking at the future economic progress in the ASEAN economy.

The third point is to build a growth strategy that should be adopted in the VUCA era. Recent events, including the struggle for supremacy among significant powers, the rise in geopolitical risk, the rise of the digital economy, resource constraints (rising resource prices), aggravation of environmental constraints (climate change), and the aging of the population, have made the world led to an era of uncertainty. In particular, the spread of the new coronavirus, which has occurred since the beginning of 2020, has an impact that extends not only to the global economy but also to changes in the social and economic system itself (e.g., remote work at companies). In this age of VUCA, it will be essential to discuss what strategies ASEAN needs to employ to promote further economic development.

In the next section, based on these issues, we discuss recent research trends on the development issues, especially on middle-income trap in the ASEAN economy through the review of literature.

2.2 Middle-Income Trap

The primary purpose of this paper is to identify essential issues regarding the economic development strategies of ASEAN countries in the era of VUCA. To this end, in this section, the research trends related to the ASEAN issues introduced previously will be overviewed in the following manner. Firstly, research on "limits of catch-up economic development and elucidation of the middle-income trap" is overviewed to find major research issues relevant to "the shift to total factor productivity-driven type growth." Further, research on "premature de-industrialization" is overviewed to extract major research issues in terms of the issue of “insufficient factor input development." Finally, an identification of major research issues regarding the issue of “changes in the external environment," research trends on "the impact of ICT on the economies of developing countries" is overviewed, in particular.

2.2.1 Limits of Catch-up Type Economic Development and the Middle-Income Trap

While the East Asian economies achieved remarkable economic development after the war, the ASEAN economies have a history of catching up with industrialization under the division of labor system in East Asia. As a result, as of 2022, most ASEAN countries have reached the status of middle-income or above.

In this process, China's remarkable economic development since the 2000s has significantly impacted the economies of ASEAN countries. On this part, Tran and Matsumoto (2007) analyzed the impact of regional economic agreements, incluuding the ACFTA, to regard China's remarkable economic development as an opportunity for the development of ASEAN countries. Through this analysis, the importance of ASEAN countries playing a critical role in the division of labor in the regional economic zone and the world economy is emphasized to promote economic development in the ASEAN region.

Based on the analysis of the process and results of industrialization in East Asia in which ASEAN economies have promoted industrialization, Tran (2016) derived the conditions for ASEAN countries to catch up to a higher level in the future. According to the analysis, lower-middle-income countries need to promote institutional reforms and make resource allocation more efficient, while upper-middle-income countries need to upgrade their human resources and advance their comparative advantage structure by promoting science and technology.

Tran and Karikomi (2019) viewed the long-term stagnation of many emerging countries that have reached the middle-income stage in the "Middle-income Trap (MIT)," analyzing the impediments to catching up at a higher level and the policy issues for overcoming them. Catch-up industrialization requires a dynamic shift to a more value-added industrial structure. However, the authors pointed out that if the country's industrial system cannot be advanced as less developed countries to catch up, "premature de-industrialization" would pursue by shifting from manufacturing to the low-productivity service industry, resulting in long-term economic stagnation. In principle, policy challenges to overcome this stagnation are the same as those presented by Tran (2016).

2.2.2 The Phenomenon of “Premature De-industrialization”

Since the industrial revolution in the 17th century in Western economies, industrialization has been regarded as the primary driving-engine for economic growth, and thus having been advanced in developed countries. In this way, the developing countries followed the way developed economies have done, leading to global economic development. As indicated by the Petty-Clark Law, this development process will increase the secondary industry's output in terms of the composition of output and employment in each country. After reaching a certain income level, the output can decrease, while the composition of the tertiary industry can increase. However, in recent years, a phenomenon has occurred in which the composition ratio of the service industry has grown, especially in developing countries where they need to see sufficient growth in the manufacturing industry. It is so-called "premature de-industrialization" as a point of contention in development economics that the decline in the manufacturing industry as a growth engine can be seen as a major cause. As for this point, Sato and Kuwabara (2018) introduced the contents of Dasgupta and Shin (2007) and Rodrik (2016) as pioneering global studies. The following content is a partial extract of the main points.

First, Dasgupta and Shin (2007) argued that while the manufacturing industry is still important as an engine of economic growth, the service industry can also be a growth engine in terms of increasing returns to scale. In addition, empirical analysis of output and employment shows that developing countries tend to de-industrialize employment prematurely. With the status, the scholars pointed out that some countries de-industrialize too quickly in terms of output, and they poses obstacles against economic development. In these countries, the economic and business productivity could not be better because workers stay in agriculture or flow into the low-productivity informal sectors, including services and manufacturing. This tendency can be seen in Latin America and African nations.

Next, Rodrick (2016) argues that globalization is the primary cause of premature de-industrialization in developing countries. The analysis leading to this assertion revealed that while the share of the manufacturing industry in Latin America has decreased both from the aspects of employment and output, that of the manufacturing industry in Asia has increased in employment and output. In addition, it is argued that globalization has led to the concentration of manufacturing industries in Asia, resulting in the de-industrialization in other developing countries, including Latin America. It is also pointed out that premature de-industrialization hinders growth and prosperity in developing countries,

because the manufacturing industry is an escalator of growth. Further, it indicated a negative view of whether the service industry can be a significant driver of economic growth in the same way as the manufacturing industry did. Illustrating this, several problems can be raised; the ICT industry and the financial industry, which require high-level skills, are severely constrained in terms of their ability to absorb employment. In contrast, other service industries generally lack trade potential, making it challeing to improve efficiency through technological progress.

Sato and Kuwahara (2018) further examined the contents of Dasgupta and Shin (2007) and Rodrik (2016) and point out that there is still much room for discussion regarding the issue of premature deindustrialization. Specifically, the following three issues were raised:

- Whether premature de-industrialization is really taking place.
- The mechanism of premature de-industrialization.
- The social impact of premature de-industrialization.

The first challenge of "whether premature de-industrialization is really taking place" stems from various views on whether the same countries are prematurely de-industrialized. The views imply a problem that different evaluations can be made, depending on the data for analyses and the definition of premature de-industrialization. The second issue of "the mechanism of premature de-industrialization" is that, for example, changes in the share of employment may be affected by changes in the composition of the population and the composition of significant products in the international market. Then, the third issue of "the social impact of premature de-industrialization" is discussed based on the first and second issues to be raised here. The suggested approach to study would be through an analysis of the conditions of an industry that can be the engine of growth and an analysis of the industry's role in socio-economic development.

2.2.3 The Impact of ICT Promotion on the Developing World

In recent years, the impact of the remarkable progress of ICT on the economy and society has been raised. Specifically, Baldwin (2018) showed that advances in ICT have facilitated the expansion of global supply chains and brought about great opportunities for economic development in developing countries. Advances in transportation technology and logistics efficiency have led to dramatic reductions in transportation costs, and the international division of labor in corporate production processes has progressed. This phenomenon is so-called offshoring, in which part of companies' production process is transferred to developing countries. This trend had become particularly pronounced since the 1990s when the globalization of the market expanded at the end of the Cold War. Since then, rapid development in ICT have reduced service link costs, which are the operating and management costs of the international division of labor between processes, making it possible to expand global supply chains further. This expansion has progressed in the form of direct investment in developing countries, including the transfer of production functions from developed countries.

Baldwin (2018) pointed out that the effects of ICT are not limited to this, and the transfer of know-how and knowledge from developed to developing countries has progressed due partially to the spillover effect of the transfer of production functions. Still, the transfer progress can also be attributed to the fact that the cost of acquiring knowledge has generally declined due to the advancement of ICT. Baldwin (2018) believes that this knowledge transfer promotes industrialization in developing countries.

By positioning the progress of digitization in the lineage of emerging and developing countries, Ito (2020) investigated the current status of digitization spreading in emerging economies in recent years to observe its possibilities and challenges. The survey of the current situation shows that digitization has the potential to solve problems in local communities, and there are also unique applications of technology in local communities. Specifically, platform companies have emerged in developing countries and facilitate transaction matching. In addition, the spread of ICT/IoT terminals is utilized to

improve the operational efficiency of public institutions, the efficiency of agricultural production, and the emergence of new services. The efforts to nurture promising venture companies in the country are also progressing, and there is a sprout of leapfrog-type development. On the negative side, however, since digitalization is a labor-saving technology, there is concern that employment issues can happen as a result of its diffusion. Regarding this point of view, it is necessary to take measures that focus on the effects of job creation and the changes in employment patterns. As policies required to promote digitization, it lists IT human resource development, communication infrastructure and electronic authentication system development, investment and support institutions for venture development, and a sandbox system that relaxes regulations on a temporary and regional basis.

2.2.4 Pioneering Studies on the Middle-income Trap

The theory of comparative advantage is the theoretical basis for understanding economic development in the underdeveloped world. Empirical rules based on this theoretical basis include the flying-geese patterned economic development theory (catch-up economic development theory). Based on the above theoretical foundations, studies on the “limits of catch-up economic development,” “clarification of the middle-income trap,” and “premature de-industrialization” conducted in many developing countries as the cause of the stagnation in the stages have been underway.

However, the response to breaking out of stagnation is still an essential development issue. As for this point of view, the “Premature De-industrialization" examines the possibility of service industries through an analysis of de-industrialization in developing countries, while, as mentioned earlier, opinions are divided. Especially in recent years, attention has been focused on digitization, and examining what it will bring about has just begun.

To further advance the above discussion, as pointed out earlier in the section titled "Challenges for the ASEAN Economy," it is also necessary to consider the significant trends of recent changes in the external environment. The first trend is the rise in geopolitical risk and analysis of development strategies from the perspective of economic security. The second one, as mentioned earlier, is the rise of the digital economy. In the study on "the impact of ICT development on the economies of developing countries," it was analyzed that ICT promotion has made it easier for developing countries to be incorporated into global supply chains, and the transfer of knowledge and know-how has become more efficient. In particular, the transfer and creation of knowledge and know-how are primary issues in shifting to knowledge-capital-intensive development. As Rivera-Batiz and Romer (1991) suggested in his theory of endogenous growth, knowledge, and ideas are sources of sustainable growth because they have increasing returns to scale. In other words, in addition to factor input-type growth, developing countries are expected to have more significant potential for innovation-type growth based on the accumulation of knowledge capital through ICT, that is, total factor productivity-type development. Third, there are increasing constraints on resources and the environment. The measurement against climate change and the shift to a circular economy are global issues. Conventionally, responses to these issues have been viewed as costs, while it is necessary to incorporate them into development strategies as investments for reform. Investigation from this perspective is also an issue for the future.

3 Insights into Three Global Trends for Hypotheses

In the previous section, we primarily discussed ASEAN issues by providing research trends from the perspective of development issues for middle-income countries through literature review. In this section, development issues, including "response to insufficient factor input development" and "shift to total factor productivity development" in "response to changes in the external environment in the era of VUCA are a major discussion. Making the most of these significant trends is the driving force for the solution. Based on this, the points of contention for development strategies that make the most of the three trends were demonstrated.

3.1 Fragmentation of Global Supply Chains and Rising Geopolitical Risks

With the progress of globalization since the 1990s, a system of labor division was established on a global scale, and Asian economies were integrated into the global value chains of multi-national corporations. In this way, the production and export structures are based on the comparative advantages of countries at different stages of development complement each other as a region, forming a multi-core network economic system and developing a global manufacturing base.

Under these circumstances, ASEAN, which aimed for economic integration in 1993, gradually strengthened the degree of integration and became an economic community in 2015. ASEAN countries at different stages of development make use of their respective comparative advantages and possess diverse growth drivers. Taking a look at ASEAN, overall it has demonstrated its comprehensive strength and stability in a way that complements each other within the region. Moreover, as China dramtcially increases its economic power, it is tightening its supply chain.

However, this environment is currently undergoing significant changes. The United States, which has a sense of crisis about China's rise to power, has strengthened its moves to cut off relations with China in terms of trade, technology, and economic security since the former Trump regime was inaugurated in 2017. It is the so-called "de-coupling," and the coronavirus pandemic has accelerated this situation. In particular, it has made clear that globalization threatens security, as the plenty of countries implemented export restrictions on medical supplies and food in the middle of 2020.

Since the beginning of the 2000s, ASEAN has steadily increased its trade ratio with China, while the United States still holds significant weight as an export market. Under these circumstances, the current confrontation between the United States and China is forcing the ASEAN countries to decide which side to join, the United States or China. Amid these environmental changes, from the perspective of the development challenge of "shifting to total factor productivity growth," ASEAN's upper-middle-income economies, particularly, cannot help signifying cooperation with the US camp regarding advanced technology transfer. Regarding the "response to inadequate factor input type development," the lower-middle-income ASEAN economies are expected to provide assistance and investment to promote infrastructure development and investment in labor-intensive industries. It might be necessary to emphasize cooperation with the Chinese camp. Even if the above possibilities exist, how to perceive the balance with the ASEAN’s economic community system will continuously be focused on as a major development discussion.

3.2 Leap-flogging into Digital Economy

Utilizing ICT, business models, and production processes are under transformation, while work styles and lifestyles are also under change. This trend is a global movement well-recognized in the business world as digital transformation (DX), and companies are working to create new opportunities.

Supporting this trend is the remarkable progress of the ICT. Developed countries have led the ICT development, while there is almost no time lag in using ICT even in developing countries, compared to developed countries. Urban areas in ASEAN are also using new services that are more pioneering than those in developed countries. The smartphone-based taxi dispatch services, incluidng Grab (Singapore) and Go-Jek (Indonesia) are representative exmples. Similar phenomena have also occurred in the sharing economy and e-commerce.

Developing countries generally need help, especially including a lack of technological capabilities and insufficient development of production and living infrastructure, which are obstacles to the efficient mobilization of production factors of labor and capital. Even under these circumstances, the development of communication infrastructure and the popularization of devices such as mobile terminals and IoT can increase the possibility of dramatic progress in addressing the above issues.

Specifically, new opportunities will be created, and production and service supply efficiency will increase. For example, developing a digital environment will reduce service link costs, leading to greater opportunities for developing economies to participate in global supply chains. It is also possible to optimize existing production functions by utilizing IoT and AI and improve the efficiency

of links between the manufacturing and service industries. In daily life, the possibility of creating new services that realize solutions through more innovative approaches to the above issues will also climb up. For instance, in addition to the cases in ASEAN urban areas abovementioned, efforts are being made to provide remote medical care and education through distributed content to address the issue of access to the social welfare. In the financial sector, progress in the introduction of so-called fintech will lead to the realization of a cashless society and the elimination of regional disparities in access to finance.

From the aspect of the development issue of "shifting to total factor productivity growth," digitalization is expected to facilitate further the transfer of knowledge and know-how to developing countries, accelerating the improvement of technological capabilities. On top of that, it is conceivable that the creation of new businesses that will increase the efficiency of production, services, and living will be activated and that the industrial structure will shift to a higher value-added industrial structure. The premise for this is the promotion of human capital formation and the smooth movement of labor. Furthermore, responding to the development issue of "insufficient factor input type development," there will be opportunities to participate in global supply chains under the scheme of utilizing the technology of developed countries and the labor force of developing countries. By expanding the options, it is possible to reduce surplus labor and unemployment.

3.3 Transformation triggered by Resource and Environment Constraints

At the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21) held in Paris, France, in December 2015, all parties agreed to participate in the Greenhouse Gas (GHG). A new international framework for emission reductions was adopted. The agreement sets a common long-term goal of limiting the global average temperature since the industrial revolution to within two degrees and then seeks to limit the increase to within 1.5°C. After that, at COP26, the parties agreed to implement ambitious climate change measures toward the realization of carbon neutrality around by 2050 and by 2030 as the transitional point. With the aim of achieving carbon neutrality by 2050, it is necessary to promote GHG emission reductions in developing countries as well.

ASEAN economies, especially Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam, have already announced GHG emission reduction targets toward 2030. Indonesia aims to become carbon neutral by 2060. Major companies in these countries, both domestic and foreign, have set ambitious goals and are working to reduce GHG emissions. For example, the CP Group, a conglomerate-affiliated conglomerate in Thailand, has set GHG reduction targets for the entire value chain and targets for introducing renewable energy toward 2050. Similarly, a Japanese representative vehicle company, Toyota, aims to achieve zero environmental impact by 2050 and has set strategies such as developing new models with zero emissions and realizing zero emissions factories, in explanding its market in Thailand. Although such corporate behavior is a cost-increasing factor, it can be an incentive to significantly impact the corporate brand in the market, consumer brand loyalty, and corporate valuation in the capital market. Further, behind such an incentive structure, there is a growing awareness of sustainable development and ESG around the world, as well as a rapid increase in ESG investment.

To achieve carbon neutrality, increasing the composition ratio of renewable energy in the energy system is required. Also, as for production, in addition to introducing energy-saving technology, it is necessary to improve processes, introduce technologies that contribute to decarbonization, and design products with less environmental impact. Further, greening the entire supply chain is required, such as through a certification system for companies conducting appropriate activities to reduce GHG emissions. Concerning consumption, it is necessary to promote a preference for products with less environmental impact through environmental labeling and providing environmental information on products. All in all, these efforts will lead to the greening of industry and life infrastructure. The previously mentioned DX can potentially be a major catalyst in promoting a shift to a highly resource-efficient economy as a result of improving epoch-making efficiency through changes in business models, production processes, and lifestyles.

From the perspective of the development issue of "shifting to total factor productivity growth," the transition to a highly resource-efficient economy induces innovation to improve production and living efficiency, resulting in a synergistic effect with DX. Moreover, in responding to the development issue of "response to insufficient factor input type development," job creation can also be possible through further investment in the so-called greening of infrastructure and industry, including the pursuit of de-carbonization and resource efficiency. Consequently, overwork and unemployment can automatically be reduced.

4 A Suggested Framework on Development Issues in the ASEAN Economy

For ASEAN to respond to development challenges as middle-income countries, we framed the points of discussion with the two axes of “responding to inadequate factor-input type development” and “a shift to tatal factor productivity type development” for responding to and utilizing significant changes in the external environment, including "growing geopolitical risks," "digitalization," and "growing resource and environmental constraints," reflecting them on a framework shown in Table 2.

		Three Trends in Externally Environmental Changes		
		Growing Geopolitical Risk	Digitalization	Growing Resource Environmental Constraints
Development Issues in the Middle-income Economies	Responding to inadequate factor-input type development	● By emphasizing cooperation with the Chinese camp, aid and investment for infrastructure development and investment in labor-intensive industries will progress, and creating jobs will reduce surplus labor and unemployment.	● Lower service link costs through digitization will provide more opportunities for middle-income countries to participate in global supply chains, and job creation will reduce excess labor and unemployment.	● Investments toward the so-called greening of infrastructure and industries, such as decarbonization and the pursuit of resource efficiency, are progressing, and job creation will reduce surplus labor and unemployment.
	A Shift to Total Factor Productivity type Development	● By emphasizing cooperation with the US camp, investment in industries with higher added value and technology transfer progressed, leading to a shift to an industrial structure with higher added value.	● Digitalization induces the creation of new businesses that improve the efficiency of production, services, and life and transforms the industrial structure into a higher value-added industrial structure.	● The transition to a decarbonized and resource-efficient economy will induce innovation to improve the efficiency of production and living.

Table 2. A Suggested Framework of a Development Strategy with Advantages of Changes in the External Environment
Source: Authors summarized the framework.

First, regarding responses to heightened geopolitical risks, it is necessary to consider strategic cooperation according to the development challenges of each country, based on the perspective of revitalizing economic circulation within ASEAN. Table 2 shows the points of contention regarding collaboration by development issues.

Then, digitalization brings innovation to all industries and lifestyles, and as demonstrated in Table 2, it is essential to examine the impact of each development issue. Making efforts to bring out the vitality of companies that lead development through digitalization are also fundamental considerations at any stage of income or economic development.

Finally, responding to resource and environmental constraints should not be viewed as a short-term cost factor. As shown in Table 2, it is an opportunity for investment in the greening of infrastructure and industry and innovation through collaboration with the realization of DX.

5 Study Limitations

This paper primarily sheds light on an introduction of the hypothetical viewpoints on development issues in the ASEAN economy by suggesting a strategic development framework with three global trends of geopolitical risks, digitalization, and responses to resource and environmental constraints, instead of conducting regular empirical research or theoretical research on development strategies in the developing world. In this respect, it would admittedly be necessary for us to report that there is no clear evidence of clarifying the hypotheses through empirical analyses in this paper.

Nevertheless, it is expected that we gained insight into fundamental development issues in ASEAN economy, especially in gaining insight into theretical and practical aspects to be addressed here. Based on the hypotheses, we will further address each one of development issues in ASEAN economies, i.e.) dramatic change in business environment, digitalization, human capital development, political economy between China and ASEAN, etc., observing what is happening and analyzing what to be addressed insightfully.

6 Conclusion

As described above, this paper is based on an awareness of the problem of "how to build an ASEAN economic development strategy" and considers the future development possibilities based on the three trends related to recent changes in the external environment. We have extracted the development economics issues related to the development strategy of Japan.

As shown in the analysis of this paper, in the recent economic development of the ASEAN countries, in addition to industrialization, the study that the shift to services and information has also played a significant role has also been in progress.

Therefore, the research on each issue extracted in this paper is more comprehensive than the analysis of ASEAN. Still, by extending it to the research on the development of middle-income countries in the world, it is possible to elucidate the above-mentioned fundamental factors of economic development. In other words, extending such a research is based on the theoretical question of whether the shift to services and the shift to information technology can lead to the economic development of middle-income countries in the future under conditions such as heightened geopolitical risks and resource-environmental constraints. Alternatively, it should also contribute to empirical clarification.

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