

The Growth of the ASEAN Infrastructure Market and Its Implications for Policy Makers in Korea

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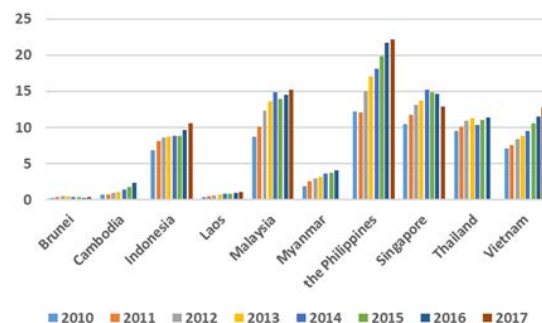
I. Introduction

As of October 2018, Korean construction firms have received a total of 98.9 billion U.S. dollars in orders (or 40.9 percent of all orders) within the New Southern region, which includes ASEAN Member States (AMSs). The figure exceeds the 85.7 billion U.S. dollars in orders to the Middle East (35.5 percent of the total), indicating that the New Southern region has become Korea's largest origin of orders. We provide comprehensive information on the ASEAN infrastructure market to policy makers in Korea. In particular, we examine the characteristics of the ASEAN infrastructure market and efforts made to improve the level of infrastructure in AMSs. In addition, we survey Korean construction firms to evaluate their business environment and performance. Furthermore, we search for lessons to be gained by analyzing the support measures of Japan for its firms in ASEAN infrastructure markets. Finally we suggest policy implications for policy makers.

II. The Growth of the ASEAN Infrastructure Market and Korea's Participation

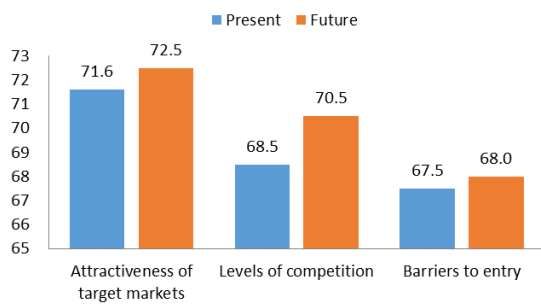
AMSs are eager to actively develop infrastructure for sustainable growth. This can be confirmed through various indices. As Figure 1 shows, the respective share in GDP of the infrastructure market is increasing in all AMSs. Korean construction firms operating in the ASEAN region also gave a positive outlook on growth of the market (See Figure 2).

Figure 1. Share of Construction Industry in GDP of ASEAN Countries



Source: CEIC.

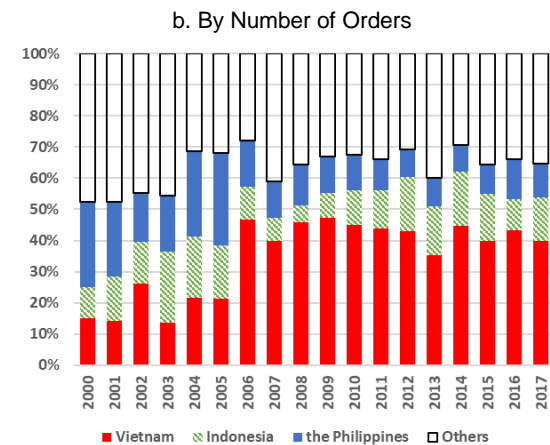
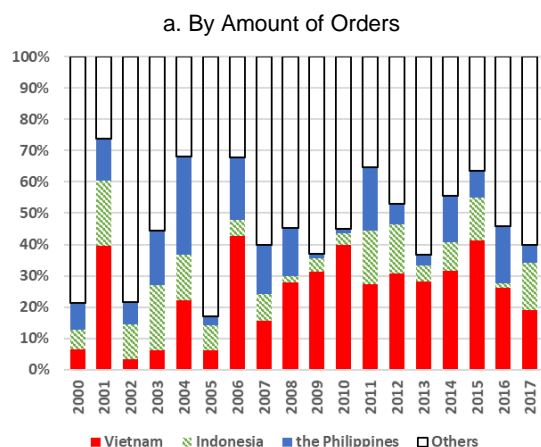
Figure 2. Evaluation on Marketability of ASEAN by Korean Construction Firms



Source: Authors.

As it pursues economic integration, ASEAN is focused on narrowing its development gap. ASEAN considers the underdeveloped state of infrastructure as one of the biggest hurdles for its economic integration, and the Initiative for ASEAN Integration (IAI) Work Plan III clearly reflects the perception that economic integration cannot be achieved successfully without reducing the gap between members. Thus, ASEAN will actively engage in projects to improve physical connectivity such as the construction of ports, roads, railways and other infrastructure. This is evident in the Master Plan on ASEAN Connectivity 2025 as well.

Figure 3. Composition of Construction Orders of Korea by ASEAN Countries



Source: the International Constructors Association of Korea Database

In addition, ASEAN Member States (AMSs) differ in their demand for infrastructure due to differences in the scale of their respective economies. For example, Indonesia has a high demand for transport infrastructure. Vietnam has a much greater demand for electricity and communication infrastructure than other areas. When considering the different policies each country has to meet their demands, it will be necessary for Korean construction firms to devise differentiated measures across AMSs.

As the ASEAN infrastructure market grows rapidly, Korean construction firms are actively operating in the region. According to data from the International Constructors Association of Korea, we find that the total worth of orders has rocketed up. For example, it reached about 41% of total orders in 2018, exceeding the traditional number 1 region for Korea, the Middle East. Interestingly, however, Korean firms received the majority of their orders from Vietnam, Thailand and Singapore. These findings suggest that Korean firms have to diversify their market (Figure 3).

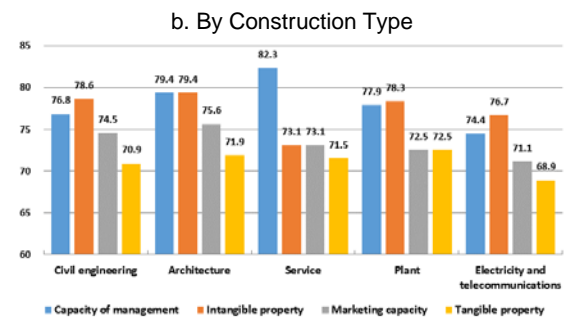
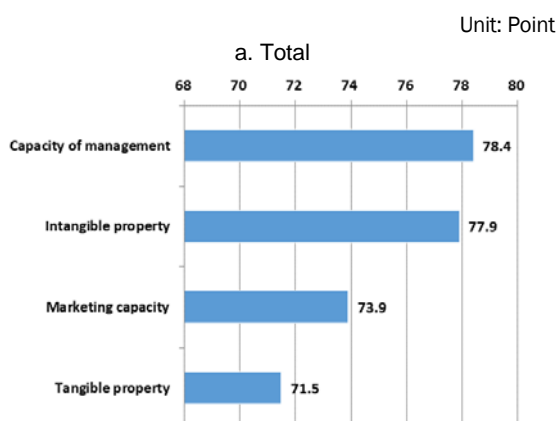
We also discovered the value added per order varies from region to region. The orders from Vietnam, Indonesia and the Philippines recorded a lower value added per order, while

those from Singapore had a higher value added per order (see Figure 3). Most Korean construction firms in recent years have revealed a problem in that the main body of their work has been simple subcontracting. Hence, Korean firms have to concentrate on transition from low-value-added projects to high-value-added. The Korea Overseas Infrastructure & Urban Development Corporation (KIND) launched in 2018 is expected to play an important role in sharpening the competitive edge of Korean construction firms.

III. Analysis of Comprehensive Survey on Korean Firms

We conducted a survey on Korean construction firms working in ASEAN about how they evaluate the business environment and their performance. The firms believe that the most important factor for strengthening their competitiveness is the capacity of management from pre-design stages to post-construction stages. The next important factor, they believe, is the intangible properties covering technologies, know-how, and management capacity to maintain relationship with clients (See Figure 4).

Figure 4. Importance of Factors for Strengthening Competitiveness of Korean Firms in the ASEAN Market

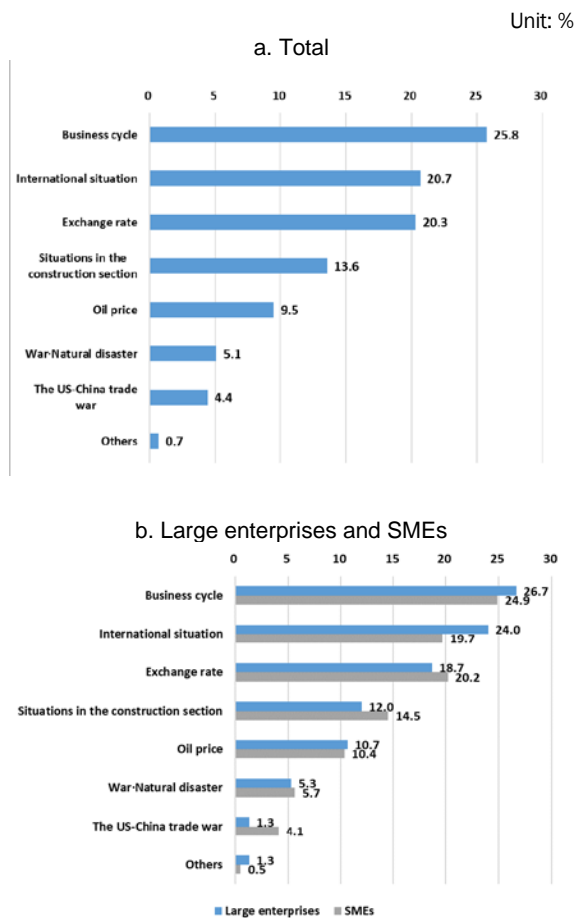


Source: Authors

In addition, we observe that the Korean firms in the ASEAN market are affected by various exogenous factors such as business cycle, international situation, exchange rate, etc. Among them, business cycle has the largest impact on the firms (Figure 5a). Furthermore, the impacts of exogenous factors are varied across the size of firms as well. That is, the small and medium-sized enterprises (SMEs) and large enterprises are each affected by the factors in a different way and show a different impact on their business decisions (see Figure 5b). For example, the international situation has a more acute effect on large firms than on SMEs, which are more affected by factors such as exchange rate and situations in the construction sector than their larger counterparts.

Policy makers in Korea will have to take into consideration this observation that the exogenous factors come into play differently depending on a firm size. For example, 66.6 percent of SMEs responded they do not have countermeasures to handle their risks, while 64 percent of large firms replied they had such countermeasures in place. As large firms and SMEs have a clear difference in their capacity to handle the risks, policy makers in Korea need to introduce differentiated risk mitigation plans for SMEs in ASEAN, distinguished from those for large firms.

Figure 5. Exogenous Factors Affecting Korean Firms' Participation in the ASEAN Market



Source: Authors

Lastly, we summarize current measures to support construction firms in Korea that wish to enter overseas infrastructure markets, and survey the firms on how they evaluate those measures. The firms were relatively satisfied with measures related to overseas market exploration, feasibility studies, and support to receive overseas project orders. However, they set a lower value on support measures that involved overseas field training and one-stop packages to venture abroad. Given that 70 percent of the responding firms were SMEs, these opinions were more representative of SMEs than large firms.

IV. Japan's Support Measures for its Construction Firms in ASEAN

Japan's support measures are summarized into three parts. First, it strengthened its capability to win contracts through an expansion of public funds and improvement of systems. Public finance increased through expanding support from JICA, cooperation with the ADB, and the supply of sunk costs by the Japan Bank for International Cooperation (JBIC), and Nippon Export and Investment Insurance (NEXI). In 2017, NEXI was converted into a specialized firm for government investors and has actively responded to issues such as the creation of dollarized trade insurance, extension of investment insurance periods, and local governments and corporations lacking government guarantee.

Second, Japan has been working to develop conditions to strengthen the global competitiveness of its infrastructure firms. Japan advanced into the ASEAN market long ago, emphasizing a high-quality infrastructure partnership. In the long term, Japan is implementing policies for the international standardization of its infrastructure initiative. In other words, by introducing and strengthening Japan's standards and certification basis in the ASEAN infrastructure market, Japan expects to create a market in which other competitors face unexpected hindrances to their operations.

Third, Japan focuses on the establishment of well-connected measures to develop overseas infrastructures. These consist of strengthening the international competitiveness of related industries, enhancing public fund support, reinforcing cooperation and strategic matching in upstream sectors, providing packaged support and expanding top sales, establishing response measures to international norms, and firming

up the government's promotion system. To that end, the Japan Overseas Infrastructure Corporation for Transport & Urban Development (JOIN) was established in 2014. Benchmarking JOIN, Korea also established the Korea Overseas Infrastructure & Urban Development Corporation (KIND) in 2018. It is too early to assess KIND's performance, but its operations seem to be proceeding in an appropriate direction.

V. Policy Suggestions

We provide policy suggestions for policy makers in Korea to provide support for its construction firms actively engaged in the ASEAN infrastructure market. First, given that construction firms from Korea have difficulties in hiring local technical personnel, policy makers could consider expanding the Technology Advice and Solutions from Korea (TASK) program from the manufacturing sector to the construction sector as well to supply adequately trained workers. The manpower fostered through this project will help improve the public image of Korea as well as Korean firms, thus helping Korea to promote its New Southern Policy.

Second, a support system for Korean construction firms to facilitate their localization is required. Our survey found that the firms picked "forming local networks" as one of the most difficult tasks in the early stages of their entry into the market. To address this difficulty, the policy makers in Korea may adopt an incentive system for pre-entry enterprises to support the localization of new entrants. Policy makers can persuade the private firms to share their experiences in overseas expansion by spreading the perception that experience-sharing is beneficial to both incumbents and entrants.

Third, the policy makers in Korea could devise and provide customized support for SMEs. The results of the survey indicate that SMEs tend to be dissatisfied with the support measures they were provided. In order to implement measures that SMEs can truly appreciate, the policy makers may establish and operate local support centers for SMEs in the ASEAN region. If more infrastructure experts are trained at these centers, they could also contribute to reducing the information gap between large firms and SMEs.

Fourth, we need to increase the size of policy funds related to overseas infrastructure markets. An additional \$100 million Global Infrastructure Fund will be created to make inroads into the ASEAN infrastructure market. It is expected that the newly established KIND will play an important role in effectively utilizing this fund.

Fifth, a system should be established to identify flagship projects for the New Southern Policy. Although the government is pursuing this policy, there is yet little information on the specifics of related projects. In the growing ASEAN infrastructure market, Korea should pursue its own economic corridor projects that can reveal the brand of the policy. If the construction of a physical economic corridor poses too much of a burden for the Korean government, it may also be possible to expand the activities of private enterprises and weave them into a value chain or build a digital infrastructure map.

Sixth, policy makers in Korea may help ASEAN to set up technical standards in the infrastructure sector. Technical standards related to infrastructure construction have not yet been firmly established in the ASEAN market, and Japan has recently been positioning itself as a provider of these standards. If Japan's technical

standards are adopted in ASEAN, the region's infrastructure market could develop with Japan at its center, as seen in the manufacturing sector. Hence, Korea should expand its support in this area to AMSs. **KIEP**