

Expatriate Staffing and Foreign Affiliate's Labor Productivity: Contingent on Foreign Production Intensity and Cultural Distance*

Seungrae Lee

Division of International Studies, Hankuk University of Foreign Studies, South Korea

MinChung Kim[†]

School of Business Administration, Ulsan National Institute of Science and Technology (UNIST), South Korea

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Abstract

Purpose – This study examines the effects of expatriate transfer on foreign affiliate's labor productivity.

Design/methodology – Using Korean-owned foreign affiliate-level data, we estimate the effect of expatriate transfer on foreign affiliate's labor productivity using the system generalized method of moments model. We also consider foreign affiliate- and host country-specific contingencies and test how they are associated with expatriates in enhancing foreign affiliate's labor productivity.

Findings – We consider foreign production intensity and cultural distance between the home (i.e., South Korea) and host countries as key contingencies that influence the effect of expatriates on foreign affiliate's labor productivity. We find that expatriates are effective in enhancing the labor productivity of less production-intensive foreign affiliates. This effect is strengthened as expatriates are deployed to countries that share cultural similarities with the home country.

Originality/value – Considering that previous studies provide mixed results on the effect of expatriates, our findings suggest that foreign affiliate-specific operational orientation and cultural distance should be considered jointly to understand the true effect of expatriate staffing on foreign affiliate performance.

Keywords: Cultural Distance, Expatriate Staffing, Foreign Affiliate, Foreign Affiliate's Labor Productivity, Foreign Production Intensity

JEL Classifications: F14, F23

1. Introduction

Along with the advancement of transportations and communication technologies, multinational corporations (MNCs) have expanded their business globally by setting up their foreign affiliates¹ in many countries. As such, foreign affiliates of MNCs have become influential on the global economy.

Foreign affiliates not only generate wealth for the MNCs and their home country (i.e., the country where the headquarters of MNCs are located) but also contribute to the economic growth of the host country (i.e., the country where foreign affiliates are located), especially to that of economically poor host countries. Thus, identifying different success factors of foreign affiliates and understanding in what conditions foreign affiliates are more/less successful in

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[†] Corresponding author: mckim@unist.ac.kr

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terms of various performance metrics are important.

One of the critical factors for the success of foreign affiliates is how effectively the parent firm's² knowledge can be transferred to and managed in its foreign affiliates through the expatriates—MNCs' home country employees assigned to foreign affiliates. Deploying expatriates to foreign affiliates has become easier with the enhanced free trading environments across the countries. Bilateral or multilateral Free Trade Agreements (FTAs) and other Comprehensive Economic Cooperation Agreements (CECAs) typically involve chapters of promoting the movement of intra-corporate transferees including expatriates under the 'General Agreement on Trade in Services,' which increases labor mobility. For example, several articles report that after contracting Mutual Recognition Agreement (MRA) in ASEAN Economic Community (AEC), the mobility of skilled labors has increased (ASEAN Briefing, 2016; Dao, Chen and Nguyen, 2020). With this trend, understanding the roles and impacts of expatriates on foreign affiliates' performances has become important in MNCs' global business success.

MNCs often deploy expatriates to their foreign affiliates to effectively deliver their organizational knowledge (i.e., technological and marketing knowledge), which is necessary to solve different problems that may arise in complicated production and selling/marketing processes in the foreign market (Fang et al., 2010; Tan and Mahoney, 2006; Teece, 1998). Such organizational knowledge is tacit and needs to be well embedded in local employees. However, *remotely* instilling the parent firm's tacit knowledge in local employees may not be effective and efficient due to the environmental differences between the home and host countries (e.g., institutional, cultural, and economic differences) and language barriers (Argote and Ingram, 2000; Hewlett, Roth and Roth, 2003; Mezias, 2002). Thus, *physically* locating the parent firm's employees in its foreign affiliates has been adopted for the effective transfer of tacit organization knowledge to the foreign affiliates, although the parent firm incurs high costs when expatriating staff, such as costs associated with the relocation of expatriates and their family.

Recognizing the importance of understanding the effectiveness of knowledge transfer through expatriates, several studies in international trade and business/management examine the role of expatriates as individual knowledge carriers who can help foreign affiliates increase performance by facilitating the transfer and redeployment of parent firm-specific technological and marketing knowledge lacking in foreign affiliates (e.g., Gaur, Delios and Singh, 2007; Kotabe et al., 2007; Sammarr and Biggiero, 2008). Although the theoretical argument on expatriates' knowledge transfer suggests that expatriates can be valuable to foreign affiliates, existing empirical studies present mixed results on the link between the number of expatriates and foreign affiliate performance. For example, Gong (2003) shows a positive relationship between the number of expatriates and foreign affiliate performance. To the contrary, Gaur, Delios and Singh (2007) reveal a negative relationship, and Colakoglu and Caligiuri (2008) find no impact. The inconsistent results on the relationship between the number of expatriates and foreign affiliate performance imply the importance of identifying contingencies that make expatriate staffing more/less effective in enhancing foreign affiliate performance.

In this study, we examine the effects of expatriate staffing on foreign affiliate's *labor productivity* performance using information on Korean-owned foreign affiliates between 2006 and 2013. In particular, we take into account foreign affiliate- and host country-specific

¹ We denote a firm controlled by the MNC as an "affiliate." Although researchers also use the term "subsidiary," we use the term "affiliate" throughout the paper.

² We use the term "parent firm" and "MNC" interchangeably.

contingencies in understanding how they are associated with expatriates in enhancing the foreign affiliates' labor productivity.

One contingency that we consider influences the effect of expatriates on the labor productivity of foreign affiliates is foreign production intensity, that is, the degree to which foreign affiliates are being operated as a production base. The performance implication of expatriates can vary depending on the type of knowledge that expatriates bring to foreign affiliates. Knowledge related to production is less tacit because it is more routinized and straightforward than knowledge related to selling/marketing in the foreign market (Astorne-Figari and Lee Joon-Hyung, 2019; Han, Mittal and Zhang, 2017). Selling/marketing products in a host country (foreign) market requires the foreign affiliate to have better knowledge on local consumers and market environment, which is more tacit than production knowledge (Fang et al., 2010; Hewett, Roth and Roth, 2003). In situations requiring more tacit knowledge, the value of expatriates to foreign affiliate performance is greater. In situations where less tacit knowledge related to operation or production needs be transferred, the value of staffing parent firm's employees in foreign affiliates is reduced.³ In other words, the effect of expatriates on foreign affiliate performance is expected to be affected by the operational nature of the foreign affiliate (i.e., foreign production intensity).

We also propose cultural distance as a country-specific contingency variable that influences the transfer of knowledge through expatriation and subsequently the performance of foreign affiliates. According to transaction cost theory that emphasizes ex-post contractual problems, cultural distance is an essential factor in the management of transaction costs in the foreign affiliates as it increases the information asymmetry between the home country and the foreign country and thus increases the transaction costs of parent firms operating business in the foreign country (e.g., Gong, 2003; Harzing, 2003). Expatriates are effective in controlling the foreign affiliates by utilizing a set of shared knowledge for work processes, so parent firms may use more expatriates in countries that are culturally distant from the home country (Gong, 2003; Harzing, 2001; Kogut and Zander, 2003). However, the existing literature on how the effect of expatriates on foreign affiliate performance can be changed depending on cultural distance between home and host countries find mixed empirical results. For example, Gaur, Delios, and Singh (2007) and Gong (2003) study Japanese MNCs and find a positive impact of expatriates on foreign affiliate performances (i.e., labor productivity) when host countries are culturally distant from Japanese cultures. However, Colakoglu and Caligiuri (2008) and Richards (2001) provide evidence of a negative impact of expatriates on the foreign affiliate performance (subjective performance) in culturally distant host countries.

Regarding the two contingencies, previous studies provide implications that the effect of expatriates on foreign affiliate performance can vary based on the transferred knowledge type and that the differential effect of expatriates depending on the type of transferred knowledge can be further moderated by cultural distance between home and host countries. Specifically, when transferring more tacit selling/marketing-related knowledge to foreign affiliates (i.e., when expatriate staffing occurs in a host country with less foreign production intensity), expatriates may be more effective in increasing foreign affiliate performance by transferring such knowledge if the host country is less culturally distant from the home country. In practice, Orion's international business strategy through their foreign affiliates is a good example that vividly shows how the two contingencies (i.e., foreign production intensity and cultural distance) enhance the effectiveness of expatriates. Orion is a Korean MNC that

³ We are not arguing that operation or production knowledge does not need be transferred to a foreign affiliate. We argue that the value of transferring operation or production knowledge by sending expatriates to the foreign affiliate is less.

produces and sells confectionary products worldwide, including the Vietnamese market. One of their products is “Choco Pie,” a famous snack cake. Orion has established foreign affiliates in different regions of Vietnam since early 2000 and continuously deployed Korean expatriates to the affiliates. The expatriates actively immersed in the market to better understand local consumers and their culture. Orion’s expatriates found that both Korea and Vietnam share the same Confucian culture and that Vietnamese consumers use “Choco Pie” in their ancestral rites. That is, although Orion positioned its Vietnam affiliates as local sales-oriented affiliates rather than local production-oriented ones, the corporation has effectively utilized the cultural similarity for their sales and marketing in the Vietnamese market. As a result, the sales of “Choco Pie” in Vietnam surpassed its sales in Korea in 2019 (The Korea Herald, 2019). This example suggests that the effect of expatriates on labor productivity is bolstered in the situation where a foreign affiliate focuses on exploiting the foreign market and it is located in a country whose culture is similar to that of the home country. In sum, based on the implications from our exhaustive literature review and the Orion case, we further propose and examine the influences of foreign production intensity and cultural distance on the relationship between expatriates and foreign affiliate performance by constructing a three-way interaction term among the number of expatriates, foreign production intensity, and cultural distance between home and host countries.

Using the system generalized method of moments (GMM) approach to estimate the effect of expatriates on the foreign affiliate’s labor productivity, our results show that an increase in expatriate transfer generally decreases the foreign affiliate’s labor productivity. However, when the influence of foreign production intensity is considered, we find that expatriates are effective in enhancing the labor productivity of less production-intensive foreign affiliates, whereas cultural distance is not a crucial factor that affects labor productivity jointly with expatriates. However, the positive relationship between expatriates and labor productivity of less production-intensive foreign affiliates is strongly associated with cultural distance between home and host countries in that expatriates’ positive impact on labor productivity becomes stronger as they are deployed to countries that share cultural similarities with the home country.

Our findings are closely related to the international trade studies that examine the effects of Korean expatriates on foreign affiliate performance. For example, using Korean-owned foreign affiliate dataset, which is what we use in this study, Cho Jae-Han (2018) documents that expatriate manager transfers are prevalent and provides evidence of knowledge transfer from the parent firm to foreign affiliates by showing the positive impact of Korean expatriate managers on the productivity growth of foreign affiliates. On the contrary, Astrone-Figari and Lee Joon-Hyung (2019) focus on the role of expatriates as an effective method for transferring parent firm’s organization knowledge to foreign employees in response to a higher cost associated with communicating with foreign local employees. Using the same dataset, they find supporting evidence of transferring tacit knowledge through expatriates by showing a higher usage of Korean expatriates in foreign affiliates located in countries that incur high communication costs. Although our findings are consistent with the aforementioned studies in a way that Korean expatriates are effective in transferring knowledge to foreign affiliates, we further provide evidence that the effect of transferred knowledge on foreign affiliate performance is jointly determined by the foreign affiliate’s production intensity.⁴

⁴ Moreover, contrary to previous trade studies that focus on the role of expatriates as a knowledge bridge between the parent firm and foreign production, our results suggest that expatriates are more effective in transferring parent firm’s marketing or management strategies to foreign non-production workers to enhance foreign affiliate’s labor productivity.

Furthermore, our findings make a contribution to international business/management studies that examine how cultural distance between home and foreign host countries influences the relationship between expatriates and foreign affiliate performance. Colakoglu and Caligiuri (2008) and Hewett, Roth and Roth (2003) use subjective measure for foreign affiliate performance from surveys to test the moderating effect of cultural distance. Unlike previous studies, we use objective data on the foreign affiliate's labor productivity and examine how cultural distance influences the effectiveness of expatriates on foreign affiliate performance contingent on the degree of foreign production intensity. Using objective performance measure, we find that the positive effect of expatriate staffing in less production-oriented foreign affiliates on foreign affiliate performance is strengthened when the host country is culturally similar to the home country (i.e., Korea). By showing the three-way interaction effect, this study identifies a crucial role of cultural distance between home and host countries on the effectiveness of expatriate staffing.

The remainder of the paper is organized as follows. Section 2 provides data on Korean-owned foreign affiliates and facts about their performance and expatriates. Section 3 presents our empirical methodology. Section 4 discusses the estimation results, and Section 5 concludes.

2. Foreign Affiliate Data

The foreign affiliate-level dataset is obtained from the Overseas Direct Investment Statistics published by the Export–Import Bank of Korea (Korea EXIM bank). Since 1999, Korea EXIM bank has conducted a benchmark survey with all foreign affiliates of Korean MNCs, which is similar to the survey of foreign affiliates of the U.S. MNCs conducted by the U.S. Bureau of Economic Analysis (BEA).

Compared with the U.S. BEA that conducts the survey in every five years, Korea EXIM bank conducts the survey every year under the Foreign Exchange Transaction Act (1999). In addition, the U.S. BEA survey is done only with foreign affiliates whose total sales or total assets or net sales is greater than 10 million USD, but all foreign affiliates that received total accumulated investment of more than 1 million USD from their parent firms are subject to the survey of Korea EXIM bank. The data enables us to perform a comprehensive analysis on various operations of Korean MNCs and their foreign affiliates and examine their effects on foreign affiliate performance.

Our *raw* dataset includes a list of Korean worldwide investments between 2006 and 2013 wherein 6,645 foreign affiliates are linked to 3,298 parent firms. Specifically, for each fiscal year, the dataset provides information on individual foreign affiliates such as location, industry of operation, employment, assets and liabilities, and sales and purchases. Specifically, the industry of operation is classified by 5-digit Korean Standard Industrial Classification that is similar to the North American Industrial Classification Standards.

The dataset includes detailed information on the foreign affiliate's trade partners and the composition of employment, which is necessary for our analysis. It reports the value of purchases and sales from/to host country, the home country (i.e., Korea), and third countries (i.e., countries other than the home country and the host country) for each type of trade partners—partners affiliated and partners unaffiliated with the same parent firm. Regarding employment, the dataset provides information on the number of local and expatriate employees. Local employees are those hired directly from the labor market in the country where affiliates are located (i.e., the host country). Expatriate employees are those dispatched from the parent firm in Korea. Specifically, the dataset includes a detailed number of local

and expatriate employees based on their job positions (i.e., executive, middle manager, sales manager, and production worker).

Table 1. Basic Statistics of Korean-Owned Foreign Affiliates Between 2006 and 2013

	2006 (initial year of the sample)				2013 (final year of the sample)			
	# of affiliates	# of host countries	Sales (million USD)	Employment (Unit)	# of affiliates	# of host countries	Sales (million USD)	Employment (Unit)
Aggregate	1900	80	155.5	425.25	4867	108	152.29	372.01
Developed countries	616	39	268.37	121.23	1432	45	248.95	106.3
Developing countries	1281	41	101.49	572.43	3431	63	112.04	483.34
Manufacturing	1276	56	107.21	584.48	3078	73	122.37	521.17
Retail and wholesale	293	49	504.28	123.43	601	51	515.02	185.67

Note: Foreign affiliate's sales and employment are computed in the average terms.

Table 1 provides the basic statistics of foreign affiliates owned by Korean MNCs in the starting year (i.e., 2006) and the end year of our sample (i.e., 2013). Between 2006 and 2013, foreign operations dramatically expanded to different countries. For example, the number of foreign affiliates and host countries increased from 1,900 to 4,867 and from 80 to 108, respectively. The averaged foreign sales were constant, but the averaged foreign employment decreased from 425.25 to 327.01 units during our sample period.

We classify foreign affiliates into two groups based on the income level of their host countries—foreign affiliates in developed and developing countries. The World Bank classifies all countries into four income groups—high, upper-middle, lower-middle, and low. Using this classification, we define developed countries as high-income group and developing countries as upper-middle, lower-middle, and low income groups.⁵ Table 1 shows that foreign operation of Korean MNCs during the sample period was mostly concentrated in developing countries. For example, the number of foreign affiliates in developing countries increased from 1,281 to 3,431 and their share of total affiliates also increased from 67% to 70% between 2006 and 2013. Comparing foreign affiliates' performance metrics between different locations, foreign affiliates in developed countries made a larger amount of sales than those in developing countries. On the other hand, while sales of foreign affiliates in developing countries increased, their employment decreased.

We next classify foreign affiliates based on the two industry sectors of operation—manufacturing sector and retail and wholesale sector. A large portion of Korean MNCs' foreign affiliates (from 76% to 83% of total foreign affiliates in our sample period) was operating business in the two industry sectors. Comparing foreign affiliates' performance metrics between the two sectors, averaged foreign sales in both sectors increased but averaged foreign employment increased only for the retail and wholesale sector. With regard to the location of foreign affiliates, foreign affiliates in the retail and wholesale sector exhibited similar features to foreign affiliates located in developed countries in that they had a large

⁵ The list of developed and developing host countries is reported in Table A of the Appendix.

amount of sales yet a small number of employments. Alternatively, foreign affiliates in the manufacturing sector exhibited similar features to foreign affiliates located in developing countries in that they had a small amount of sales but a large number of employments. These features provide evidence that Korean-owned foreign affiliates in developed countries are mostly occupied by foreign affiliates in the retail and wholesale sector, whereas those in developing countries are occupied by foreign affiliates in the manufacturing sector.

Table 2. Statistics on the Number of Korean Expatriates Between 2006 and 2013

	<u>2006 (initial year of the sample)</u>		<u>2013 (final year of the sample)</u>	
	<u>Avg. # of expatriates</u>	<u>% of affiliates with expatriates > 0</u>	<u>Avg. # of expatriates</u>	<u>% of affiliates with expatriates > 0</u>
Aggregate	11.7	83	6.71	75
Developed countries	7.6	72	6.99	66
Developing countries	13.69	88	6.59	79
Manufacturing	14.01	87	6.72	80
Retail and wholesale	7.3	83	8.06	78

Notes: 1. Average number of expatriates is measured in the unit.

2. The percentage of affiliates with expatriates > 0 is the share of foreign affiliates that employ a positive number of Korean employees.

Table 2 presents changes in the number of expatriates and the percentage of foreign affiliates with expatriates from the initial to the final year of our sample depending on the industry sector and the degree of economic development of the host country. First, in the aggregate level, the number of expatriates and the percentage of foreign affiliates with expatriates both decreased. We calculate the average share of expatriates within the foreign affiliates using the information on the average employment of the foreign affiliates in Table 1 and find that the calculated expatriate share decreased over time. These aggregate changes imply that foreign affiliates rely heavily on local employees and that the influence of expatriates seems to be negligible. Although the number and the proportion of expatriates were reduced, expatriates were employed by most foreign affiliates. The table shows that 83% (75%) of foreign affiliates had expatriates in their employment in 2006 (2013).

Second, based on the income level of host countries, although the average number of expatriates decreased in developed and developing host countries, the magnitude of decrease in developed countries was quite small. The proportion of expatriates in developed countries increased in 2013 compared with that in 2006. Foreign affiliates in developing countries had a large decrease in the number of expatriates and the proportion of expatriates. Nonetheless, 79% (88%) of foreign affiliates in developing countries employed expatriates in 2006 (2013), whereas 66% (72%) of foreign affiliates in developed countries employed expatriates in 2006 (2013). These findings imply that many foreign affiliates in developing host countries are operating business with a relatively small number of expatriates compared with foreign affiliates in developed host countries.

Third, regarding the industry sector of operation, the number of expatriates and their share of total employees decreased in the manufacturing sector but slightly increased in the retail and wholesale sector from 2006 to 2013. A small share of expatriates and the decreasing number of expatriates across manufacturing affiliates or in developing host countries, as described in Table 2, do not support the perspectives of previous literature that investigates the role of expatriates as transferring the parent firm's technological knowledge to foreign affiliates for production (e.g., Belderbos and Heijltjes, 2005; Delios and Bjorkman, 2000).

Instead, a larger share of expatriates and the increasing number of expatriates in foreign affiliates that operate business in developed host countries or in the retail and wholesale sector suggest that Korean expatriates are employed by foreign affiliates for post-production tasks (i.e., sales activities) in the local market.

Table 3. Proportion of Korean Expatriates Based on Different Job Positions Between 2006 and 2013

	<u>2006 (initial year of the sample)</u>		<u>2013 (final year of the sample)</u>	
	Locals	Expatriates	Locals	Expatriates
Executives	0.81	0.19	0.55	0.45
Middle managers	0.91	0.09	0.92	0.08
Sales managers	0.97	0.03	0.97	0.03
Production workers	0.98	0.02	0.99	0.01

Note: *Locals* is the share of local employees and *Expatriates* is the share of Korean employees in each position.

Finally, using the information on the number of expatriates and local employees for each job position (i.e., executives, middle managers, sales managers, and production workers) in the data, we check the change of the share of expatriates (vs. local employees) in each position from 2006 to 2013.

The most interesting feature about foreign affiliates' composition of employment reported in Table 3 is that Korean expatriates tend to be assigned to manager- or executive-level positions across time and the share of expatriate (local) executives jumped (declined) from 0.19 (0.81) to 0.45 (0.55) from 2006 to 2013. These results suggest that Korean parent firms recognized the difficulty of managing foreign affiliates with local executives and replaced local executives with expatriates who are capable of being upper echelons of foreign affiliates.⁶

In summary, we observe the following takeaways on the foreign operations of Korean MNCs through foreign affiliates and their changes over time. First, the number of foreign affiliates increases and foreign affiliates spread in more countries. Second, foreign affiliates located in developing countries tend to operate in manufacturing industries and have a relatively large number of employments compared with foreign affiliates in developed countries. Third, foreign affiliates located in developed countries are more likely to operate in retail or wholesale industries and make a large amount of sales compared with foreign affiliates in developing countries. Fourth, despite a small number, most of foreign affiliates have Korean expatriates, and they are more present at the foreign affiliates in the retail or wholesale sector and at those located in developed countries. Fifth, executive positions, regardless of host countries and industries, are taken by expatriates.

3. Empirical Methodology

In this section, we examine whether/how the number of expatriates affects the foreign affiliate's labor productivity, which is an important indicator of firm performance widely used by numerous international trade and business studies (e.g., Chandra and Long, 2013; Cho Jae-Han, 2018). Specifically, we test the main effect of the number of expatriates deployed to

⁶ However, one must be cautious when interpreting an increase in expatriate executive share since that the average number of executives is around two or three.

foreign affiliates and the moderating effect of affiliates' foreign production intensity. We further test the influence of cultural distance between the home and host countries on the moderation effect, which is the three-way interaction effect among the number of expatriates, foreign production intensity, and cultural distance.

To perform the tests, we develop the following full dynamic panel equation, which includes all the interaction terms.

$$\begin{aligned} \text{Labor productivity}_{it+1} = & \alpha + \beta_1 \text{Expatriates}_{it} + \beta_2 \text{FPI}_{it} + \beta_3 \text{Cultural distance}_i \\ & + \beta_4 \text{Expatriates}_{it} \times \text{FPI}_{it} + \beta_5 \text{Expatriates}_{it} \times \text{FPI}_{it} \times \text{Cultural distance}_i \\ & + \beta_6 \text{Expatriates}_{it} \times \text{Cultural distance}_i + \gamma X_{it} + \delta Y_{it} + \mu_i + \tau_t + \varepsilon_{it}. \end{aligned} \quad (1)$$

In Equation 1, the dependent variable is *Labor productivity*_{*it*+1}, which represents a foreign affiliate *i*'s labor productivity at year *t*+1. Specifically, we compute it as the foreign affiliate *i*'s value added at year *t*+1, which is total sales minus total purchases at year *t*+1 divided by the foreign affiliate *i*'s total number of employees at year *t*+1. In the estimation, we use *Labor productivity* at year *t*+1 as the dependent variable (i.e., all the independent variables are one-year lagged) to ease the concern of potential reverse causality concern (i.e., foreign affiliate's labor productivity may cause its parent firm's expatriating strategies).

The main independent variable *Expatriates*_{*it*} is the total number of Korean expatriates in the foreign affiliate *i* at year *t*. For the estimation, we use the natural log of the number plus 1 to mitigate the potential bias from some extreme values of the variable.⁷

The variable that we propose moderates the relationship between *Expatriates*_{*it*} and *Labor productivity*_{*it*+1} is foreign production intensity (*FPI*_{*it*}), which represents the operational degree of foreign affiliate as a production platform. Using the information on foreign affiliate's composition of local employment, we measure *FPI* by its proportion of local production workers, that is, the ratio of the number of local production workers to the total number of employees. *FPI* serves as a good proxy that captures the operational orientation of foreign affiliates because a high value of *FPI* of a foreign affiliate in a year suggests that the affiliate is production intensive and has a high level of production orientation in the year. On the contrary, a low value of *FPI* of a foreign affiliate in a year indicates that the affiliate is less production intensive and has a low level of production orientation, suggesting that the affiliate is more sales/marketing oriented in the year.

Although numerous existing studies on foreign direct investment (FDI) attempt to use the foreign affiliate's industry of operation or income level of the host country to determine operational orientation (i.e., production vs. sales/marketing orientation) (e.g., Debaere, Lee Hong-Shik and Lee Joon-Hyung, 2010; Harrison and McMillan, 2011; Mariotti, Mutinelli and Oiscitello, 2003), they are limited to capture the true operational orientation of the affiliates.⁸ Our foreign affiliate-level *FPI* enables us to identify the operational nature of

⁷ In our study, we use the actual number of Korean expatriates instead of their proportion because changes in the number of expatriates are very small relative to changes in that of local employees, which results in a little variation in the proportion measure. Thus, the proportion measure is not appropriate in our estimations.

⁸ According to multinational corporation theories (e.g., Helpman, 1984; Markusen, 1984), foreign affiliates located in developing countries or those operating in the manufacturing industry are expected to be more production oriented, having a large proportion of local production workers and making most of export sales back to the home country. However, our data show that foreign affiliates have different distributions of proportion of local production workers and sales within the same industry or a country.

foreign affiliates (production vs. non-production) and examine if the effect of expatriates on the foreign affiliate's productivity depends on the foreign affiliate's production orientation. Considering the knowledge-based view and the expatriate staffing literature, we argue that when knowledge expatriates bring to a foreign affiliate fits well with the operational orientation of the foreign affiliate, the effectiveness of expatriate staffing on the foreign affiliate is high. For instance, expatriates are more valuable to a foreign affiliate when they transfer tacit sales/marketing knowledge to the foreign affiliate if it is less production oriented (i.e., more sales/marketing oriented).

We also consider cultural distance between the home and host countries as a contingency variable that further influences the moderation effect of the foreign affiliate's *FPI* on the relationship between *Expatriates*_{it} and *Labor productivity*_{it+1}. Previous studies point out that cultural factors, including cultural distance, play an important role in expatriate adjustment and its effect on foreign affiliate performance (Bhaskar-Shrinivas et al., 2005; Chen et al., 2010). In addition, cultural distance has been studied to influence the parent firm's expatriate strategy due to potential agency problems and transaction costs associated with expatriating parent firm's employees (Brock et al., 2008; Colakoglu and Caligiuri, 2008; Gong, 2003).

Although cultural distance is a critical factor to be considered in any studies examining the performance implications of expatriates, the results on the effect of expatriates on foreign affiliate performance are inconclusive. Therefore, more empirical studies on the contingent role of cultural distance are required (Bonache and Zarraga-Oberty, 2008; Brock et al., 2008). Responding to the call, we consider cultural distance as an important contingency that determines the moderating effect of *FPI* on the relationship between *Expatriates*_{it} and *Labor productivity*_{it+1}.

We measure cultural distance between the home (Korea) and host countries (*Cultural distance*) using Hofstede's (1980) seminal indices. We visit Hofstede's website⁹ and collect scores for six culture dimensions (i.e., power distance, uncertainty avoidance, masculinity/femininity, individualism, long-term orientation, and indulgence) for home and host countries. For each dimension, we compute the squared difference score between the home and a host country and divide it with the variance of the scores for all countries. We then summate the value across six dimensions between the home and host countries to measure *Cultural distance*.

Finally, we add several foreign affiliate- and country-level control variables (X_{it}) in Equation 1. In the foreign affiliate level, we include the size of the foreign affiliate (*Affiliate size*) as a control variable that is measured by the natural log of total assets plus 1. We also use the share of an affiliate's intra-firm import purchases from its parent firm over total purchases (*Intra-firm imports*) as another control variable. Including *Intra-firm imports* as a control variable alleviates a possible endogeneity problem that may arise from an omitted variable explaining the relationship between the transfer of physical goods (i.e., intra-firm imports) and employees from the parent firm (i.e., expatriates) (e.g., Cho Jae-Han, 2018; Debaere, Lee Hong-Shik and Lee Joon-Hyung, 2013).

In addition, we include the host country's GDP (*Host country GDP*) and GDP per capita (*Host country GDP per capita*) as the country-level control variables. GDP and GDP per capita are widely used to capture the host country's market size and factor price, respectively (e.g., Kim Sung-Ryong and Lee Seung-Rae, 2019; Lee Seung-Rae and Park Jae-Hong, 2015). We obtain the information on GDP and GDP per capita of the host countries from the World Development Indicators published by the World Bank.

Furthermore, we include the previous-year dependent variable (i.e., *Labor productivity*_{it}) as

⁹ The web address is <https://www.hofstede-insights.com/product/compare-countries>.

another control variable to deal with potential autocorrelations of the error (ε_{it}) across years within each sampled affiliate and address time-varying omitted-variable bias that may occur due to the dependence between current and past dependent variables (e.g., Beck and Katz, 1995; Harford, Mansi and Maxwell, 2008). Finally, we control for region, year, and industry fixed effects.

For the estimations, we apply the system GMM, which addresses the endogeneity problem that may occur from our dynamic panel equation (Equation 1) (Arellano and Bond, 1991; Blundell and Bond, 1998). GMM approach is used by previous studies using affiliate-level dynamic panel data in testing the effects of expatriate staffing (Cho Jae-Han, 2018) on foreign affiliate performance. Finally, we consider foreign affiliates in manufacturing sector and retail and wholesale sector for the regressions.

Summary statistics of all the variables are reported in Table B of the Appendix.

4. Empirical Results

We report the results of the GMM estimations in Table 4.

All control variables except *Host country GDP per capita* are significantly related to the foreign affiliate's labor productivity consistently across the models (columns 1–5).¹⁰ Specifically, the higher the *Affiliate size*_{it}, *Intra-firm imports*_{it}, *Host country GDP*_{it}, and the one-year lagged dependent variable (i.e., *Labor productivity*_{it}), the higher the foreign affiliate's labor productivity at year $t+1$ (*Labor productivity*_{it+1}). Regarding the focal independent variable and the moderating variables, the estimated coefficient for *Expatriates* is negative and significant in all the models (columns 1–5), which implies that an increase in the number of expatriates decreases the foreign affiliate's labor productivity. The estimated coefficient for *FPI* is negative and significant across all the models (columns 1–5), suggesting that foreign affiliate's labor productivity decreases as its operation is more production oriented (i.e., having a larger share of local production workers in the total employment). In addition, the estimated coefficient for *Cultural distance* is positive but insignificant consistently across all the models (columns 1–5), which indicates that *Cultural distance* does not affect foreign affiliate's labor productivity.

Regarding the moderating effect of *FPI*, the estimated coefficient for the interaction term between *Expatriates* and *FPI* (i.e., $Expatriates \times FPI$) is negative and significant in all the models that include the interaction term (columns 2, 4, and 5). These results imply that an increase in the number of expatriates enhances foreign affiliate's labor productivity as the foreign affiliate is less production intensive. In other words, expatriates in foreign affiliates that focus more on sales and market exploitation than production are more effective in improving foreign affiliate performance.

We also find that the estimated coefficient for $Expatriates \times FPI \times Cultural\ distance$ is significantly and positively related to *Labor productivity*_{it+1} as reported in column 5 of Table 4. This result is consistent with our expectation that the positive impact of having more expatriates on labor productivity is strengthened in less production-intensive foreign affiliates as these foreign affiliates are located in host countries where the culture is more similar to that of the home country.

¹⁰ For all specifications, we assess the validity of our GMM estimations by performing Sargan–Hansen tests to check the issues of over-identifying restrictions and Arellano–Bond tests to investigate whether the serial autocorrelation of the errors biases our results. In all regressions, we find that over-identifying restrictions are valid and that no serial autocorrelation exists in the errors, all of which support the validity of GMM specifications.

Table 4. Effects of Expatriates, Degree of Foreign Production Intensity, and Cultural Distance on Foreign Affiliate's Labor Productivity (GMM Estimations)

Variables	(Column 1)	(Column 2)	(Column 3)	(Column 4)	(Column 5)
	DV = Labor productivity at $t+1$	DV = Labor productivity at $t+1$	DV = Labor productivity at $t+1$	DV = Labor productivity at $t+1$	DV = Labor productivity at $t+1$
Expatriates	-0.044 *** (0.010)	-0.047 *** (0.010)	-0.045 *** (0.010)	-0.046 *** (0.010)	-0.043 *** (0.010)
Expatriates × FPI	—	-0.023 *** (0.008)	—	-0.025 *** (0.008)	-0.026 *** (0.008)
Expatriates × FPI × Cultural distance	—	—	—	—	0.015 ** (0.006)
Expatriates × Cultural distance	—	—	0.001 (0.007)	-0.006 (0.007)	0.002 (0.007)
FPI × Cultural distance	—	—	—	—	0.001 (0.008)
FPI	-0.126 *** (0.013)	-0.122 *** (0.013)	-0.127 *** (0.013)	-0.121 *** (0.013)	-0.121 *** (0.013)
Cultural distance	0.006 (0.016)	0.006 (0.016)	0.006 (0.016)	0.007 (0.016)	0.002 (0.016)
Affiliate size	0.151 *** (0.010)	0.151 *** (0.010)	0.151 *** (0.010)	0.151 *** (0.011)	0.152 *** (0.011)
Intra-firm imports	0.016 ** (0.008)	0.017 ** (0.008)	0.016 ** (0.008)	0.017 ** (0.008)	0.017 ** (0.008)
Host country GDP	0.041 *** (0.011)	0.039 *** (0.011)	0.041 *** (0.011)	0.039 *** (0.011)	0.038 *** (0.011)
Host country GDP per capita	0.033 (0.022)	0.034 (0.022)	0.032 (0.022)	0.035 (0.022)	0.035 (0.022)
Labor productivity, (lagged DV)	0.418 *** (0.026)	0.417 *** (0.026)	0.418 *** (0.026)	0.417 *** (0.025)	0.416 *** (0.025)
Intercept	0.053 ** (0.026)	0.056 ** (0.026)	0.053 ** (0.026)	0.056 ** (0.026)	0.054 ** (0.026)
Industry fixed effects	Included	Included	Included	Included	Included
Year fixed effects	Included	Included	Included	Included	Included
Region fixed effects	Included	Included	Included	Included	Included
Observations	7,502	7,502	7,502	7,502	7,502

Notes: 1. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ (two tailed tests).

2. The dependent variable is measured at year $t+1$, and all the independent variables and moderating variables are measured at year t . All the estimated coefficients are standardized estimated coefficients.

3. The number in parenthesis indicates standard errors adjusted by affiliate-level clustering.

In sum, the overall negative effect of the foreign affiliate's having expatriates on labor productivity is mitigated mostly when the foreign affiliate is sales and market exploitation oriented and its host country is culturally similar to the home country. Furthermore, cultural distance is not a significant moderator for the relationship between *Expatriates* and *Labor*

$productivity_{i,t+1}$ as reported in columns 3–5 of Table 4. This finding suggests that a shorter cultural distance (i.e., cultural similarity) take its role in increasing foreign affiliate's labor productivity only when the tasks assigned to the expatriates are well aligned with the sales orientation of the foreign affiliate (e.g., post-production [sales] tasks). From the knowledge-based view, these findings provide implications that expatriates are more effective in increasing foreign affiliate performance as they transfer tacit sales/marketing knowledge they learnt from their home country parent firm to foreign affiliates located in countries that share cultural similarities with the home country.

We also conduct several robustness check analyses and report the estimation results in Table 5.

Table 5. Robustness Check Analyses—Effects of Expatriates, Degree of Foreign Production Intensity, and Cultural Distance on Foreign Affiliate's Labor Productivity

Variables	(Column 1)	(Column 2)	(Column 3)	(Column 4)	(Column 5)
	Method: OLS	Method: Multi-level	Method: GMM	Method: OLS	Method: Multi-level
Expatriates	-0.041 *** (0.010)	-0.039 *** (0.011)	—	—	—
Expatriates × FPI	-0.027 *** (0.009)	-0.027 ** (0.010)	—	—	—
Expatriates × FPI × Cultural distance	0.016 ** (0.006)	0.016 ** (0.007)	—	—	—
Expatriates × Cultural distance	0.002 (0.007)	0.001 (0.008)	—	—	—
Expatriate managers	—	—	-0.038 *** (0.010)	-0.030 *** (0.010)	-0.032 *** (0.010)
Expatriate managers × FPI	—	—	-0.024 *** (0.009)	-0.023 *** (0.009)	-0.025 ** (0.010)
Expatriate managers × FPI × Cultural distance	—	—	0.013 ** (0.006)	0.014 ** (0.006)	0.013 * (0.007)
Expatriate managers × Cultural distance	—	—	0.001 (0.007)	0.001 (0.007)	-0.002 (0.008)
FPI × Cultural distance	0.002 (0.008)	0.001 (0.009)	0.001 (0.008)	0.005 (0.008)	0.001 (0.009)
FPI	-0.121 *** (0.013)	-0.119 *** (0.014)	-0.123 *** (0.013)	-0.124 *** (0.014)	-0.121 *** (0.014)
Cultural distance	0.005 (0.017)	0.011 (0.020)	0.004 (0.017)	0.008 (0.017)	0.013 (0.020)
Affiliate size	0.149 *** (0.011)	0.168 *** (0.012)	0.148 *** (0.010)	0.141 *** (0.011)	0.164 *** (0.011)
Intra-firm imports	0.019 ** (0.008)	0.018 ** (0.008)	0.017 ** (0.008)	0.019 ** (0.008)	0.018 ** (0.009)
Host country GDP	0.039 *** (0.011)	0.043 *** (0.013)	0.040 *** (0.011)	0.042 *** (0.011)	0.045 *** (0.013)
Host country GDP per capita	0.029 (0.022)	0.041 (0.026)	0.037 (0.023)	0.027 (0.023)	0.043 (0.026)

Table 5. (Continued)

Variables	(Column 1)	(Column 2)	(Column 3)	(Column 4)	(Column 5)
	Method: OLS	Method: Multi-level	Method: GMM	Method: OLS	Method: Multi-level
Labor productivity _{<i>t</i>} (lagged DV)	0.415 *** (0.025)	0.307 *** (0.026)	0.417 *** (0.025)	0.446 *** (0.027)	0.308 *** (0.026)
Intercept	0.057 ** (0.026)	0.060 ** (0.027)	0.053 ** (0.026)	0.054 ** (0.027)	0.058 ** (0.028)
Industry fixed effects	Included	Included	Included	Included	Included
Year fixed effects	Included	Included	Included	Included	Included
Region fixed effects	Included	Included	Included	Included	Included
Observations	7,502	7,502	7,502	7,502	7,502

Notes: 1. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$ (two tailed tests).

2. The dependent variable is measured at year $t+1$, and all the independent variables and moderating variables are measured at year t . All the estimated coefficients are standardized estimated coefficients.
3. The number in parenthesis indicates standard errors adjusted by affiliate-level clustering.

First, although our system GMM is a conservative estimation method that is well known to address potential endogeneity issues, we try using different estimation methods to check whether the results are not sensitive to the estimation methods. When we apply simple ordinary least square (OLS) estimation with affiliate-level clustering of errors, we find consistent results in terms of the sign and the significance of estimated coefficients for *Expatriates*, *Expatriates* \times *FPI*, and *Expatriates* \times *FPI* \times *Cultural distance*, as reported in Column 1 of Table 5. We also try estimating Equation 1 by using a multi-level (mixed linear) analysis that controls potential confounding effects that may arise across different levels of random variation (i.e., affiliate-, parent firm-, and country-level variation). The multi-level approach is widely used in examining the effects of expatriates on foreign affiliate performance using multi-level data in international business (e.g., Chan, Makino and Isobe, 2006; Peterson, Arregle and Martin, 2012). The results reported in Column 2 of Table 5 show the robustness of our results to the multi-level estimation method. Second, to examine whether our results are robust to the operationalization of the focal independent variable, we include the total number of expatriate managers (*Expatriate managers*) instead of *Expatriates* in Equation 1. Here, we classify expatriates in executive and middle manager positions as *managers* (e.g., Cho Jae-Han, 2018; Astorner-Figari and Lee Joon-Hyung, 2019) and estimate the full model using system GMM, OLS, and multi-level analysis, of which the results are presented in Columns 3, 4, and 5, respectively. All of the results are consistent with the alternative measure, *Expatriate managers*. Thus, all of the robustness check analyses support our argument that although an increase of expatriates reduces the labor productivity of foreign affiliates in general, this negative effect is alleviated if foreign affiliates are more sales-oriented and further mitigated if foreign affiliates are located in host countries whose culture is more similar to that of the home country.

5. Discussion and Conclusion

As MNCs possess unique firm-specific assets and their foreign affiliates' business operations become more sophisticated, both parent firms and their foreign affiliates are eager to understand the roles of expatriates in value creation and further identify situations wherein

expatriates deployed to foreign affiliates are more/less effective. Knowledge-based view posits that expatriates can transfer parent firm's tacit knowledge to foreign affiliates and communicate with local employees or disseminate personal experience and individual knowledge they have accumulated in home country to foreign affiliates. In this study, we identify foreign affiliate- and host country-specific factors that may influence such knowledge transfer through expatriates, thereby influencing foreign affiliate's labor productivity.

First, we consider foreign affiliate's operational orientation, which is measured as its production intensity. The performance implication of expatriates can vary depending on which type of knowledge they transfer to the foreign affiliates. Specifically, knowledge transferred to production-oriented foreign affiliates is less tacit because it is more routinized compared with the knowledge transferred to sales/marketing (non-production)-oriented foreign affiliates. Hence, the usage of expatriates and their effects on the foreign affiliate's labor productivity is likely to be affected by the operational nature of foreign affiliates.

Second, we further consider cultural distance between home and host countries, which may influence the contingent effect. Cultural distance is known to be essential for expatriates' adjustment and settlement in foreign host countries and influence the effectiveness of their knowledge transfer to foreign affiliates (Gong, 2003; Harzing, 2001). Although expatriates' transferring of production-related knowledge (less tacit knowledge) does not much require local market intelligence and cultural adjustment, both are necessary when transferring and embedding sales/marketing-related knowledge (more tacit knowledge) to foreign affiliates. Thus, in foreign affiliates that need learn sales/marketing insights from the parent firm, expatriates need be assimilated into the foreign local market, and this assimilation is easier when the foreign affiliates are located in countries culturally similar to the home country.

Using information on Korean-owned foreign affiliates between 2006 and 2013, our system GMM analyses show that in general, the number of expatriates is negatively related to foreign affiliate's labor productivity. However, when the influence of foreign affiliate's operational orientation and cultural distance are simultaneously considered, expatriates are more effective in enhancing the labor productivity of foreign affiliates that are less production oriented or those operating more for local market exploitation with sales and marketing. Furthermore, the positive moderating effect of sales/marketing orientation of foreign affiliates on their labor productivity is strengthened when they are located in countries that share cultural similarities with the home country.

MNCs can utilize our results to better understand the effectiveness of their expatriate staffing. MNC headquarters (especially Korean MNC headquarters) can make a more efficient and effective expatriate staffing decisions when they consider the critical contingency factors we provide. Especially, our findings suggest that when MNCs decide to deploy their home country employees to a specific foreign affiliate, it is critical to consider whether the foreign affiliate is used mainly as their production base. In such a case, hiring local managers and assigning them to control the production process may be a better strategic decision given the large amount of costs necessary for deploying expatriates to foreign affiliates. When foreign affiliates are focused on local market seeking, expatriates can be conduits of more tacit sales/marketing knowledge developed by home country parent firms. Thus, MNC headquarters should consider the level of production intensity in their decision regarding expatriate staffing. In addition, our results on the three-way interaction effect suggest that MNCs should also consider cultural distance between home country and a candidate host country in their expatriate deployment decision. Transferring more tacit home country sales/marketing knowledge may often require smooth communication with locals and even cultural adjustment of such knowledge (e.g., Gong, 2003; Harzing, 2001). Thus, delivering tacit sales/marketing knowledge to locals in a culturally distant country is difficult for

expatriates. Expatriates themselves are more likely to have difficulty in moving in a culturally distant host country.

Although our results are insightful and provides good practical implications, they may be dependent on data periods. If the same foreign affiliate data until a more recent year become available, then future research may test the proposed effects of the number of expatriates on labor productivity and examine whether these effects are consistent or vary over time.

In addition, as earlier discussed in Section 2, we obtained additional stylized facts by looking into our data. (1) Foreign affiliates of Korean MNCs located in developing countries tend to focus on manufacturing tasks, whereas those located in developed countries focus mainly on retail or wholesale tasks. (2) Korean MNCs have sent more expatriates to their foreign affiliates whose businesses are in retail or wholesale sector rather than a manufacturing sector. (3) Expatriates tend to replace local employees in executive-level positions across foreign affiliates. These stylized facts suggest that the effect of the number of expatriates on labor productivity may depend not only on cultural distance but also on economic distance between home and host countries, and the composition of expatriates' job positions may influence the foreign affiliates' labor productivity. We expect future studies will develop formal hypotheses and examine interesting research ideas.

In conclusion, MNC headquarters (especially Korean MNC headquarters) can make a more efficient and effective expatriate staffing decisions when they consider the critical contingency factors we provide.

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Appendices

Table A: List of Developed and Developing Host Countries in the Sample

Developed countries	Australia, Austria, Belgium, Canada, Chile, Cyprus, Czech Republic, Denmark, France, Germany, Guam, Hong Kong, Hungary, Ireland, Israel, Italy, Japan, Kuwait, Luxembourg, Macao, Malta, Netherlands, New Caledonia, New Zealand, Norway, Oman, Panama, Poland, Portugal, Qatar, Saudi Arabia, Singapore, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Taiwan, United Arab Emirates, United Kingdom, United States, Uruguay
Developing countries	Algeria, Angola, Argentina, Bangladesh, Bolivia, Brazil, Bulgaria, Cambodia, Cameroon, China, Colombia, Democratic Republic of Congo, Costa Rica, Ecuador, Egypt, El Salvador, Ghana, Guatemala, Haiti, Honduras, India, Indonesia, Iran, Iraq, Jordan, Kazakhstan, Kiribati, Kyrgyzstan, Laos, Libya, Malaysia, Mexico, Mongolia, Morocco, Mozambique, Myanmar, Nepal, Nicaragua, Niger, Nigeria, Pakistan, Papua New Guinea, Peru, Philippines, Romania, Russia, Senegal, Serbia, South Africa, Sri Lanka, Sudan, Syria, Tajikistan, Thailand, East Timor, Tunisia, Turkey, Uzbekistan, Vietnam, Yemen

Note: Developed countries include a group of high-income countries and developing countries include a group of upper-middle, lower-middle, and low-income countries classified by the World Bank.

Table B: Summary Statistics of Variables for the Empirical Analysis

Variables	Mean	Standard Deviation	Min	Max
Labor productivity	9.81	2.05	5.23	14.81
Expatriates	1.77	0.92	0.00	4.46
FPI	0.60	0.37	0.01	0.99
Culture distance	2.02	1.13	0.24	5.01
Affiliate size	3.08	1.47	0.00	7.38
Intra-firm imports	0.33	0.36	0.00	1.00
Host country GDP	14.21	1.66	9.35	16.46
Host country GDP per capita	8.39	1.23	6.61	10.72

Notes: 1. Other than FPI, Cultural distance, and Intra-firm imports, all variables are computed in natural logarithm terms.

2. Host country GDP is measured in million USD and then computed in natural logarithm terms.