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# **Bilateral Investment Treaties, Political Risk and Foreign Direct Investment**

Kim, Sokchea

International University of Japan

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and Foreign Direct Investment\***

## **ABSTRACT**

The study constructs a linear model to evaluate the significant impacts of bilateral investment treaties (BITs) on foreign direct investment (FDI) and the possible consequences of BITs. The results show that BITs have significantly promoted FDI, and their effects are substitute for the level of political risk in a country. Another interesting finding is that BITs signed with non-OECD countries should not be overlooked. By estimating the growth of FDI resulting from an additional BIT ratified, the finding further indicates that BITs are more potential for most Asian countries to promote FDI. On average, a BIT ratified by a country in South, East, and South-East Asia can raise FDI by around 2.3 percent.

*Keywords:* Bilateral investment treaties, foreign direct investment, political risk.

*JEL classification:* F21, K33, O11

## **Introduction**

Designing a favorable policy to attract foreign investors has become one of the hottest topics among developing countries. Several national and international policies which are being pursued include the removal of investment restrictions, the establishment of investment law, the establishment of commercial zones, the provision of tax holidays, bilateral agreements and economic integration. Among these policies, the negotiation of bilateral investment treaties (BITs) has been witnessed on an upsurge trend in the 1990s. According to the United Nations Conference on Trade and Development (UNCTAD) BITs Database 2005, the number of BITs increased from 385 in 1989 to 2,392 by 2004, including 176 countries (see Figure 1). For instance, China, which is the first developing country to sign the greatest number of BITs since 1986, has attracted a huge amount of FDI accounting for about half of total FDI flows into Asia.

A bilateral investment treaty is generally known as an agreement between two signatory countries providing investors with fair and equitable treatment and legal protection. The growth of BITs has been discussed actively as one of the developing countries' FDI policies in the journals of international law (eg. Salacuse, 1990). This has important economic implications as several studies are going on to investigate the determinants of FDI. To date, only a few studies have been conducted solely to examine the relationship between BITs and FDI. Elkins, Guzman and Simmons (2004) point out that developing countries under competitive economic pressures are rushing to sign BITs to capture the share of foreign investment. In addition, Salacuse and Sullivan (2005) employ a cross-section estimation to examine the impact of BITs signed by nearly 100 developing countries with the U.S. and with OECD countries in the year 1998, 1999 and 2000, separately. Banga (2003) investigates the impacts of national and international policies of South, East, and South-East Asian countries to promote FDI; and BITs are one of important variables in his study.

While viewed as an FDI policy to attract foreign investment, BITs have been used by developing countries in an attempt to signal multinational enterprises (MNEs) that they are committed to providing protection and guarantees. Theoretically, BITs play the role as a substitute for the quality of institutions or the political risk in a developing country. That is, riskier countries tend to absorb more FDI inflows when their commitments to protect investors are credible. In this sense, among the three studies there is only one study whose findings are consistent with the theoretical expectation of BITs.

Tobin and Rose-Ackerman (2005) are unable to provide evidence for this theoretical expectation in their study in both general and bilateral analysis of BITs with the U.S. They include 63 countries in the general analysis and 54 in the bilateral analysis; however, the regressions in their study seem to suffer from the simultaneity problem between one control variable (economic growth) and the dependent variable (share of FDI). Similar results are obtained by Hallward-Driemeier (2003) in the study of bilateral FDI flows from 20 OECD countries to developing countries in the period from 1980 to 2000.

Unlike the earlier studies, Neumayer and Spess (2005) confirm the theoretical expectation with fixed-effect regressions of FDI on the one-year lag of cumulative BITs with OECD countries. They expand the number of observations to include 119 countries. However, the cumulative number of BITs signed among developing countries is excluded under the assumption that the amount of FDI flows between developing countries is negligible. They suggest that the studies of Hallward-Driemeier (2003) and Tobin and Rose-Ackerman (2005) do not generate the theoretical expectation due to the low number of observations.

In contrast, by using a sample of only 10 countries in South, East, and South-East Asia, the present study confirms the theoretical expectations of BITs. The findings suggest that BITs are more credible in a riskier country to attract FDI inflows. Using the composite

political risk index in 2004, the study predicts the growth rate of FDI due to one additional BIT ratified. The results show that it is not necessary for countries such as Brunei, Hong Kong, Singapore, South Korea and Taiwan to use BITs to signal foreign investors.

As BITs between developing Asian countries dramatically rose in the 1990s, the main objective of this study is to empirically show the possible consequences of BITs. More precisely, we attempt to show that BITs signal not only bilaterally to investors of the signatory country, but also to the world business community as a whole, and to prove the theoretical expectation. Additionally, we also attempt to confirm that BITs between non-OECD countries are significant. As BITs signal to investors worldwide, the effects of BITs between non-OECD countries may not be neglected.

The remaining sections of the study are organized as follows. Section 2 provides the definition, provisions, and movement of BITs. Section 3 reviews the literature on the relationship between BITs and FDI while section 4 presents the methodology used in the study. The empirical results are discussed in section 5. Finally, section 6 concludes the findings together with policy implications.

## **Bilateral Investment Treaties (BITs)**

Bilateral investment treaties are commonly known as agreements between two signatories in order to provide legal standards of protection for foreign investors. This legal protection is a supplementary offer provided for the signatory countries other than those specified in the national laws. Similar to the national laws, the treaty needs to be ratified to come into effect. According to Salacuse (1990), the basic structure of any BIT encompasses eight topics:

1. Scope of application
2. Conditions for the entry of foreign investment

3. General Standards of Treatment of Foreign Investments
4. Monetary transfers
5. Operational conditions of the investment
6. Protection against expropriation and dispossession
7. Compensation for losses
8. Investment dispute settlement

Basically, BITs vary across countries. They differ according to negotiations between countries; nevertheless, they share a common provision in which investors are entitled to fair and equitable treatment from the signatory governments. That is, there is no discrimination against foreign investors. The treatment is also applicable to the protection against expropriation and the mechanism of dispute settlement. BITs typically provide dispute resolution by an international body. That is, investors can sue the national government at the international arbitration if there is any violation of the treaty.

Historically, BITs was initiated and promoted by the capital-exporting countries. The objective was to establish an international legal framework to protect the investment of their nationals in foreign countries. On the other hand, the driving forces, at present, seem to be from the developing countries. BITs today are being promoted by developing countries as one of their investment policies. The objective of negotiating a BIT with advanced countries is to enhance the investment climate, making the countries more attractive to foreign investors by assuring investors of the government efforts to protect them.

Since the first BIT was signed in 1959 between Germany and Pakistan, the number of BITs increased gradually, and rapidly especially in the 1990s. This trend can also be observed in some Asian nations (see Figure 2). Before the 1990s, few developing countries signed BITs; however, there was a dramatic increase in the 1990s (see Figure 3) and BITs between

developing Asian and Pacific countries accounted for the largest portion during the time. Therefore, the effects of BITs among these countries should not be neglected.

## **Literature Review on BITs and FDI**

Besides the characteristics of the host country per se, the government of developing countries have targeted FDI as the main factor for their economic growth. In that respect, those countries have established law of foreign investment in order to provide incentives as well as guarantees to make their countries even more attractive to foreign investors. At the same time, some countries have negotiated bilaterally with other countries to establish a legal framework aimed directly at attracting investment from the signatory countries through provision with protection and guarantees.

As various policies to attract FDI inflows have been introduced by most developing countries, several researchers have examined the role of those policies in attracting FDI (see Banga, 2003; Blonigen & Davies, 2002; Dollar, Hallward-Driemeier & Mengistae, 2004; Neumayer, 2006; Taylor, 2000). On the other hand, there are few studies investigating the in-depth relationship between BITs and FDI, and their findings are very much controversial.

UNCTAD (2003) states that there is nothing much BITs can influence the global FDI flows. However, this argument may set a gap that BITs may work in certain conditions and for specific nations and play apart as a favorable framework to welcome foreign investors. This appears to support Salacuse (1990) who argues that the adoption of a BIT by a host country is, at least, to signal the nationals of a partner country that their investments are protected and promoted.

To prove this statement, Salacuse and Sullivan (2005) conducted a cross-sectional empirical analysis on the impacts of U.S. BITs and OECD BITs in developing countries. They find a strong positive relationship between BITs and FDI from the U.S. to developing

countries, but BITs with OECD countries are not significant. However, using twenty years of bilateral FDI flows from 20 OECD countries to 31 developing countries, Hallward-Driemeier (2003) finds that BITs play a minor role in stimulating greater FDI and they are only effective in countries with high quality of institutions and strong local property rights.

However, Neumayer and Spess (2005) find a completely different result suggesting that signing BITs with OECD countries is important to induce greater FDI inflows into the developing countries (see also Egger & Pfaffermayr, 2004). Using three components of political risk index developed by International Country Risk Guide (ICRG), they find that a country with relatively lower institutional quality benefits more from BITs *i.e.* BITs act as a substitute rather than a complement to the quality of a country's institutions. However, BITs signed with developing countries are excluded in their study due to little amount of FDI flows between developing countries.

Examining BITs signed with the U.S., Tobin and Rose-Ackerman (2005) find little evidence to explain the importance of BITs signed by low and middle-income countries with the U.S. in their bilateral analysis. In the general analysis, they argue that BITs only play a major role in countries where investment environment has already been improved; their study seems to be consistent with Hallward-Driemeier (2003). Using the aggregate index of ICRG political risk rating<sup>1</sup>, they point out that BITs have a positive impact when the political risk is equal to 65 or above.

The contrasting findings of the previous studies might result from econometric methods and model specifications employed. For example, Salacuse and Sullivan (2005) do not capture social variables such as wage and quality of infrastructure. Thus, their regressions may suffer from omitted variable problems. On the other hand, Tobin and Rose-Ackerman (2005) include several variables discussed in the literature on determinants of FDI and

attempt to correct for the causality between FDI and BIT; however, it seems that they fail to solve the endogeneity problem of the GDP growth variable.

The above studies mainly investigate the importance of BITs of the U.S. and OECD countries with all developing countries as a whole while only one study conducted by Banga (2003) has investigated the government policies towards FDI in South, East, and South-East Asian countries. His study also incorporates BIT variable as one of the policy variables. Using data from 15 developing countries in South, East, and South-East Asia in the period from 1980 to 1999, he finds significant relationship between BITs and FDI inflows. He further argues that BITs with developed countries play major roles while those with developing countries seem not to gain statistical significance. Yet, Banga do not examine the conditional effect of BITs which is theoretically expected to be a substitute for political risk in a country.

## **Methodology**

To construct the regression models employed in the study, we initially review the theoretical and empirical arguments that specify the significant factors affecting FDI flows; thereby, the impacts of BITs on FDI can be robustly evaluated in the regressions which incorporate all the significant control variables.

Several theoretical foundations have emerged to explain the reasons why national firms turn into multinational enterprises (MNEs) and why they invest in international production rather than licensing or exporting. Under the assumption of market imperfection, Hymer (1976) stressed the firms' motives to enhance their market power as the determinants of foreign direct investment. Two main types of determinants are firms' specific advantages and removal of conflict. Based on the comprehensive analysis of ownership advantages, the advantages of locational specific endowments and the advantages of internalization, which

are known as eclectic theory, Dunning (1981) argues that location specific endowments affect country or industry variables and their effect is different from the ownership advantages.

Unlike specific-firm advantages and the advantages of internalization, the locational advantages represents advantages specific to a country which are in the interests of foreign investors. Empirical frameworks have been conducted to test the attractiveness of a country or the determinants of inbound FDI.

Several country-specific variables have been considered in promoting foreign investment. While the economic and political factors are found to be significant to attract inbound FDI in various studies (Baniak, Cukrowski & Herczynski, 2005; Ok, 2004), Root and Ahmed (1979) investigated the significance of 38 variables which are categorized into 3 groups described as economic, social, and political variables. Thus, the model formulated to investigate the determinants of inbound FDI can be written as:

$$FDI = f[(Economic\ Variables), (Social\ Variables), (Political\ Variables)]$$

The economic variables, social variables and political variables to be employed in this study are presented as follows:

Economic variables include market size, exchange rate, macroeconomic instability and degree of openness. Firstly, to capture the market size the study uses the natural log of real GDP per capita (constant 2000 US\$) to measure the current market size and real GDP growth to measure the potential market size (see Root & Ahmed, 1979). It is believed that the larger the market size, the more potential investment environment to be invested by a market-seeking MNEs. Thereby, positive effects are expected for these two variables.

The second variable to be used in the economic variable category is exchange rate. Dunning and Lundan (1997) and Froot and Stein (1989) maintain that the depreciation of the

host country's domestic currency reduces the cost of investment; thus, inspiring foreign acquisition of domestic firms. At the same time, exchange rate depreciation also worsens the value of the repatriated profits of foreign investors (Singh & Jun, 1995). Therefore, the relationship between exchange rate and FDI is ambiguous. In the estimation, this variable takes the annual percentage change in real exchange rate.

The third economic variable is macroeconomic instability. Naturally, investors are reluctant to invest their capital in a country with unsound macroeconomic conditions. Hence, macroeconomic instability is expected to negatively affect FDI inflows. Inflation (CPI) can be regarded as an indicator of macroeconomic instability.

The last economic variable is trade openness. There are inconclusive findings on the relationship between the openness of a host country and inbound FDI. Mundell (1957) assumes that trade is the perfect substitute for capital movements in the absence of trade barriers. Recent studies have also proved the relationship as either substitute in the case of tariff-jumping investment or complement in the case of intra-firm trade (see Banga, 2003). Edwards (1990) argues that opening up international trade improves the attractiveness to foreign investors. Thus, the impact of this variable is ambiguous. The variable is proxied by the ratio of trade to GDP.

Many studies have found that countries which provide lower costs of investment and operation seem to be able to absorb more FDI inflows, especially efficiency and resource-seeking FDI. The study uses three proxies to control for the social factors. First of all, real wage (constant 2000 US\$) in manufacturing is used to capture the host country's labor cost. It is expected to have negative relationship with FDI inflows although controversial findings have been revealed (see Chakrabarti, 2001). The logarithm form is taken to reduce the skewness in the distribution across countries.

The second social variable is the cost of capital. The proxy used is real interest rate (base 2000) which hypothesizes to be also negatively related with FDI inflows. The other cost related variable is the quality of infrastructure. The proxy is fixed line and mobile phone subscribers per thousands, and is expected to positively attract FDI inflows as the quality is improved (see Mai, 2002). The use of this variable is similar to that in Quazi and Mahmud (2004)'s study.

Political instability has been found to have significant negative impact on direct investment (Singh & Jun, 1995; Quazi & Mahmud, 2004). The present study proxies this variable with the political risk rating developed by International Country Risk Guide (ICRG). Risk is assessed on the comparable basis on twelve component factors such as government stability, socioeconomic conditions, investment profile, internal conflict, external conflict, corruption, military in politics, religion in politics, law and order, ethnic tensions, democratic accountability and bureaucracy quality (see table 3 for points given to each component). The rating ranges from a high of 100 (least risk) to a low of 0 (highest risk). Basically, the index represents the degree of stability of a country's political condition. Therefore, the higher ratings are expected to induce greater foreign investment. In other words, the positive relationship is expected.

According to the above framework on the determinants of inbound FDI, the study constructs a linear model which incorporates two policy variables such as the membership of Asia-Pacific Economic Cooperation (APEC) and the BIT variable. The former is a binary variable which equals 1 starting from the year a country is admitted to APEC membership and 0 before then. Of the main interest is the latter to be included to evaluate its partial relationship with FDI inflows. BITs hypothesize to function as a signal that the door is opened for capital inflows and they are protected. The study calculates this variable as the

cumulative number of BITs ratified by a host country throughout the sample period, because the treaties are assumed to have long-term effects on FDI (Hallward-Driemeier, 2003).

However, some already-signed BITs *not yet* into force are not counted since they may not ensure any protection for investors of signatory partner countries.

The general model is written as follows:

$$\ln FDI_{it} = \alpha_0 + \delta X_{it-1} + \lambda Y_{it} + \psi POLRISK_{it-1} + \alpha_1 APEC_{it} + \alpha_2 BIT_{it-1} + e_{it} \quad (1)$$

where the dependent variable is the logarithm of real FDI inflows in country  $i$  at time  $t$ . To convert into the real term, each country's FDI inflows over the period are deflated by US GDP deflator. The bilateral inflows are not used due to the assumption that BITs are expected to signal to not only the investors of the signatory countries, but the business community worldwide.

The independent variables include a vector of economic variables ( $X_{it-1}$ ), a vector of social variables ( $Y_{it}$ ), a political risk variable ( $POLRISK_{it-1}$ ), a policy variable ( $APEC_{it}$ ) which represents a membership of Asia-Pacific Economic Cooperation, and the variable of interest ( $BIT_{it-1}$ ). As discussed earlier, a vector of economic variables is composed of GDP growth ( $GDPG_{it-1}$ ), the logarithm of GDP per capita ( $\ln GDPC_{it-1}$ ), the change in real exchange rate ( $RER_{it-1}$ ), inflation ( $INF_{it-1}$ ), and openness ( $OPEN_{it-1}$ ) while a vector of social variables includes the logarithm of real wage ( $\ln RWAGE_{it}$ ), communication infrastructure proxy ( $INFRA_{it}$ ), and real interest rate ( $RINTEREST_{it}$ ). The political risk ( $POLRISK_{it-1}$ ) is the measure of political stability in a country.

The study uses panel data of 10 Asian countries over the period 1984-2002. Those countries are China, Hong Kong (China), India, Indonesia, South Korea, Malaysia, the Philippines, Singapore, Taiwan Province of China, and Thailand.

It is possible that the model employed have endogeneity problems. Specifically, among the economic variables, the reverse causality between GDP growth and FDI inflows is generally emphasized in the growth literature (see Carkovic & Levine, 2002; Nunnenkamp & Spatz, 2003). Further, Tobin and Rose-Ackerman (2005) suggest that firms may encourage the government of their home countries to sign BITs with the government of the countries where their investments are located. Hence, it is evident that the reverse causality between BIT and FDI may also occur.

To avoid the endogeneity problems, we use lag of economic variables, the political risk variable and BIT. Most of the variables are similar to those used by Neumayer and Spess (2005). However, we exclude two variables, GDP and resource rent, from the model employed in their study. GDP is excluded due to suspicion of high correlation between GDP and GDP per capita. As observed in their results, GDP and GDP per capita, both of which are expected to have positive signs, show significant reverse signs in most specifications. The resource rent is dropped in our regressions due to unavailability of resource data. Unlike Neumayer and Spess (2005), we add three social variables, including wage rate, cost of capital and infrastructure development. The social variables are not lagged under the assumption that they are exogenously determined.<sup>2</sup> We also control for the attractiveness of countries as APEC members.

The variable of interest, BIT, is expected to have a positive relationship with FDI inflows. To investigate the different impacts of BITs signed with OECD countries and non-OECD countries, BIT is decomposed into BITs signed with OECD countries ( $BIT_{OECD}$ ) and BITs signed with non-OECD countries ( $BIT_{other}$ ).

In order to test our hypothesis that BITs work as a more credible signal in a riskier country, the interaction term between bilateral investment treaties and political risk ( $BIT*POLRISK$ ) is added to the above general model. The negative sign of the coefficient is

expected. Another implication of this negative interaction term is that the effect of BIT diminishes as the country becomes less risky. However, if the positive sign turns out, this demonstrates the complementary role of BIT to the political stability of a country. The model becomes:

$$\begin{aligned} \ln FDI_{it} = & \beta_0 + \delta X_{it-1} + \lambda Y_{it} + \psi POLRISK_{it-1} + \beta_1 APEC_{it} + \beta_2 BIT_{it-1} \\ & + \beta_3 (BIT_{it-1} * POLRISK_{it-1}) + u_{it} \end{aligned} \quad (2)$$

The models are estimated using Ordinary Least Squares (OLS), Fixed Effects (FE), and Random Effects (RE) methods with White cross-section standard errors to correct for heteroskedasticity in the error term. The fixed effects method is performed in suspicion that there are other factors than those captured in our explanatory variables affecting the inflows of FDI. And the random effects method, with Wallace and Hussain estimator component variances, is used under the assumption that those unobserved factors are randomly captured in the error term.

The descriptive statistics are reported in Table 1 and the correlations among variables are reported in Table 2 to check multicollinearity problems. Actually, the data of some variables in some years are missing; they are ignored in the regressions without causing any bias on the estimators in the random sample (Wooldridge, 2003).

The data are extracted from UNCTAD time-series database from WIR annex tables, World Bank World Development Indicators Online (2005), IMF Direction of Trade Statistics CD-ROM (2005), ILO: LABORSTA<sup>3</sup>, Taiwan Statistical Year Book and Taiwan Statistical Data Book (2003) and (2004) and UNCTAD Online, BITs databases (2005).

## Results and Discussions

Table 4 presents the summary of a general analysis using pooled OLS estimations. First of all, we tried to obtain a consistent and reliable model to explain the determinants of inbound FDI in Asia. Regression (1.1) is the baseline model in which the variable of interest, BIT, is not included. The result indicates that the three categories including economic variables, social variables, and political variable, have significant relationship with FDI although not all variables are statistically significant.

Economic variables, GDP growth and GDP per capita, both of which proxy for market size, are found to be positive and significant at the 5 percent and 1 percent level, respectively. This implies that the economic growth and the per capita income of people in Asian countries exert positive influence on the level of FDI inflows. In addition, the coefficient of openness indicates that the more open the economy is, the higher the level of FDI flows into that country. However, among all the economic variables included in the baseline model, change in real exchange rate and inflation, are insignificant, but they have the expected signs as discussed earlier.

Among the three social variables, real wage and infrastructure quality are found to be the significant determinants of inbound FDI in the sample countries while real interest rate which proxies for the cost of capital have the consistent negative relationship with FDI, but it is not statistically significant in the estimation regression. In short, the result is consistent with the fact that low labor cost in Asia is one of competitive factors in promoting FDI inflows.

Political risk rating which is used as a proxy for the political variable in this study also confirm the finding of Singh and Jun (1995) and Ok (2004) who argue that political instability is an impediment to FDI inflows. As the index measures the stability in a country, the positive coefficient implies that a more stable country seems to be competitive in

receiving foreign investment. Above all, the variable capturing the effect of regional economic integration on FDI is also significant in the regression result. Thus, being a member of Asia-Pacific Economic Cooperation (APEC) is attractive to foreign investors.

Regression (1.2) was estimated by excluding the insignificant variables found in Regression (1.1). The probability of F-statistic<sup>4</sup> fails to reject the null hypothesis that real exchange rate, inflation, and real interest rate are not jointly significant at the 5 percent level. In particular, the finding in Regression (1.2) is robustly consistent with that obtained in Regression (1.1); thus, we employ Regression (1.2) as a reliable model to analyze various consequences of BITs and test our hypothesized expectations.

Overall, Regression (1.3) and (1.4) provide evidence that BITs significantly induce the inflows of FDI. The positive and significant coefficient of BIT in Regression (1.3) implies that as countries continue to ratify more BITs, they are likely to receive larger amount of FDI. This important implication confirms the case of China, which has ratified about 50 BITs with both OECD and non-OECD countries from 1990 to 2002. However, while the study decomposes BITs into BIT<sub>OECD</sub> and BIT<sub>other</sub> (shown in Regression (1.4)), the finding further indicates that BITs signed and ratified with OECD countries are significantly effective while those with non-OECD countries are of little importance. This seems to lend support for the research design in Neumayer and Spess (2005)'s study. We will come to this point later when we discuss the consequences of BITs, especially those of BITs with OECD and non-OECD countries more explicitly.

Table 2 shows that lnGDPC is highly correlated with lnRWAGE, OPEN, INFRA, and POLRISK in which the correlation coefficient is equal to 0.944, 0.782, 0.808, and 0.702, respectively. Hence, a sensitivity test is conducted by excluding lnGDPC from the regressions. The results are reported in Table 5. It is indicative that the signs and significance of all coefficients do not change except that BIT<sub>other</sub> becomes significant at the 10 percent

level. Another indication is that the coefficient of  $\ln RWAGE$  seems to add up the effect of  $\ln GDPC$  while the magnitudes of  $OPEN$  and  $POLRISK$  slightly increase. Therefore, excluding  $\ln GDPC$  from the regression equations may result in omitted variable bias rather than multicollinearity problems.

A step further is to include the interaction term between  $BIT$  and  $POLRISK$  in the Regression (1.3) as specified in Model (2) in the previous section in order to test a general theoretical expectation of BITs. The model was estimated using pooled OLS, fixed effects (FE), and random effects (RE) methods in which the last two is to deal with the effects of unobserved variables. F-test and Hausman test were performed in order to choose the most favorable method. The results are presented in Table 6.

The statistics from the tests, both F-statistic and Chi-squares statistic, show that the random effects method is more efficient in explaining the variation of FDI. However, it is also observed that all coefficients are consistent and comparable across the three methods, except for openness which has a negative sign in the fixed effects method; however, it is insignificant. Above all, regardless of the methods used, the results confirm the theoretical expectation.

The result from the random effects estimation shows that all the control variables are consistent with the general analysis although the coefficient of  $OPEN$  is not statistically significant. In particular, the negative sign of the interaction term is consistent with the prediction of BITs that BITs are more efficient tools to strengthen the credibility of a riskier developing country's commitment to protect foreign investors. Another implication that we can derive from the result is that the effect of BITs diminishes with the political stability.

To recall, the result from Regression (1.4) in Table 4 showed that BITs signed with OECD countries are beneficial while BITs signed with non-OECD countries are of little benefit. If this is the case, why should developing Asian and Pacific countries put much effort

in negotiating, signing, and ratifying BITs among countries? (see Figure 3). China, for example, has ratified approximately 40 BITs signed with non-OECD countries among some 50 BITs ratified during the 1990s. Therefore at this stage, we examine the hypothesis of BIT theory more explicitly by separately investigating the possible consequences of  $BIT_{OECD}$  and  $BIT_{other}$ .

Since the random effects estimation is more efficient in the above analysis, the study reports only the results of the random effects method in Table 7 below. However, the Hausman statistic is also reported to confirm the robustness of the estimates over the estimates of the fixed effects method. Table 7 shows the conditional impacts of  $BIT_{OECD}$  and  $BIT_{other}$ , separately. On the whole, we can confirm the theoretical expectation only in the case of  $BIT_{other}$  while  $BIT_{OECD}$  works unconditionally on the political risk of a nation.

According to the result of Regression (2.4),  $BIT_{OECD}$  is statistically significant and has the positive sign. This lends a stronger support for signing and ratifying BITs with OECD countries. The result is in line with Neumayer and Spess (2005) who find that signing more BITs with OECD countries raise the amount of FDI flows to developing countries. However, the result does not support the theoretical predictions of the role of BITs in this case. Though the coefficient of the interaction term between  $BIT_{OECD}$  and  $POLRISK$  has the expected negative sign, it is not statistically significant. In short, the result implies that BITs with OECD countries may be effective irrespective of the political condition of a nation.

On the contrary, BITs with non-OECD countries function as a substitute for the political condition of a nation. The coefficients of  $BIT_{other}$  and its interaction term with  $POLRISK$  have the expected sign and are significant at the 5 and 10 percent level, respectively. However, in this regression, we do not control for the effects of  $BIT_{OECD}$ . With suspicion that  $BIT_{other}$  is a complement to  $BIT_{OECD}$ , Regression (2.6) shows the result with the interaction between  $BIT_{OECD}$  and  $BIT_{other}$ . The coefficient of  $BIT_{other}$  is negative and

significant at the 1 percent level while that of the interaction term is positive and also statistically significant. That is,  $BIT_{\text{other}}$  seems to work; however, depending on  $BIT_{\text{OECD}}$  or the result can be interpreted that  $BIT_{\text{other}}$  adds more impacts to the overall effects of  $BIT_{\text{OECD}}$ .

The results seem to contradict the fact that FDI between developing countries are rare as pointed out by Neumayer and Spess (2005). Likewise, it sounds unusual if BITs between developing countries work. One possible explanation of the result is that signing massive BITs with non-OECD countries is a strong signal not only to developing signatories, but to the business community worldwide of the government's commitment to provide stable legal investment framework. Therefore, their effects should not be neglected.

To sum up, the above regression results suggest that BITs are definitely a credible signal to foreign investors. In addition, we also find evidence to confirm the theoretical predictions of BITs. Although the conditional effects of  $BIT_{\text{OECD}}$  are not significantly proved, the absolute effects are strongly found. In particular, while we find the significant substitute effects of  $BIT_{\text{other}}$  for  $POLRISK$  and the positive interaction term between  $BIT_{\text{OECD}}$  and  $BIT_{\text{other}}$ , it is conclusive that both  $BIT_{\text{OECD}}$  and  $BIT_{\text{other}}$  are effective as complement to each other and they work not only bilaterally, but worldwide, too.

The above results have shown the significant conditional effects of BITs on FDI inflows. As Model (2) allows us to compute the growth of FDI under a specific condition of political stability, the study derived the first-order condition with respect to BIT from Model (2) which is written as follows:

$$\frac{\partial FDI}{FDI} = (\beta_2 + \beta_3 * POLRISK) \partial BIT \quad (3)$$

Using the political risk rating in the year 2004, we estimated the ceteris-paribus effects of ratifying one additional BIT on FDI inflows into some South, East, and South-East Asian nations. Table 8 reports the results.

Column (1) and column (2) are the growth of FDI from an additional ratified BIT and BIT with non-OECD countries, respectively. The figures in column (1) were obtained by plugging the coefficients of BIT and its interaction term of Regression (2.3) into Model (3) above, and those in column (2) were calculated in the same way, using the coefficients of Regression (2.5). The t-statistic of this partial effect is calculated using the Delta method. The results indicate that the predicted FDI inflows in the year 2005 may average around 2.3 percent when a country in South, East, and South-East Asia ratifies an additional treaty, given that other factors are constant.

Among the three regions, the magnitude is higher in South Asia, averaging about 3.7 percent (see column (1)). That is, one BIT ratified by a country in South Asia significantly increase FDI inflows by 3.7 percent. Even though with some internal or external conflicts which occurred in some South Asian countries such as Sri Lanka and Pakistan, those countries still have the potential to induce foreign investment by 3.5 and 4.1 percent, respectively through signing and ratifying one more BIT. Additionally, the t-statistics in column (2) indicate that BITs with non-OECD countries are also effective. However, the larger magnitude of 3.9 percent may incorporate the effects of BITs with OECD nations as their effects are not controlled in the regression estimation.

In East Asia, according to a rather stable political condition, an additional BIT ratified can stimulate only around 1.5 percent of FDI inflows. Among the five countries estimated in the region, the t-statistics indicate that only China and Mongolia have potential to sign BITs; however, BITs with non-OECD countries seem not be effective in all countries in East Asia. China is able to attract around 1.9 percent of FDI with one BIT ratified. As Tobin and

Rose-Ackerman (2005) excludes China from the sample, this may lose important information of BIT effects as China was the third top country to conclude BITs as of 2000 (UNCTAD, 2000). The implication for the insignificant effects of BITs in Hong Kong, Taiwan, and South Korea is probably that the quality of institutions and compliance of the laws are sufficiently trustworthy.

In South-East Asian countries, FDI is predicted to increase by an average of about 2 percent with an additional BIT ratified. Among them, BITs seem to have no effect in Brunei and Singapore. Like Hong Kong, Taiwan, and South Korea, this also implies that the quality of institutions and the compliance of laws are good enough to ensure a safe investment in those countries. Reversely, the figures for Indonesia and Myanmar suggest that these countries have higher potential among South-East Asian countries to attract FDI inflows with an additional ratification of BIT. On the other hand, BITs with non-OECD countries are not significant in four countries including Brunei, Malaysia, Singapore, and Thailand.

## **Conclusions**

The study analyzes the effects of bilateral investment treaties on foreign investment in Asian countries. Based on the empirical background of several studies on the determinants of FDI inflows, a linear model is constructed including the sample of 10 Asian countries from 1984 to 2002. In summary, the results robustly confirm our theoretical expectation of BIT.

By controlling for several factors discussed in the literature of foreign direct investment, this study provides evidence that BITs play a significant role in stimulating the inflows of investment. A further analysis indicates that signing a treaty with OECD countries is beneficial while signing BITs with non-OECD countries seem not to gain any significance. The results are in line with those of Neumayer and Spess (2005), who find significant relationship between BITs signed with OECD countries and FDI inflows.

Testing the theoretical expectation of BITs, BITs signed with OECD countries and BITs signed with non-OECD countries, the finding generally indicates that countries with higher political risk seem to be better able to receive more FDI with BIT ratification. While the effects of BITs with OECD nations are not likely to depend on the quality of political condition, those of BITs with non-OECD countries might be likely to. A further analysis indicates that the effects of BITs with non-OECD countries are complement to those of BITs with OECD countries. As BITs are viewed as the commitment of a host country to provide a stable legal framework to investors, signing BITs is a signal to not only signatory countries, but also the international business community. The results conclude that the commitment is credible even with BITs signed with non-OECD countries although conditional on BITs signed with OECD countries. Thus, a message to a developing country is that a BIT is really worth negotiating, signing, ratifying, and complying.

In addition, using 2004 political risk data, the study provides evidence that an additional BIT ratified raises FDI inflows by an average of 2.3 percent in South, East, and South-East Asian nations. It is evident that BITs are effective in most countries in Asia, but they are of little importance in Brunei, Hong Kong, South Korea, Singapore, and Taiwan.

Lastly, the overall findings in this study add to the literature on the determinants of FDI. As shown in the empirical results, the market size, political stability, the quality of infrastructure, wage, the degree of openness, APEC membership are the important factors for stimulating FDI inflows.

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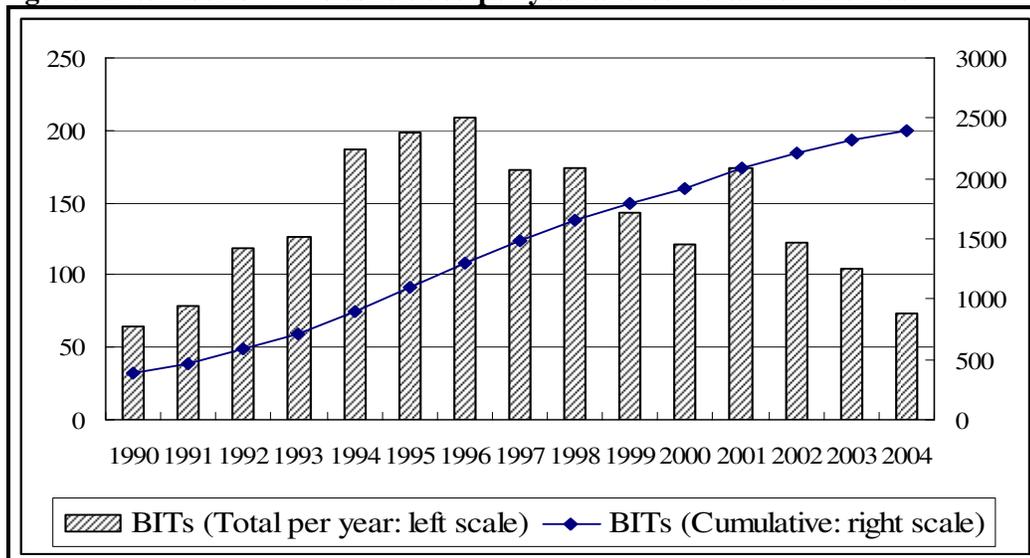
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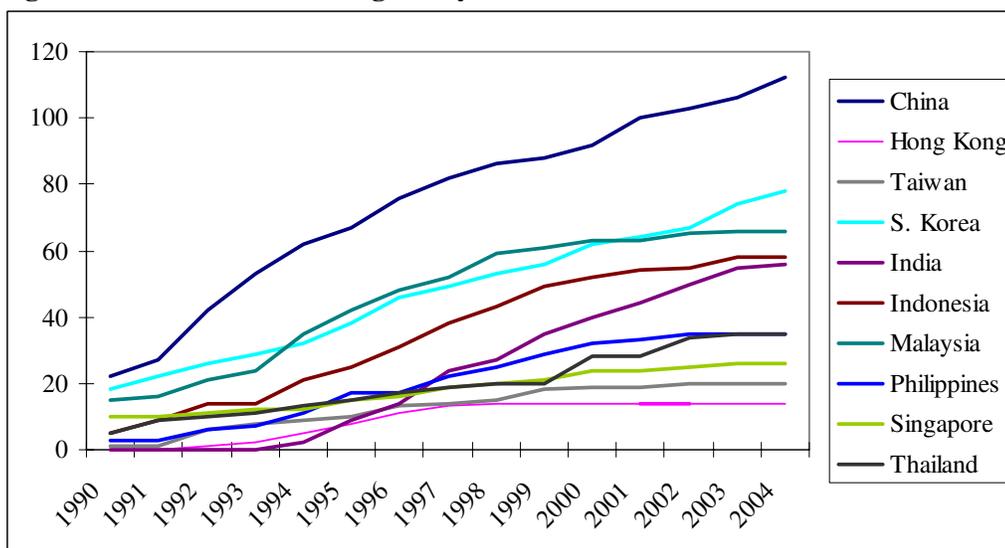
## Figures

**Figure 1: Number of BITs concluded per year and cumulative 1990-2004**

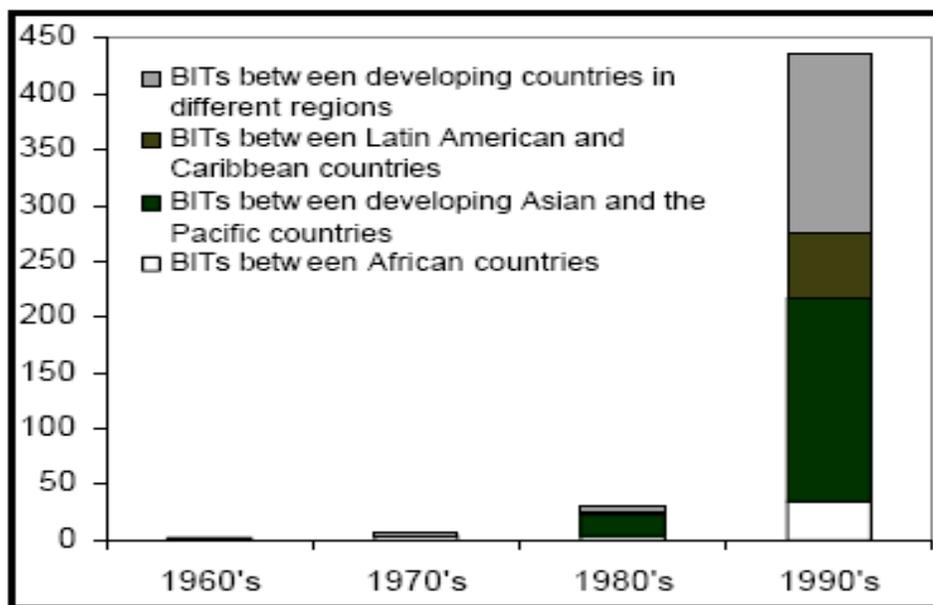


(Source: UNCTAD, BITs databases)

**Figure 2: Cumulative BITs signed by 10 Asian countries**



Source: UNCTAD database on BITs

**Figure 3: BITs signed between developing countries, by regions and decades, 1960-99**

Source: UNCTAD database on BITs

## Tables

**Table 1: Descriptive Statistics**

<b>Variables</b>	<b>Description</b>	<b>Unit</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Median</b>	<b>Standard Error</b>	<b>Obs.</b>
FDI	Real FDI (constant 2000)	Million US \$	-4,550	61,939	5,716	2,265	10,592	190
GDPG	Real GDP growth	Percentage change	-56.25	44.59	5.37	7.35	11.51	190
GDPC	Real GDP per capita	US \$	240	24,939	6,205	2,101	7,292	190
RER	Change in real exchange rate	Percentage change	-33.47	120.68	2.41	0.85	12.47	187
INF	Inflation (CPI)	Percentage change	-3.96	58.39	5.76	4.78	6.36	188
OPEN	Openness	Ratio of trade to GDP	0.10	3.28	1.03	0.66	0.86	190
RWAGE	Real wage (constant 2000)	US \$	28.50	1,761.06	595.91	370.65	553.84	166
INFRA	Phone subscribers per thousands	Per 1,000 people	2.68	1,507.13	275.08	125.18	332.82	190
RINTEREST	Real interest rate	Percentage	-24.60	21.61	5.86	5.91	4.87	179
POLRISK	Political risk rating	Index	33.00	90.00	65.54	67.00	12.52	187
BIT	Bilateral investment treaties	Cumulative number	0.00	73.00	15.91	11.00	16.66	190

**Table 2: Correlation among Variables**

	lnFDI	GDPG	lnGDPC	RER	INF	OPEN	lnWAGE	INFRA	RINTEREST	POLRISK	APEC	BITS
lnFDI	1.000											
GDPG	0.204	1.000										
lnGDPC	0.324	0.133	1.000									
RER	-0.167	-0.809	-0.144	1.000								
INF	-0.273	-0.266	-0.366	0.386	1.000							
OPEN	0.402	0.083	0.782	-0.094	-0.301	1.000						
lnWAGE	0.139	0.134	0.944	-0.172	-0.394	0.658	1.000					
INFRA	0.418	-0.026	0.808	-0.044	-0.343	0.610	0.765	1.000				
RINTEREST	-0.103	-0.111	-0.089	0.035	0.081	-0.074	0.054	-0.001	1.000			
POLRISK	0.497	0.054	0.702	-0.064	-0.499	0.586	0.610	0.616	-0.193	1.000		
APEC	0.540	0.060	0.303	-0.014	-0.025	0.224	0.299	0.404	-0.053	0.289	1.000	
BITS	0.544	-0.025	-0.025	0.104	0.022	-0.077	-0.107	0.171	-0.089	0.216	0.521	1.000

**Table 3: ICRG's Political Risk Rating.**

<i>POLITICAL RISK COMPONENTS</i>		
<b>Sequence</b>	<b>Component</b>	<b>Max. points</b>
A	Government Stability	12
B	Socioeconomic Conditions	12
C	Investment Profile	12
D	Internal Conflict	12
E	External Conflict	12
F	Corruption	6
G	Military in Politics	6
H	Religion in Politics	6
I	Law and Order	6
J	Ethnic Tensions	6
K	Democratic Accountability	6
L	Bureaucracy Quality	4
Total		100

**Source: <http://www.icrgonline.com>**

**Table 4: Summary of General Analysis (OLS)**

<b>Dependent Variable: the logarithm of real FDI inflows</b>				
<b>Independent Variables</b>	<b>Reg. (1.1)</b>	<b>Reg. (1.2)</b>	<b>Reg. (1.3)</b>	<b>Reg. (1.4)</b>
Constant	22.010 (22.681)***	20.804 (28.950)***	20.341 (29.594)***	19.449 (26.243)***
GDPG	0.022 (1.995)**	0.024 (2.555)**	0.019 (2.229)**	0.018 (2.066)**
lnGDPC	0.673 (3.461)***	0.787 (4.681)***	0.809 (5.807)***	0.958 (7.288)***
RER	0.003 (0.241)	—	—	—
INF	-0.028 (-1.028)	—	—	—
OPEN	0.342 (2.488)**	0.330 (2.647)***	0.492 (3.687)***	0.334 (2.443)**
lnRWAGE	-1.571 (-11.59)***	-1.644 (-14.43)***	-1.418 (-14.22)***	-1.438 (-16.25)***
INFRA	0.002 (4.816)***	0.002 (4.315)***	0.001 (2.603)**	0.001 (2.281)**
RINTEREST	-0.033 (-1.279)	—	—	—
POLRISK	0.028 (2.772)***	0.036 (6.815)***	0.019 (3.106)***	0.017 (2.650)***
APEC	1.438 (6.879)***	1.343 (7.257)***	0.841 (4.761)***	0.767 (4.611)***
BIT	—	—	0.030 (7.298)***	—
BIT <sub>OECD</sub>	—	—	—	0.079 (5.854)***
BIT <sub>other</sub>	—	—	—	0.004 (0.613)
Adj.R-squared	0.641	0.633	0.706	0.724
Observations	142	150	150	150

Note: Figures in parenthesis are t-statistic. \*\*\* denotes significance at 1% and \*\* at 5%.

Heteroskedasticity is corrected (White cross-section standard errors & covariance).

**Table 5: Sensitivity Test (OLS)**

<b>Dependent Variable: the logarithm of real FDI inflows</b>				
<b>Independent Variables</b>	<b>Reg. (1.5)</b>	<b>Reg. (1.6)</b>	<b>Reg. (1.7)</b>	<b>Reg. (1.8)</b>
Constant	23.444 (26.486)***	22.545 (42.476)***	22.137 (39.097)***	21.767 (33.903)***
GDPG	0.024 (2.214)**	0.026 (2.830)***	0.022 (2.496)**	0.021 (2.420)**
RER	0.004 (0.326)	—	—	—
INF	-0.023 (-0.845)	—	—	—
OPEN	0.552 (5.960)***	0.596 (6.548)***	0.765 (7.561)***	0.693 (6.488)**
lnRWAGE	-1.054 (-11.14)***	-1.025 (-11.56)***	-0.785 (-8.752)***	-0.721 (-7.192)***
INFRA	0.002 (6.060)***	0.002 (5.800)***	0.001 (3.896)***	0.001 (3.724)***
RINTEREST	-0.040 (-1.454)	—	—	—
POLRISK	0.037 (3.612)***	0.044 (7.809)***	0.027 (4.446)***	0.027 (4.228)***
APEC	1.392 (6.647)***	1.261 (6.369)***	0.763 (4.003)***	0.705 (3.794)***
BIT	—	—	0.030 (6.697)***	—
BIT <sub>OECD</sub>	—	—	—	0.062 (4.669)***
BIT <sub>other</sub>	—	—	—	0.013 (1.892)*
Adj.R-squared	0.625	0.605	0.675	0.682
Observations	142	150	150	150

Note: Figures in parenthesis are t-statistic. \*\*\* denotes significance at 1% and \*\* at 5%.

Heteroskedasticity is corrected (White cross-section standard errors & covariance).

lnGDPC is excluded due to high correlation between lnGDPC and other variables including OPEN, lnRWAGE, INFRA, and POLRISK.

**Table 6: Conditional Effects of BIT**

<b>Dependent Variable: the logarithm of real FDI inflows</b>			
<b>Independent Variables</b>	<b>Reg. (2.1) (OLS)</b>	<b>Reg. (2.2) (FE)</b>	<b>Reg. (2.3) (RE)</b>
Constant	19.819 (27.851)***	—	19.345 (14.509)***
GDPG	0.014 (1.679)*	0.016 (1.718)*	0.015 (1.766)*
lnGDPC	0.669 (5.414)***	0.870 (2.349)**	0.635 (3.471)***
OPEN	0.499 (3.967)**	-0.584 (-1.065)	0.221 (0.806)
lnRWAGE	-1.253 (-11.783)***	-0.995 (-5.519)***	-1.105 (-8.292)***
INFRA	0.001 (2.992)***	0.001 (2.193)**	0.001 (2.454)**
POLRISK	0.029 (4.003)***	0.037 (3.923)***	0.034 (3.821)***
APEC	0.805 (4.656)***	0.863 (3.169)***	0.831 (3.924)***
BIT	0.154 (4.505)***	0.076 (2.494)**	0.0946 (2.826)***
BIT*POLRISK	-0.0018 (-3.471)***	-0.0009 (-1.882)*	-0.00107 (-2.034)**
Adj.R <sup>2</sup>	0.720	0.772	0.788
Observations	150	150	150
F-test (F-statistic)		4.089	
Hausman Test (Chisq-statistic)			6.075

Note: Figures in parenthesis are t-statistic. \*\*\* denotes significance at 1%, \*\* at 5%, and \* at 10%  
Heteroskedasticity is corrected (White cross-section standard errors & covariance).

**Table 7: Conditional Effects of BIT<sub>OECD</sub> and BIT<sub>other</sub> (GLS)**

<b>Dependent Variable: the logarithm of real FDI inflows</b>			
<b>Independent Variables</b>	<b>Reg. (2.4) (RE)</b>	<b>Reg. (2.5) (RE)</b>	<b>Reg. (2.6) (RE)</b>
Constant	17.997 (12.734)***	19.432 (12.416)***	18.052 (14.916)***
GDPG	0.014 (1.729)*	0.016 (1.797)*	0.012 (1.277)
lnGDPC	0.761 (4.895)***	0.723 (3.101)***	0.932 (5.191)***
OPEN	0.049 (0.199)	0.066 (0.196)	-0.048 (-0.187)
lnRWAGE	-0.975 (-5.599)***	-1.208 (-9.187)***	-1.204 (-9.776)***
INFRA	0.001 (1.510)	0.001 (2.952)***	0.001 (1.961)*
POLRISK	0.029 (2.604)**	0.035 (4.344)***	0.031 (3.543)***
APEC	0.712 (3.565)***	0.953 (4.350)***	1.002 (4.245)***
BIT <sub>OECD</sub>	0.1995 (2.462)**	—	0.064 (3.091)***
BIT <sub>OECD</sub> *POLRISK	-0.0017 (-1.393)	—	—
BIT <sub>other</sub>	—	0.116 (2.324)**	-0.096 (-2.697)***
BIT <sub>other</sub> *POLRISK	—	-0.0014 (-1.810)*	—
BIT <sub>OECD</sub> *BIT <sub>other</sub>	—	—	0.004 (2.919)***
Adj. R <sup>2</sup>	0.797	0.774	0.808
Observations	150	150	150
Hausman test (Chisq-stat)	7.244	6.816	14.679

Note: Figures in parenthesis are t-statistic. \*\*\* denotes significance at 1%, \*\* at 5%, and \* at 10%  
Heteroskedasticity is corrected (White cross-section standard errors & covariance).

**Table 8: Predicted Impacts of BIT in South, East, and South-East Asia in 2005**

Countries	Political Risk 2004	$\frac{\partial FDI}{FDI}$ Due to $\partial BIT$ (1)	$\frac{\partial FDI}{FDI}$ Due to $\partial BIT_{other}$ (2)
<b>South Asia</b>			
Bangladesh	49	0.042 (4.597)***	0.046 (3.594)***
India	59.5	0.031 (5.168)***	0.030 (4.077)***
Pakistan	50	0.041 (4.687)***	0.044 (3.668)***
Sri Lanka	55.5	0.035 (5.139)***	0.036 (4.067)***
<b>Average</b>	<b>53.5</b>	<b>0.037</b> <b>(4.997)***</b>	<b>0.039</b> <b>(3.936)***</b>
<b>East Asia</b>			
China	70	0.019 (2.785)***	0.015 (1.606)
Hong Kong, China	78.5	0.010 (1.008)	0.003 (0.204)
Taiwan, China	76	0.013 (1.418)	0.007 (0.504)
South Korea	77	0.012 (1.244)	0.005 (0.376)
Mongolia	71	0.018 (2.518)**	0.014 (1.376)
<b>Average</b>	<b>74.5</b>	<b>0.015</b> <b>(1.706)*</b>	<b>0.009</b> <b>(0.723)</b>
<b>South-East Asia</b>			
Brunei Darussalam	82	0.007 (0.555)	-0.002 (-0.116)
Indonesia	51.5	0.039 (4.823)***	0.042 (3.783)***
Malaysia	71.5	0.018 (2.390)**	0.013 (1.269)
Myanmar	47	0.044 (4.423)***	0.048 (3.456)***
Philippines	66	0.024 (3.936)***	0.021 (2.700)***
Singapore	83.5	0.005 (0.395)	-0.004 (-0.226)
Thailand	72	0.017 (2.266)**	0.012 (1.167)
Vietnam	65	0.025 (4.214)***	0.023 (2.992)***
<b>Average</b>	<b>67.3</b>	<b>0.022</b> <b>(3.559)***</b>	<b>0.019</b> <b>(2.322)**</b>
<b>Group Average</b>	<b>66.2</b>	<b>0.023</b> <b>(3.879)***</b>	<b>0.021</b> <b>(2.642)***</b>

Note: Figures in parenthesis are t-statistic. \*\*\* denotes significance at 1%, \*\* at 5%, and \* at 10%

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\* I would like to thank Donghun Kim and Yuqing Xing for their useful comments on the first draft of this paper. This paper does not reflect the stance of the International University of Japan. The remaining mistakes are all mine.

<sup>1</sup> Political risk index ranges from 0 (highest risk) to 100 (least risk).

<sup>2</sup> The endogeneity of wage and infrastructure are rarely mentioned in the literature of FDI (see also Janicki & Wunnava, 2004; Loree & Guisinger, 1995; Mai, 2002; Quazi and Mahmud, 2004; Singh & Jun, 1995).

<sup>3</sup> The data used in the regression estimation is on a monthly basis. So, the data obtained from ILO were converted as follows:

The daily earning was multiplied by 30.42; weekly wage was multiplied by 4.35.

<sup>4</sup>  $F(1,128) = 0.34$ ; with a degree of freedom equal to 3, 131.