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Investment Promotion Agencies: Do They Work?

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Abstract

In this paper, we examine the role of investment promotion agencies (IPAs) in promoting outward FDI from Japan and Korea. Looking at two home countries enables us to control for both country-pair time-invariant characteristics and host country time-varying characteristics. Our empirical results suggest that home-country IPAs tend to be more effective in promoting outward FDI in politically risky host countries. However, this finding depends on whether the home-country firm is listed or unlisted. More specifically, we find that the positive effect of home country IPAs on outward FDI in politically risky countries is limited to unlisted home-country firms, which are widely assumed to be less competitive and productive.

1 Introduction

Most countries, particularly developed countries, have governmental or semi-governmental agencies which promote the international business activities of their firms. Such activities include foreign trade and foreign direct investment (FDI). With respect to FDI, countries have set up bodies to attract foreign investment countries. In fact, one key aspect of globalization is fierce international competition for inward FDI, which is widely viewed as beneficial for growth and job creation. This competition has contributed to the explosive growth of global FDI, which now exceeds global trade. More recently, there is a growing recognition that FDI generates benefits not only for host countries but for home countries as well. In particular, there are a number of channels through which outward FDI raises the investor's productivity at home and thus contributes to the home countries' growth and development. For example, investing abroad helps maximize the efficient use of capital in the source countries. To cite another example, it exposes the firm to the world's best business practices which are subsequently adopted by other domestic firms, while the acquisition of superior foreign technology through foreign investment not only benefits the investor firm but also may have positive spill-over effects for the rest of the economy.

However, FDI is an inherently risky business activity for firms since it involves incurring large sunk costs such as the cost of acquiring information to overcome the lack of knowledge and familiarity with the local market. Put differently, asymmetric information – i.e. investors' lack of knowledge about consumer preferences, suppliers and other key features of foreign markets – is a serious market failure which deters investment in foreign countries. In order to mitigate the high risks of foreign investment, some home countries have set up governmental or semi-governmental agencies to help their firms venture abroad. Such investment promotion agencies (IPAs) promote outward FDI even though IPAs have traditionally been a tool for attracting

inward FDI. However, it is often difficult to accurately evaluate the effectiveness of IPAs in promoting outward FDI. More precisely, it is difficult to establish whether the presence of, say, Korean IPA office in, say, Thailand, encourages Korean companies to invest in Thailand. The biggest source of difficulty is the endogeneity problem. That is, the Korean government may decide to set up an IPA office in Thailand precisely because many Korean companies are investing in Thailand. This, in turn, may be due to good relationship between Korea and Thailand, or Thailand's relatively attractive investment climate. Omitting such country pair specific elements and host country specific elements creates biases in OLS estimators.

A number of studies evaluate the role of governmental agencies in promoting the international business activities of firms from their countries.[1] There are four types of promotion: (1) the promotion of imports by importing countries' agencies, (2) the promotion of exports by exporting countries' agencies, (3) the promotion of inward FDI by host countries' agencies, and (4) the promotion of outward FDI by home countries' agencies. Most of the existing studies on business activity promotion focus on the second and third types of promotion – i.e. promotion of exports and inward FDI. Studies of export promotion, which include Alvarez and Crespi (2000), Gil-Pareja et al. (2005), and Martincus and Carballo (2008), generally uncover a significant positive effect of export promotion on exports. In a significant recent study based on survey data covering 103 developed and developing countries, Lederman, et al. (2010) re-confirm the earlier finding of export promotion agencies exerting a significant positive effect on exports. They highlight the importance of EPA services for overcoming foreign trade barriers and solving asymmetric information problems associated with exports of heterogeneous goods. Studies of

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[1] Also, there are a large number of papers analyzing the effects of international organizations. For example, some papers examines the impacts of joining WTO on trade; Rose (2004a, 2004b, 2005a, 2005b), Engelbrecht and Pearce (2007), and Subramanian and Wei (2007). Rose (2004a) obtains little evidence that countries joining or belonging to the GATT/WTO have very different trade patterns than outsiders. Engelbrecht and Pearce (2007) and Subramanian and Wei (2007) analyze the impacts of the WTO membership on agricultural trade and find their negatively significant impacts.

inward FDI promotion examine whether or not host-country governments' efforts to attract foreign investors into the country are effective. By and large, those studies, which include Charlton and Davis (2006) and Harding and Javorcik (2010) yield a positive effect of inward FDI promotion on inward FDI. In contrast to the large and growing number of studies on export and inward FDI promotion, there are almost no studies which delve into import and outward FDI promotion. This is perfectly understandable since the traditional priority of governments has been to promote exports and inward FDI and they have only recently begun to promote imports and outward FDI.

In fact, our paper is the first paper to empirically examine the impact of outward FDI promotion on outward FDI. At a broader level, this is our primary contribution to the empirical literature on the role of government agencies in promoting the cross-border business activities of their firms. To shed light on the effect of outward FDI promotion, we analyze the role of the Japanese and Korean agencies for investment promotion – i.e. Japan External Trade Organization (JETRO) and Korea Trade Investment Promotion Agency (KOTRA). JETRO is a government-related organization that seeks to promote trade and investment between Japan and the rest of the world. Similarly, the goal of KOTRA is to facilitate trade and investment between Korea and other countries. In addition to their mandate and mission, the two agencies share a number of other common features. This is hardly surprising since Korea established KOTRA in 1962 in an effort to emulate JETRO. Since then the two agencies have shared information and knowledge on a mutually beneficial basis. Overall, JETRO and KOTRA are quite similar in terms of their philosophy, organization and operations. Such similarity mitigates the biases in the empirical analysis arising from heterogeneity among the agencies of different countries.

In addition to being the first study to look at the impact of outward FDI promotion, we seek to

make significant methodological contributions to the broader empirical literature on the role of government agencies in promoting international business activities. Above all, we hope that our study will help to address a serious shortcoming of the existing literature, namely its inability to adequately address the endogeneity problem. For the most part, the earlier studies use the instrumental variable method to tackle endogeneity. However, the instruments they use are inappropriate and inadequate. For example, it is likely that geo-political and socio-economic variables not only influence the decision of the promotion agency to set up a branch in a particular country but also the level of investment and trade with that country. Indeed the same variables are often included as explanatory variables in investment and trade regressions. The shortcomings of instruments in the empirical analysis of promotion agencies are analogous to those encountered in the analysis of regional trade agreements (RTAs). As Baier and Bergstrand (2007) point out, most of the *available* instruments used in the empirical analysis of governmental institutions or agreements are less than fully convincing.

Our use of two home countries – Japan and Korea – in the empirical analysis differs from existing studies which typically focus on a single home country and can significantly mitigate the above endogeneity problem. If a single home country is used, it is difficult to control for country-pair specific elements and host country specific elements. Omitting those elements from the regression equations creates endogeneity biases.[2] Furthermore, our dataset consists of panel data. As highlighted by Baier and Bergstrand (2007), the use of panel data is especially effective in addressing endogeneity issues associated with evaluating governmental institutions or agreements. This is because the use of panel data enables us to control for both time-invariant country-pair specific elements and time-variant host country specific elements. As a result, our

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[2] Harding and Javorcik (2010) also focus on only US outward FDI but introduce time-variant host country dummy variables by adding one more dimension, i.e. industry.

estimates on the impacts of IPA on FDI would be econometrically more consistent.

In addition to tackling such endogeneity issues, our paper makes two additional contributions to the literature. First, we seek to clarify the mechanics of the relationship between IPA and FDI in greater detail. More specifically, we examine this relationship separately for high risk host countries and low risk host countries. This examination enables us to assess whether IPA has differential impact on FDI in the two groups of countries. Second, we investigate whether IPA has a differential impact on the outward FDI of smaller, less productive firms and the outward FDI of larger, more productive firms. To do so, we compare the impact of IPAs on FDI for listed companies versus unlisted companies since listed companies tend to be bigger and more productive than unlisted companies. Both types of analysis, which represent original contributions to the empirical literature on the governmental promotion of international business activities, will help to shed light on exactly how outward FDI promotion influences outward FDI.

The rest of this paper is organized as follows. Section 2 provides an overview of JETRO and KOTRA overseas offices. In Section 3, we describe the empirical framework we use to investigate the impact of IPA offices on outward FDI. In Section 4, we report and discuss our main empirical results. Section 5 brings the paper to a close with some concluding observations.

2 Overseas Office of JETRO and KOTRA

In this section, we provide an overview of the worldwide distribution of JETRO and KOTRA overseas offices. This information can be obtained from JETRO (1973, 2000, 2008), KOTRA (2002), and KOTRA website (Accessed in Apr. 10, 2010). Figure 1 depicts the change in the number of countries with JETRO and KOTRA overseas offices over time. JETRO started to set up overseas branches in the early 1950s, and KOTRA began doing so in the early 1960s. Since

then, the number of countries with JETRO and KOTRA branches has grown rapidly. By the early 1970s, KOTRA had more or less caught up with JETRO in terms of the number of overseas offices. Since then, while KOTRA continued to set up new branches in various countries until the early 1980s, JETRO almost completely stopped doing so. As a result, KOTRA has surpassed JETRO in the number of overseas offices in recent years. JETRO currently has fewer than 60 offices whereas KOTRA has around 70.

[Figure 1]

Table 1 shows the differences and similarities between the overseas offices of JETRO and KOTRA in greater detail. The table shows the worldwide location of JETRO and KOTRA overseas offices in 2008. There are three noteworthy features about the two agencies' offices. First, both JETRO and KOTRA have offices in many countries across all regions, including Asia, Europe, North America, Latin America and Africa. Second, with the exception of Costa Rica, KOTRA has offices in all countries in which JETRO has offices. In addition, KOTRA has offices in some countries where JETRO does not have a presence. Therefore, KOTRA has more overseas offices than JETRO, as seen in Figure 1. Third, in particular KOTRA has a noticeably stronger presence in Africa and the Middle East than JETRO. While the number of KOTRA offices in Africa is still small at present, their number may increase in the near future as Korea expands its trade and investment with non-traditional markets.

[Table 1]

Let us now take a closer look at the number of JETRO offices in each region and their evolution over time. [see Figure 2] Some clear patterns are visible in the inter-regional distribution of JETRO offices. Until the 1960s, JETRO set up its overseas offices mainly in America, but since then the number of offices in America has remained more or less constant.

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The number of JETRO offices in Europe increased continuously until around 2000, but since then, it has gradually declined. The number of offices in Africa rose continuously until the 1960s, but it has fallen sharply since the 1990s. On the other hand, the number of JETRO offices in Asia has increased on a sustained basis. This reflects the rapid growth of Japan's trade and investment linkages with developing Asia as a result of the region's spectacular transformation into one of the main hubs of the world economy. Asia has experienced by far the fastest growth of JETRO offices and has recently replaced Europe as the region with the highest number of JETRO offices.

[Figure 2]

Figure 3 shows the inter-regional distribution of KOTRA overseas offices and its evolution over time. Most KOTRA offices around the world were established before the early 1980s. Since then, however, the number of KOTRA offices in both Africa and America has gradually declined. KOTRA began to close some of its European offices around 2000. In contrast, Asia has experienced a continuous increase in the number of KOTRA offices. As was the case with JETRO, the sustained growth of KOTRA presence in Asia is a consequence of Korea's fast-growing economic linkages with the world's fastest-growing region. In fact, by the 1970s, Asia had already become host to the largest number of KOTRA offices.

[Figure 3]

3 Empirical Framework

In this section, we describe the empirical methodology and data we use to analyze the effect of JETRO and KOTRA on Japanese and Korean outward FDI, respectively. Broadly speaking, we apply an empirical model which is a widely used standard tool for analyzing international trade, namely the gravity model, to our analysis of outward FDI. A number of papers lend theoretical

justification for using the gravity model to analyze FDI rather than trade. [see, for example, Kleinert and Toubal (2010) and Yeaple (2009)]. The gravity equation for FDI is formalized as follows:

$$\ln \text{FDI}_{ij} = \beta_0 + \mathbf{X}_i\,\boldsymbol{\beta}_1 + \mathbf{X}_j\,\boldsymbol{\beta}_2 + \mathbf{t}_{ij}\,\boldsymbol{\beta}_3 + \varepsilon_{ij}.$$

where FDI_{ij} represents bilateral FDI of country i into country j, $\mathbf{X}_i$ and $\mathbf{X}_j$ are a vector of home country-specific elements and a vector of host country-specific elements, respectively, $\mathbf{t}_{ij}$ is a vector of country pair-specific elements, and ε is the disturbance term.

Explanatory variables in the traditional gravity models for trade include logs of home and host countries' GDPs and log of the geographical distance between the two countries. There are intuitively plausible grounds for using such variables in gravity models for FDI. Home countries with bigger economies tend to export more and invest more. If the host country's GDP, which is a proxy for domestic market size, is relatively large, that makes that country attractive for both foreign exporters and foreign investors. Finally, as Chen and Moore (2010) and Kleinert and Toubal (2010) point out, geographical distance is related not only to trade costs but also to fixed entry cost for investors. For example, Japanese and Korean investors are likely to be more familiar with the business culture and environment of neighboring Asian countries than more distant countries. The gravity equation for FDI now becomes:

$$\ln \text{FDI}_{ij} = \beta_0 + \beta_1 \ln \text{GDP}_i + \beta_2 \ln \text{GDP}_j + \beta_3 \ln \text{Distance}_{ij} + \varepsilon_{ij},$$

where GDP_i is home country i's GDP, GDP_j is host country j's GDP, and Distance_{ij} is the geographical distance between home country i and host country j.

The central objective of our paper is to assess the impact of IPA on outward FDI. Therefore, we introduce an IPA dummy variable into the gravity equation for FDI as follows:

$$\ln \text{FDI}_{ij} = \beta_0 + \beta_1 \text{IPA}_{ij} + \beta_2 \ln \text{Distance}_{ij} + \beta_3 \ln \text{GDP}_i + \beta_4 \ln \text{GDP}_j + \varepsilon_{ij}.$$

The presence of home-country IPA increases the availability of relevant information and knowledge about investing in the host country. A positive estimated coefficient of β_1 implies that the presence of IPA boosts FDI by helping to reduce the fixed entry costs associated with investing abroad.

However, in the context of evaluating the impact of IPA, this equation suffers from a number of problems. Above all, it suffers from a serious endogeneity problem – i.e. unobserved heterogeneity in investment will be associated with the likelihood of IPA establishment. In particular, two factors may drive both investment and the establishment of IPA. The first has to do with country pair specific effects. For example, JETRO is more likely to set up offices in host countries with which Japan has a good relationship and close economic linkages. However, good relationship and close economic linkages also increase investment from Japanese firms. Therefore, unless we control for country pair specific effects, the disturbances are positively correlated with IPA dummy. This positive correlation leads to the overestimation of the IPA coefficient. The other source of endogeneity has to do with time-varying host country effects. For example, IPA is more likely to set up offices in countries which are experiencing an improvement in the investment climate over time. At the same time, firms from the IPA's home country will find such countries more attractive and invest more in them. Again, the disturbance and IPA dummy are positively correlated, and the IPA coefficient will be overestimated.

The empirical analysis of regional trade agreements (RTAs) is subject to the same type of endogeneity issues so it would be useful to refer to that literature for possible solutions. In particular, Baier and Bergstrand (2007) take a close look at endogeneity in the analysis of the effect of RTAs on trade. Using instrumental variables is one way of dealing with endogeneity. Baier and Bergstrand try a wide array of economic and political instrument variables but

ultimately conclude that the instrument variable method is not reliable due to the lack of suitable instruments. For the most part, variables that are correlated cross-sectionally with the probability of two countries entering into an RTA are also correlated cross-sectionally with trade flows between the two countries. More accurate estimates of the impact of RTA can be obtained by using panel data with bilateral fixed effects. This estimation enables us to isolate the impact of RTA on bilateral trade from any time-invariant country pair specific effects, some of which are related with both bilateral trade and probability of RTA.

Based on Baier and Bergstrand's insights, we re-formulate our estimation equation as follows. Adding subscript t for time, our first model can be re-written as:

$$\ln \text{FDI}_{ijt} = \beta_0 + \beta_1 \text{IPA}_{ijt-1} + \beta_2 \ln \text{Distance}_{ij} + \beta_3 \ln \text{GDP}_{it} + \beta_4 \ln \text{GDP}_{jt} + u_i + u_j + u_t + \varepsilon_{ijt}. \quad (1)$$

In order to take the lagged effects of IPA into account and/or to tackle the simultaneous issue between FDI and IPA establishment, we use the value of the IPA dummy from the previous year. This model is the baseline model and does not take endogeneity into account at all.

Our second model takes care of only biases arising from time-varying host country effects by introducing host-year and home-year dummy variables:

$$\ln \text{FDI}_{ijt} = \beta_0 + \beta_1 \text{IPA}_{ijt-1} + \beta_2 \ln \text{Distance}_{ij} + u_{it} + u_{it} + \varepsilon_{ijt}. \quad (2)$$

Due to perfect multi-colinearity with the new dummy variables, home and host GDPs are dropped from the estimation equation. The introduction of the new dummy variables has one additional benefit. As Kleinert and Toubal (2010) point out, the theoretically based gravity equation for FDI includes host countries' market capacity. The data for this variable are usually not available because it is related not only to the host country's market size but also to the price index. Model (2) thus also helps to control for theoretical characteristics of the host country.

The last model accounts for biases arising from both country pair specific effects and time-

varying host country effects by including both host/home time-variant dummy variables and country pair dummy variables as follows:

$$\ln \text{FDI}_{ijt} = \beta_0 + \beta_1 \text{IPA}_{ijt-1} + u_{ij} + u_{it} + u_{jt} + \varepsilon_{ijt}. \quad (3)$$

Due to the inclusion of country pair dummy variables, the geographical distance variable is dropped from the estimation equation. This model is expected to produce the most consistent estimators.

Our measure of bilateral FDI from country i to country j is the number of country i's manufacturing affiliates in country j.[3] Home countries are either Japan or Korea. Our sample of host countries consists of 112 countries and is listed in Appendix 1. Our sample period is 1989-2006. The source of FDI data are "Overseas Japanese Companies Data" (Toyo Keizai Inc.) for Japan[4] and "Korean Business Directory 2007/2008" (KOTRA) for Korea.[5] The data sources for the other variables are as follows. The data for the IPA dummy are derived from the sources described in the previous section. Geographical distance is available from the CEPII website.

More specific details of our FDI data set are as follows. The Overseas Japanese Companies Data database covers foreign affiliates of Japanese firms. In 2006 this database included around 20,000 overseas affiliates of Japanese firms in 130 countries. It provides information about the name of foreign affiliates and their parent firms, their location, and key corporate indicators such as capital, sales, and the number of employees. The underlying survey for the Korean Business Directory 2007/2008, which provides information about the activities of Korean multinational firms, was taken in October 2007. The directory indicates that there were around 9,000 overseas affiliates of Korean firms in 73 countries. The survey covers variables ranging from the name

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[3] In order to take its log, we add a very negligible value, 10^{-8}.
[4] See the website
 http://www.toyokeizai.net/shop/cdrom/kaigai_cd/detail/BI/0660130b1de80bc637ac64cba63ca12a/.
[5] See the website http://www.gpcbooks.co.kr/newmall/shop/item.php?it_id=908140001.

and contact information of parent firms, number of affiliate's employees, and entry mode. Our sample firms include firms which are listed in the stock market as well as those which are not.

4 Empirical Results

In this section, we report and discuss the main results which emerge from the empirical analysis described in the previous section. We look at results from four types of analysis – (1) baseline estimation which does not address endogeneity, (2) estimation which addresses endogeneity, (3) estimation which divides host countries according to the level of political risk, and (4) estimation which divides home-country firms into listed firms versus unlisted firms.

4.1 Baseline Results

The result for equation (1), which does not address the endogeneity problem at all, is reported in column (I) in Table 2. The standard gravity variables have the expected signs – i.e. the estimated coefficient for host and home GDP is positive and the estimated coefficient of distance is negative – although host GDP is insignificant. The estimated coefficient for the IPA dummy, our key variable of interest, is significant and positive. The IPA dummy takes a value of one if the country hosts at least one IPA office and zero otherwise. This result indicates that the presence of home country IPA in a country encourages home country firms to invest in that country. More specifically, home-country IPA increases the number of home-country firm affiliates by 1,721% (=exp(2.902)-1), which is exceptionally high.

[Table 2]

We also examine more lagged effects of IPA. In the above estimation, we examined one-year lagged effects of IPA. However, firms may decide to invest in a country a few years after the

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establishment of an IPA office. In order to take this possibility into account, we introduce three-year and five-year lagged IPA dummy variables. The results are reported in columns (II) and (III). The coefficient for host GDP is significant and positive in column (III). The IPA dummy remains significant and positive in both columns (II) and (III). Comparing the magnitude of coefficients for IPA dummy in columns (I)-(III) suggests that the effect of IPA declines over time. The increase of home-country firm affiliates is 1,721% one year after the establishment of a home-country IPA office, 1,447% after three years and 1,152% five years after.

In addition, we experiment with the number of IPA offices, rather than a dummy variable for whether or not it exists, as the explanatory variables. The results for this exercise are reported in column (IV). Some countries host multiple JETRO or KOTRA offices although most countries host a single office. For instance, KOTRA had nine offices in both the US and China in 2005, in addition to three offices in Russia. JETRO had six offices in the US and five in China in 2005. The model in column (IV) examines whether or not the number of IPA offices matters for attracting FDIs. The estimated coefficient for the number of IPA offices is significant and positive, indicating that firms are more likely to invest in countries with a larger number of IPA offices. More specifically, a 10% increase in the number of home-country IPA offices leads to a 1.6% increase in the number of home-country firm affiliates.

4.2 More Consistent Estimators

Table 3 reports the estimation result of equation (2), i.e. the model which takes care of only biases from unobservable host and home country effects by introducing time-varying host and home country dummy variables. The results are qualitatively the same as those in Table 2. IPA dummies and the number of IPA offices remain significant and positive. The number of home-

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country firm affiliates is 702% greater with the establishment of a home-country IPA office (Column I). Furthermore, a 10% increase in the number of IPA offices leads to 1.1% increase in the number of affiliates. As in the baseline case, the magnitude of estimated coefficients for the IPA dummies decreases for longer time lags. The significant result is that the magnitude of all estimated IPA coefficients is smaller in Table 3 than in Table 2. In other words, as predicted earlier, failure to control for endogeneity biases from unobservable host and home country effects leads to overestimation of the IPA coefficients. However, the magnitudes of the estimated IPA coefficients still look implausibly large.

[Table 3]

The results for the estimation of equation (3) are reported in Table 4. This equation, which is our preferred specification, accounts for biases from not only unobservable host and home country effects but also unobservable country pair effects. Strikingly, all coefficients for IPA variables now turn out to be insignificant. In other words, we cannot observe any positive impact of IPA offices once we control for both sources of endogeneity. Equivalently, the positive impact of IPA on outward FDI that we found by estimating equations (1) and (2) is due to endogeneity biases which reflect factors driving both investment levels and the decision to set up an IPA office. Our results resoundingly suggest that accurately measuring the impact of IPA on outward requires carefully addressing endogeneity problems. At a broader level, our evidence indicates that accurately measuring the effect of governmental and semi-governmental agencies on business activities requires adequately controlling for endogeneity biases. Failure to do so will result in substantial overestimation of the impact of those agencies.

[Table 4]

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4.3 Political Risk

In this subsection, we examine whether or not the impact of IPA on FDI depends on host country characteristics, specifically the level of political risk, which is closely related with the level of business risks. Intuitively, the impact of IPA on FDI should be larger for investment into countries with higher business risks. We divide our sample host countries into two groups – low political risk countries and high political risk countries. We use the political risk index from the International Country Risk Guide (ICRG). In this index, a larger value indicates a lower political risk. By using this index, we first calculate the average of political risk in each country over time and then calculate its median among all sample countries. Finally, we classify countries with higher-than-median average political risk as low political risk countries and the other countries as high political risk countries. The level of risk in each country is listed in Appendix 1. We only report the estimation results of model (3) which addresses both kinds of endogeneity biases.

The results are reported in Table 5, which shows that the estimated coefficient for IPA variables – both dummy and number of offices – is positive and significant only in the sub-sample of host countries with high political risks. Specifically, home-country IPA increases the number of home-country firm affiliates by 417% or a 10% increase in the number of IPA offices leads to 0.9% increase in the number of affiliates. This implies that that the existence of home-country IPA offices in high-risk countries helps home-country firms to invest in these countries. In contrast, in the sub-sample of low risk host countries, the IPA variables are negative and significant, which is puzzling and difficult to interpret. It is unlikely that the presence of home country IPA discourages investment by home country firms in low risk host countries. But, at a minimum, our findings suggest that IPAs have a more positive effect on investment in high risk host countries than in low risk host countries.

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[Table 5]

In this last subsection of the empirical analysis, we further examine whether or not the impacts of IPA on FDI differ between listed firms versus unlisted firms. As Chen and Moore (2010) show, more productive firms are capable of investing in countries with the less favorable environment for FDI in terms of larger market size, larger trade costs, smaller fixed entry costs, and lower wages. In other words, more productive firms are more likely to invest in countries even without the benefit of home-country IPAs. That is, the impact of IPA on FDI is expected to be larger for less productive firms than for more productive firms. To examine this hypothesis, we estimate the above models for FDIs separately for listed firms and unlisted firms. Unfortunately, our dataset includes only limited and incomplete information on key corporate indicators such as employment, capital, sales, or productivity. However, the dataset does allow us to identify whether or not each overseas affiliate belongs to a parent company listed in Japanese or Korean stock market. Since the listed companies tend to be bigger and more productive than unlisted companies, this classification based on stock market listing is one way of dividing home country firms in terms of size and productivity.

As can be seen in Table 6, the results are largely consistent with our expectation. IPA variables are positive and significant only for unlisted firms investing in high risk host countries. That is, our earlier finding of a greater positive effect of home country IPAs on home country investment in high risk host countries is limited to investment by unlisted home country firms. The presence of home country IPAs can provide useful local information as well as a psychological sense of security for smaller and less productive home country firms venturing into host countries with difficult political and business environments. On the other hand, home country IPAs are likely to be less beneficial for bigger and more productive home country firms, which have more

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resources and better capacity to invest in challenging host countries. Therefore, our finding that IPAs have a higher effect for unlisted firms is plausible and consistent with economic intuition.

[Table 6]

Finally, as a robustness check, we introduce one more independent variable, Treaty. This dummy takes the value of one if two countries conclude a bilateral investment treaty (BIT) or double taxation treaty (DTT) and zero otherwise. Bilateral investment treaties are agreements between two countries for the reciprocal encouragement, promotion and protection of investments in each other's territories by companies based in either country. Double taxation treaties are conventions between two countries that aim to eliminate the double taxation of income or gains arising in one territory and paid to residents of another territory. Information on BIT and DTT is available from the UNCTAD website.[6] These two treaties contribute to reducing the fixed entry cost of FDI and thus promote FDIs. Again, this dummy is lagged one year to prevent simultaneity problems [see Appendices 2 and 3]. The results of this exercise, which are reported in Table 7, are qualitatively the same as those in Table 6. Interestingly, the treaty dummy is positive and significant only for unlisted home country firms investing in high risk host countries. Therefore, overall, IPAs and investment treaties are more beneficial for smaller and less productive firms venturing into high risk countries.

[Table 7]

5 Concluding Observations

Governmental and semi-governmental agencies have long been active in promoting international business activities. In particular, they have attempted to expand exports from their

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[6] http://www.unctad.org/Templates/Page.asp?intItemID=2344&lang=1 for BIT;
http://www.unctad.org/Templates/Page.asp?intItemID=4505&lang=1 for DTT.

countries and attract FDI inflows into their countries. This is because exports and inward FDI have traditionally been viewed as more beneficial for growth and development than imports and outward FDI. Mirroring this widespread perception, most empirical analyses of governmental promotion of international business activities have largely been limited to the effect of export promotion and inward FDI promotion. By and large, the balance of evidence from those studies indicates that export promotion has been effective in boosting exports and inward FDI promotion has been effective in boosting FDI inflows. More recently, there is a growing recognition that imports and outward FDI can yield substantial benefits for productivity and growth. For example, imports of capital goods embodying superior technology from advanced economies can help lift up the technological capabilities of the importing country's firms and industries. The acquisition of superior technology through outward FDI can generate similar benefits. In line with the growing recognition of the potentially sizable economic benefits of imports and outward FDI, some governments have also begun to promote imports and outward FDI.

At a broader level, our primary contribution to the empirical literature on the role of governmental and semi-governmental agencies in cross-border business activities is that our study is the first to empirically investigate the effect of such agencies on outward FDI. To do so, we delve into the impact of JETRO and KOTRA on Japanese and Korean outward FDI, respectively. Intuitively, the role of governmental agencies in mitigating the large risk associated with venturing into foreign markets should be no less pertinent for outward FDI than it is for exports. An important stylized fact of the global economy – the recent emergence of developing countries, especially those in Asia, as globally significant exporters of capital and sources of outward FDI – renders our study especially timely and relevant for developing countries. In terms of methodological contribution, we seek to address the endogeneity problem inherent in

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the effect of governmental institutions or agreements on international business activities by using panel data from two home countries. This allows us to control for both country pair time-invariant characteristics and host country time-varying characteristics.

Our empirical results strongly confirm the importance of addressing the endogeneity problem in accurately measuring the impact of IPAs on outward FDI. In the baseline case, which assumes away the problem and does nothing to mitigate it, we find a significant positive effect of IPAs on outward FDI. That is, our results suggest that JETRO's presence in the host country has a positive impact on the investments of Japanese firms in that country and likewise for KOTRA's presence. When we take the intermediate approach of addressing only one source of endogeneity – biases from unobservable host (and home) country effects – the results are qualitatively the same as in the baseline case. However, the magnitude of the coefficients for IPA variables is smaller than in the baseline case. When we address both sources of endogeneity – both unobservable host (and home) country effects *and* unobservable country pair effects – all IPA variables become insignificant. Our results underline the importance of addressing endogeneity in the empirical analysis of the effect of governmental promotion of not only outward FDI but also exports, imports and inward FDI. Failure to do so will overstate the impact of governmental or semi-governmental agencies on international business activity.

In addition to alerting us to the need to mitigate endogeneity, our empirical analysis yields a couple of interesting and significant additional findings. When we divide our sample of host countries according to their level of political risk, which tends to be highly correlated with business risk, we find that IPA is more effective in politically very risky host countries. This implies that IPAs can help firms from their countries invest in countries with difficult political and business environments by providing them with relevant local information. The presence of

IPAs from their home countries can also give a psychological sense of security to investors venturing into risky and uncertain markets. However, this result differs between listed and unlisted firms. The positive effect of home-country IPA on investment in high-risk countries is limited to unlisted firms, which are typically smaller and less productive than listed firms. This is intuitively plausible since the larger and more productive firms have more internal capacity and resources to navigate the turbulent waters of high-risk markets.

Our findings entail a number of policy implications. At the broadest level, our failure to find a significant positive effect of IPAs on outward FDI once we fully tackle endogeneity problems implies that the presence of home-country IPAs per se does not promote investment from home-country firms. That is, setting up an IPA office in a country may or may not be effective in increasing investment into that country. Further analysis indicates that the returns to IPAs are higher for assisting small, less productive firms and for promoting investment in politically risky countries. In this context, it is interesting to note that encouraging small and enterprises (SMEs) to venture abroad has recently emerged as one of JETRO's key policy objectives. Our evidence lends empirical support to JETRO's singling out of SMEs as a group of firms which would benefit a lot from its assistance. Our evidence also implies that it is more productive for IPAs to locate their offices in high-risk countries than in low-risk countries. The policy implication for high-risk host countries is that attracting IPAs can lead to more investment from the IPAs' home countries. Of course, the more fundamental long-term challenge for such countries is to reduce their political risk level but in the short run the presence of foreign IPAs can boost FDI inflows.

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Appendix 1
Host Countries

Country	Risk	Country	Risk	Country	Risk
Argentina	Low	Guyana	High	Philippines	High
Australia	Low	Haiti	High	Poland	Low
Austria	Low	Honduras	High	Portugal	Low
Bangladesh	High	Hong Kong	Low	Puerto Rico	
Barbados		Hungary	Low	Qatar	Low
Belgium and Luxembourg	Low	Iceland	Low	Romania	Low
Bermuda		India	High	Russian Federation	High
Bolivia	High	Indonesia	High	Samoa	
Brazil	High	Iran	High	Saudi Arabia	High
British Virgin Islands		Ireland	Low	Serbia and Montenegro	High
Brunei Darussalam	Low	Israel	High	Singapore	Low
Bulgaria	Low	Italy	Low	Slovakia	Low
Burma	High	Jamaica	Low	South Africa	Low
Cambodia		Japan	Low	Spain	Low
Canada	Low	Jordan	High	Sri Lanka	High
Cayman Islands		Kazakstan	Low	Sudan	High
Chile	Low	Kenya	High	Swaziland	
China	High	Korea	Low	Sweden	Low
Colombia	High	Lao PDR		Switzerland	Low
Congo	High	Lebanon	High	Syrian Arab Republic	High
Costa Rica	Low	Lithuania	Low	Taiwan	Low
Croatia	Low	Luxembourg	Low	Tanzania, United Rep. of	High
Czech Republic	Low	Macau (Aomen)		Thailand	Low
Cote d'Ivoire	High	Malaysia	Low	Trinidad and Tobago	Low
Denmark	Low	Mauritius		Tunisia	Low
Dominican Republic	High	Mexico	Low	Turkey	High
Ecuador	High	Mongolia	Low	Uganda	High
Egypt	High	Morocco	Low	Ukraine	High
El Salvador	High	Mozambique	High	United Arab Emirates	Low
Ethiopia	High	Netherlands	Low	United Kingdom	Low
Fiji		New Zealand	Low	United States of America	Low
Finland	Low	Nicaragua	High	Vanuatu	
France	Low	Nigeria	High	Venezuela	High
Gabon	High	Norway	Low	Viet Nam	High
Germany	Low	Pakistan	High	Zambia	High
Ghana	High	Panama	High	Zimbabwe	High
Greece	Low	Papua New Guinea	High		
Guatemala	High	Peru	High		

Appendix 2
All BIT Partners and Year of Entry into Force

Japan		Korea			
Partner	Year	Partner	Year	Partner	Year
Bangladesh	1999	Albania	2006	Lebanon	2006
Cambodia	2008	Algeria	2001	Malaysia	1989
China	1989	Argentina	1996	Mauritania	2006
Egypt	1978	Austria	1991	Mexico	2002
Hong Kong, China	1997	Bangladesh	1988	Mongolia	1991
Korea, Republic of	2003	Belarus	1997	Morocco	2001
Lao, PDR	2009	Bolivia	1997	Netherlands	2005
Mongolia	2002	Brunei Darussalam	2003	Nicaragua	2001
Pakistan	2002	Bulgaria	2006	Nigeria	1999
Peru	2009	Cambodia	1997	Oman	2004
Russian Federation	2000	Chile	1999	Pakistan	1990
Sri Lanka	1982	China	2007	Panama	2002
Turkey	1993	Costa Rica	2002	Paraguay	1993
Uzbekistan	2009	Croatia	2006	Peru	1994
VietNam	2004	Czech Republic	1995	Philippines	1996
		Denmark	1988	Poland	1990
		Egypt	1997	Portugal	1996
		El Salvador	2002	Qatar	1999
		Finland	1996	Russian Federation	1991
		France	1979	Saudi	2003
		Germany	1967	Senegal	1985
		Greece	1995	Slovakia	2006
		Guatemala	2002	South Africa	1997
		Guyana	2006	Spain	1994
		Honduras	2001	Sri Lanka	1980
		Hong Kong, China	1997	Sweden	1997
		Hungary	1990	Switzerland	2006
		India	1996	Tajikistan	1995
		Indonesia	1994	Thailand	1989
		Iran, Islamic Republic of	2006	Trinidad Tobago	2003
		Israel	2003	Tunisia	1975
		Italy	1992	Turkey	1994
		Japan	2003	Ukraine	1997
		Jordan	2004	United Arab Emirates	2004
		Kazakhstan	1996	United Kingdom	1976
		Lao, PDR	1996	Uzbekistan	1992
		Latvia	1997	VietNam	2004

Source: Country-specific Lists of BITs (United Nations Conference on Trade and Development)

Appendix 3
All DTT Partners and Year of Entry into Force

Japan				Korea			
Partner	Year	Partner	Year	Partner	Year	Partner	Year
Argentina	1975	Philippines	2006	Albania	2006	Malaysia	1982
Australia	2008	Poland	1980	Algeria	2001	Malta	1997
Australia	1969	Romania	1976	Australia	1982	Mexico	1994
Australia	2007	Russian Federation	1986	Austria	1985	Mongolia	1992
Austria	1961	Seychelles	1970	Azerbaijan	2008	Morocco	1999
Bangladesh	1991	Singapore	1994	Bangladesh	1983	Myanmar	2002
Belgium	1968	Slovakia	1977	Belarus	2002	Nepal	2001
Bermuda	2010	South Africa	1997	Belgium	1996	Netherlands	1978
Brazil	1967	Spain	1974	Brazil	1989	New Zealand	1981
British Virgin Islands	1970	Sri Lanka	1967	Bulgaria	1994	Norway	1982
Brunei Darussalam	2009	Sweden	1983	Canada	2006	Oman	2005
Bulgaria	1991	Switzerland	1971	Chile	2002	Pakistan	1987
Canada	1964	Thailand	1990	China	1994	Papua New Guinea	1996
China	1975	Turkey	1993	Croatia	2002	Philippines	1984
Czech Republic	1977	United Kingdom	1969	Czech Republic	1992	Poland	1991
Denmark	1968	United States	1954	Denmark	1977	Portugal	1996
Egypt	1968	VietNam	1995	Egypt	1992	Romania	1993
Fiji	1970	Zambia	1970	Estonia	2009	Russian Federation	1992
Finland	1972			Fiji	1994	Saudi Arabia	2007
France	1995			Finland	1979	Singapore	1979
Germany	1966			France	1979	Slovakia	2001
Hungary	1980			Germany	2000	Slovenia	2005
India	1969			Greece	1995	South Africa	1995
Indonesia	1982			Hungary	1989	Spain	1994
Ireland	1974			Iceland	2008	Sri Lanka	1984
Israel	1993			India	1985	Sudan	2004
Italy	1969			Indonesia	1988	Sweden	1981
Kazakhstan	2008			Iran, Islamic Republic	2006	Switzerland	1980
Korea, Republic of	1998			Ireland	1990	Thailand	1974
Kuwait	2010			Israel	1997	Tunisia	1988
Luxembourg	1992			Italy	1989	Turkey	1983
Malaysia	1970			Japan	1998	Ukraine	1999
Mexico	1996			Jordan	2004	United Arab Emirates	2003
Moldova, Republic	1986			Kazakhstan	1997	United Kingdom	1996
Montserrat	1970			Kuwait	1998	United States	1976
Netherlands	1970			Lao PDR	2004	Uzbekistan	1998
New Zealand	1963			Latvia	2008	Venezuela	2006
Norway	1992			Lithuania	2006	VietNam	1994
Pakistan	1959			Luxembourg	1984		

Source: Country-specific Lists of DTTs (United Nations Conference on Trade and Development)

Table 1
JETRO and KOTRA Overseas Offices in 2008

	JETRO	KOTRA		JETRO	KOTRA
America			Asia		
Argentina	X	X	Azerbaijan		X
Brazil	X	X	Bangladesh	X	X
Canada	X	X	Burma	X	X
Chile	X	X	Cambodia		X
Colombia	X	X	China	X	X
Costa Rica	X		India	X	X
Cuba		X	Indonesia	X	X
Dominican Republic		X	Iran	X	X
Guatemala		X	Iraq		X
Mexico	X	X	Israel	X	X
Panama	X	X	Jordan		X
Peru	X	X	Kazakstan		X
United States of America	X	X	Kuwait		X
Venezuela	X	X	Malaysia	X	X
Pacific			Oman		X
Australia	X	X	Pakistan	X	X
New Zealand	X	X	Philippines	X	X
Europe			Russian Federation	X	X
Austria	X	X	Saudi Arabia	X	X
Belgium and Luxembourg	X	X	Singapore	X	X
Croatia		X	Sri Lanka	X	X
Czech Republic	X	X	Syrian Arab Republic		X
Denmark	X	X	Taiwan		X
Finland	X	X	Thailand	X	X
France	X	X	United Arab Emirates	X	X
Germany	X	X	Uzbekistan	X	X
Greece		X	Viet Nam	X	X
Hungary	X	X	Africa		
Italy	X	X	Algeria		X
Netherlands	X	X	Egypt	X	X
Poland	X	X	Kenya	X	X
Romania	X	X	Libyan Arab Jamahiriya		X
Spain	X	X	Morocco		X
Sweden	X	X	Nigeria	X	X
Switzerland	X	X	South Africa	X	X
Turkey	X	X	Sudan		X
Ukraine		X			
United Kingdom	X	X			

Sources: JETRO (1973, 2000, 2008), KOTRA (2002), KOTRA website (Accessed in Apr. 10, 2010)

Table 2
Estimation Results: Baseline Model

	(I)	(II)	(III)	(IV)
IPA (t-1): Dummy	2.902***			
	[0.440]			
IPA (t-3): Dummy		2.739***		
		[0.428]		
IPA (t-5): Dummy			2.527***	
			[0.419]	
IPA (t-1): Number				0.159***
				[0.024]
Distance	-12.425***	-12.575***	-12.619***	-12.381***
	[1.651]	[1.653]	[1.655]	[1.650]
Home GDP	8.498***	8.554***	8.465***	8.491***
	[0.687]	[0.687]	[0.687]	[0.687]
Host GDP	0.770	0.794	0.836*	0.757
	[0.483]	[0.483]	[0.483]	[0.483]
Investor dummy	YES	YES	YES	YES
Host dummy	YES	YES	YES	YES
Year dummy	YES	YES	YES	YES
Observations	3,782	3,782	3,782	3,782
R-squared	0.6542	0.654	0.6535	0.6543

Notes: ***, **, and * show 1%, 5%, and 10% significance, respectively. In parenthesis is a standard error.

Table 3
Estimation Results: Controlling for Time-Variant Host and Home Country Effects

	(I)	(II)	(III)	(IV)
IPA (t-1): Dummy	2.082***			
	[0.629]			
IPA (t-3): Dummy		1.520**		
		[0.612]		
IPA (t-5): Dummy			1.142*	
			[0.604]	
IPA (t-1): Number				0.114***
				[0.034]
Distance	-10.615***	-10.710***	-10.731***	-10.583***
	[1.933]	[1.935]	[1.937]	[1.933]
Investor-Year dummy	YES	YES	YES	YES
Host-Year dummy	YES	YES	YES	YES
Observations	3,996	3,996	3,996	3,996
R-squared	0.7393	0.7387	0.7383	0.7393

Notes: ***, **, and * show 1%, 5%, and 10% significance, respectively. In parenthesis is a standard error.

Table 4
Estimation Results: Controlling for Time-Variant Host and Home Country Effects and Country-Pair Effects

	(I)	(II)	(III)	(IV)
IPA (t-1): Dummy	-0.126			
	[0.624]			
IPA (t-3): Dummy		-0.700		
		[0.609]		
IPA (t-5): Dummy			-0.802	
			[0.615]	
IPA (t-1): Number				-0.008
				[0.034]
Investor-Year dummy	YES	YES	YES	YES
Host-Year dummy	YES	YES	YES	YES
Pair dummy	YES	YES	YES	YES
Observations	3,996	3,996	3,996	3,996
R-squared	0.9175	0.9175	0.9176	0.9175

Notes: ***, **, and * show 1%, 5%, and 10% significance, respectively. In parenthesis is a standard error.

Table 5
Estimation Results: High Risk Host Countries versus Low Risk Host Countries

	Low Risk				High Risk			
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)
IPA (t-1): Dummy	-1.912**				1.643*			
	[0.785]				[0.954]			
IPA (t-3): Dummy		-1.341*				0.673		
		[0.723]				[0.957]		
IPA (t-5): Dummy			-0.459				-0.456	
			[0.705]				[0.975]	
IPA (t-1): Number				-0.105**				0.087*
				[0.043]				[0.052]
Investor-Year dummy	YES	YES	YES	YES	YES	YES	YES	YES
Host-Year dummy	YES	YES	YES	YES	YES	YES	YES	YES
Pair dummy	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,720	1,720	1,720	1,720	1,704	1,704	1,704	1,704
R-squared	0.9467	0.9466	0.9464	0.9468	0.9131	0.9128	0.9128	0.9131

Notes: ***, **, and * show 1%, 5%, and 10% significance, respectively. In parenthesis is a standard error.

Table 6
Estimation Results: Listed Firms versus Unlisted Firms

|	Low Risk				High Risk			
	Listed firms		Unlisted firms		Listed firms		Unlisted firms	
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)
IPA (t-1): Dummy	-2.314***		-0.622		0.262		1.678*	
	[0.780]		[0.814]		[0.949]		[0.957]	
IPA (t-1): Number		-0.127***		-0.033		0.012		0.091*
		[0.042]		[0.044]		[0.051]		[0.052]
Investor-Year dummy	YES	YES	YES	YES	YES	YES	YES	YES
Host-Year dummy	YES	YES	YES	YES	YES	YES	YES	YES
Pair dummy	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,720	1,720	1,720	1,720	1,704	1,704	1,704	1,704
R-squared	0.9496	0.9496	0.9426	0.9426	0.9134	0.9134	0.9109	0.9109

Notes: ***, **, and * show 1%, 5%, and 10% significance, respectively. In parenthesis is a standard error.

Table 7
Estimation Results with Treaty Dummy: Listed Firms versus Unlisted Firms

|	Low Risk				High Risk			
	Listed firms		Unlisted firms		Listed firms		Unlisted firms	
	(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)
IPA (t-1): Dummy	-2.318***		-0.690		0.023		2.013**	
	[0.782]		[0.813]		[0.950]		[0.954]	
IPA (t-1): Number		-0.127***		-0.037		0.000		0.108**
		[0.042]		[0.044]		[0.052]		[0.052]
Treaty (t-1)	-0.055	-0.058	-1.093*	-1.093*	-2.193***	-2.195***	3.077***	3.068***
	[0.544]	[0.544]	[0.566]	[0.566]	[0.851]	[0.851]	[0.856]	[0.855]
Investor-Year dummy	YES	YES	YES	YES	YES	YES	YES	YES
Host-Year dummy	YES	YES	YES	YES	YES	YES	YES	YES
Pair dummy	YES	YES	YES	YES	YES	YES	YES	YES
Observations	1,720	1,720	1,720	1,720	1,704	1,704	1,704	1,704
R-squared	0.9496	0.9496	0.9429	0.9429	0.9142	0.9142	0.9123	0.9123

Notes: ***, **, and * show 1%, 5%, and 10% significance, respectively. In parenthesis is a standard error.

Figure 1
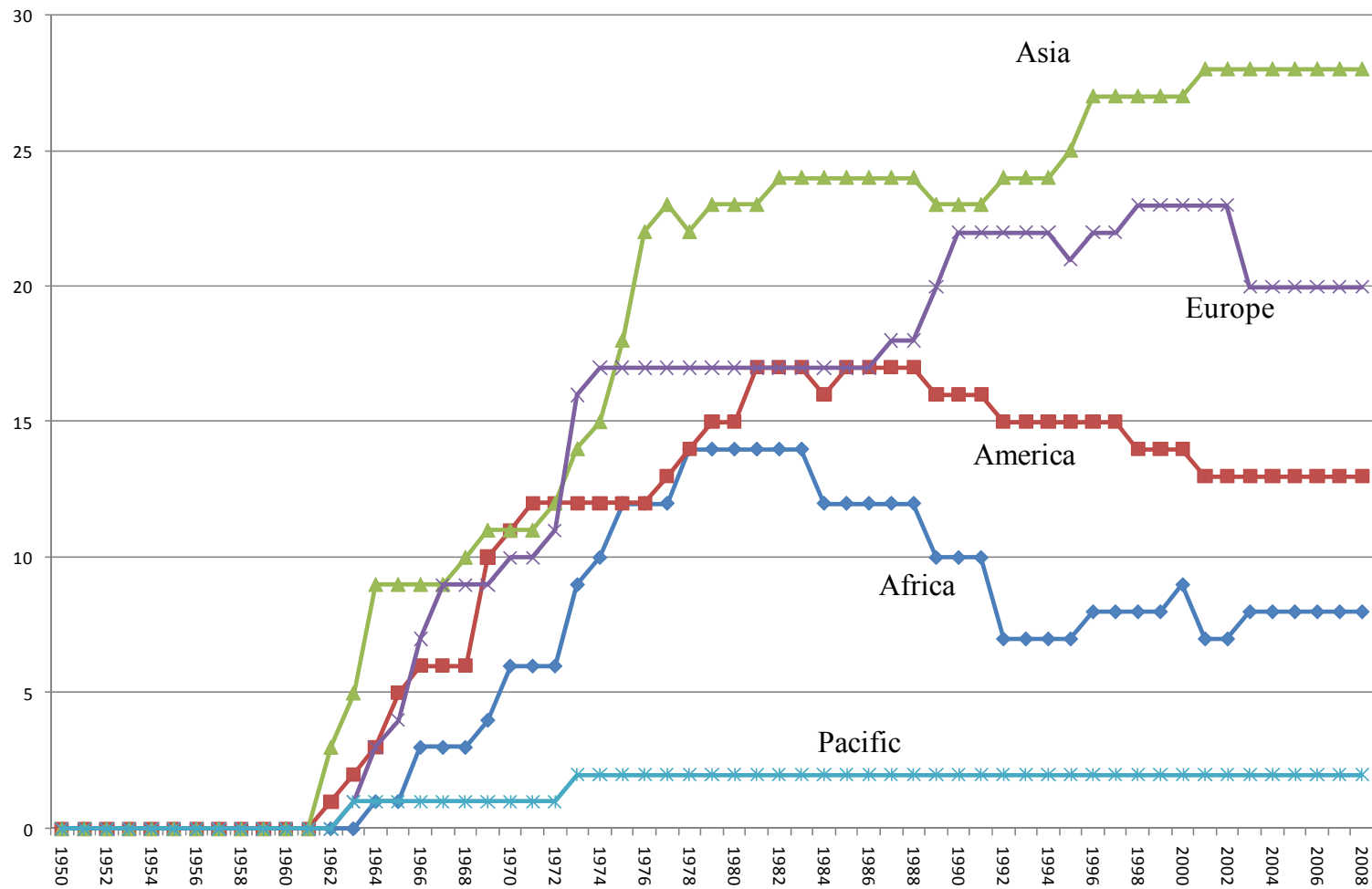**Changes in the Number of Countries with JETRO and KOTRA Overseas Offices**
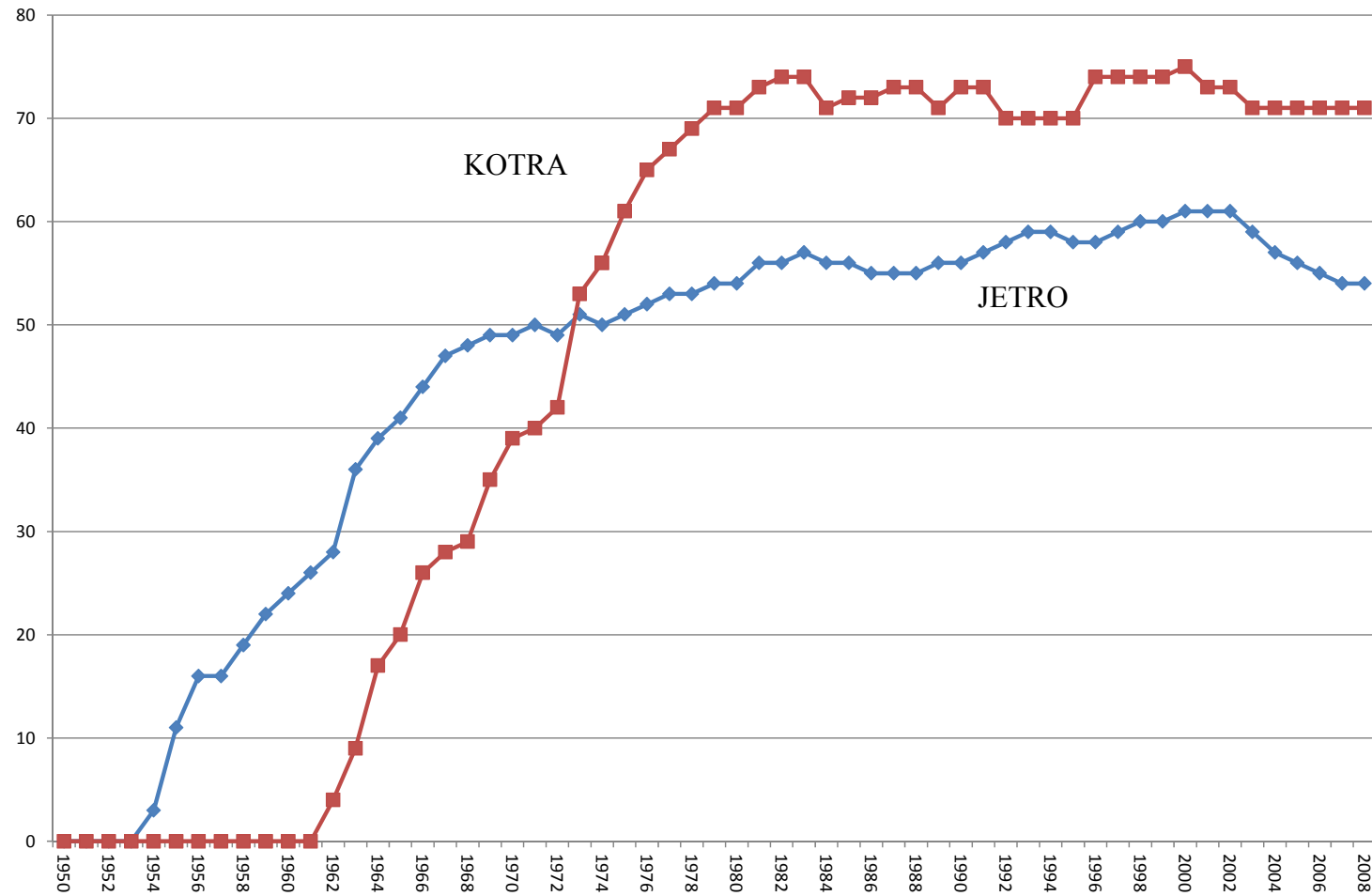
Sources: JETRO (1973, 2000, 2008), KOTRA (2002), KOTRA website (Accessed in Apr. 10, 2010)

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Figure 2
Number of Countries with JETRO Overseas Offices
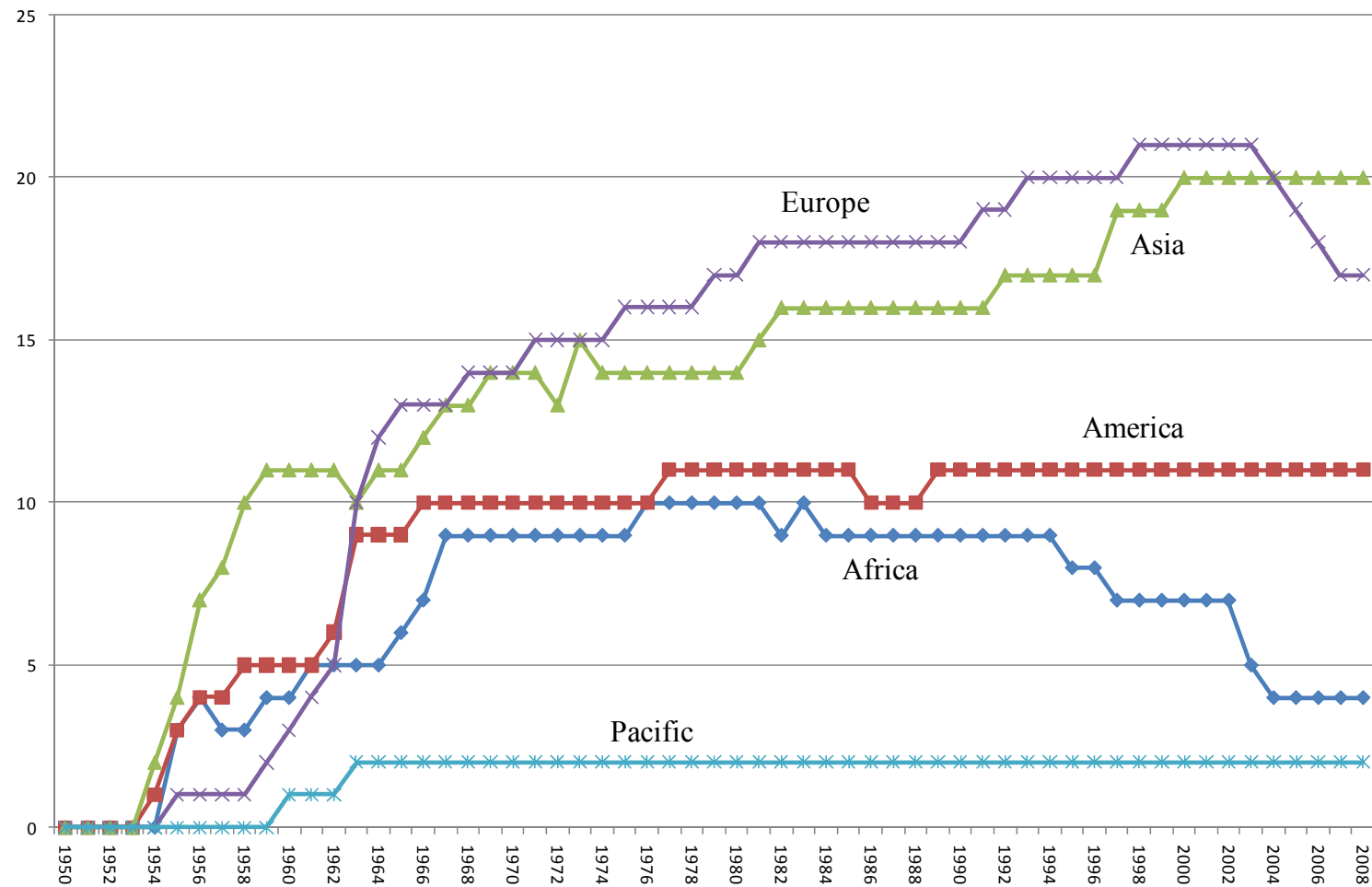
Sources: JETRO (1973, 2000, 2008)

Figure 3
Number of Countries with KOTRA Overseas Offices

Sources: KOTRA (2002), KOTRA website (Accessed in Apr. 10, 2010)