Ranking Locations for Japan's Manufacturing Multinationals in East Asia: A Literature Survey and Calculations of Investment Attractiveness

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Abstract

This paper investigates the determinants of the regional distribution of Japan's MNCs in Asian manufacturing. First, it provides a detailed review of the voluminous, recent literature and selected surveys on related subjects. This review suggests that host economy size, labor costs (adjusted to account for the influences of productivity and labor quality), and agglomeration of Japanese investors were among the most important factors influencing the locations chosen by Japanese MNCs. Evidence regarding a wide range of other potential determinants was more mixed however. An index of investment attractiveness was then constructed from a large number of relevant components and used to rank 10 East Asian hosts to Japan's manufacturing MNCs in a baseline and 11 alternative scenarios. The baseline and alternative scenarios all revealed three distinct groups of host economies, three most favorable (China, Singapore, Hong Kong), four intermediate (Malaysia, Taiwan, Korea, Thailand), and three least favorable (Indonesia, Vietnam, Philippines) locations. Rankings of the economies within each group differed somewhat depending on the scenario considered, however. This index approach is an important supplement to the existing literature because it allows one to simultaneously examine the influence of a large number of potential determents and to explicitly consider investor heterogeneity in greater detail than many other methodologies.

[1] This paper is one result of a project "The Investment Climate in East Asia: ICSEAD's Index for Ranking Locations", which was undertaken by the International Centre for the Study of East Asian Development (ICSEAD) under the leadership of Junichi Hasegawa and included Erbiao Dai and Chikashi Kishimoto, in addition to the author. The focus on Japanese firms is primarily intended to benefit firms and policy makers in the greater Kitakyshu area, where ICSEAD is located. Helpful comments from the three other project participants are gratefully acknowledged, but any remaining omissions or errors are the author's sole responsibility. Please send any comments or criticisms to the author at ramst@icsead.or.jp.

1. Introduction

Policy makers have long been interested in how multinational corporations (MNCs) determine the locations of their investments, partially because they are often interested in attracting MNC investments. Investing MNCs (and competing firms) are also interested in identifying factors that help them choose locations offering the best competitive advantage for their firm. The academic literature analyzing the determinants of MNC investment behavior has also blossomed in recent years partially as a result of relatively rapid growth of many MNCs in recent years as well as increased availability of numerous data that facilitate related research. There are also several important dimensions of MNC investment behavior and many ways to measure that behavior, resulting in a plethora of important questions to investigate when studying the determinants of MNC investments.

This paper attempts to contribute to the literature in two ways. First, it provides a detailed survey of the recent literature on location choice by MNCs, focusing on literature relevant to choices made by Japanese MNCs when investing in East Asia (Section 3). Second, the principles emerging from the literature review are then combined with 140 related indicators collected from 44 sources to create an index that can be used to evaluate the attractiveness of 10 potential host economies in East Asia for Japan's manufacturing MNCs (Section 4). Principles underlying the construction of the baseline index are explained and patterns revealed by the index are analyzed. Variations in the baseline index are examined to illustrate how MNCs with different priorities might react to the various investment environments in the region. Because measurement issues have important implications for these analyses that are often misunderstood or ignored, the paper begins with brief summary of those issues (Section 2). Finally, some concluding remarks and suggestions for developing this line of research are offered (Section 5).

This index approach is markedly different from that used by econometric studies, which

dominate the empirical literature on this topic. Econometric studies focus primarily on trying to evaluate which determinants are important (statistically significant) for the average firm when describing observed patterns, and sometimes on which determinants impart the largest impacts on investment decisions (i.e., have the largest investment elasticities). Although this index approach cannot address these important issues, it has two advantages that make it an important supplement to the econometric approach. The first is the ability to simultaneously consider the effects of a very large number of potentially important investment determinants, which is practically impossible in an econometric analysis. The second is the aforementioned ability to easily consider the investor heterogeneity in detail by altering the weights of the components (determinants) of the overall index to consider the perspectives of alternative investors, rather than focusing primarily on the "average" investor.

2. Alternative Measures of MNC Activities and Their Implications

The choice of measurement units has large implications for the study of determinants of MNC activities which are often ignored in both the academic literature and the popular press. Foreign direct investment (FDI) is perhaps the most common measure of MNC activity, largely because data on FDI are often more available and more timely than data on other measures of MNC activity. FDI refers to a portion of corporate finance, namely the equity and loans obtained by an affiliate of a foreign-owned MNC that originate in the parent or other related affiliates domiciled outside of the host economy. Analysis of variation in FDI implicitly includes consideration of decisions related to both (1) adjusting the stock of fixed assets and related real activities such as production and employment, and (2) managing the sources of corporate finance, asset portfolios, and inventory. To see this, consider the balance sheet identity for an affiliate of a foreign-owned MNC:

(1) $KT = KF + KO = EQ + LN$
where

KT=total asset stocks
KF=fixed asset stocks
KO=other asset stocks (e.g., inventory, financial assets)
EQ=equity stocks
LN=loan stocks

Then, noting that FDI stocks consist of equity and loans remitted by the MNC parent and other related affiliates abroad, disaggregate EQ and LN into their FDI and non-FDI components, and rearrange the above identity to obtain:

(2) FDK = EQfdi + LNfdi = KF + KO – (EQoth + LNoth)
where
FDK=FDI stocks (defined in balance sheet terms)
__fdi=the FDI portion of equity (=EQfdi) or loans (LNfdi)
__oth=the non-FDI (primarily local) portion of equity (=EQoth) or loans (=LNoth)
other variables as defined above

Assuming for simplicity that depreciation is zero, equation (2) clearly shows that positive FDI flows (an increase in FDK) can be used to finance (1) increases in fixed assets, (2) increases in other assets, or (3) decreases in non-FDI sources of finance (either equity or loans).[2]

The important point is that many studies of FDI determinants (and effects), including several reviewed in this paper, treat FDI solely as a proxy for production-related activities of MNCs and often overlook the important fact that large portions of FDI are used to acquire or dispose of financial assets or inventory held by an MNC affiliate, or to facilitate changes in equity and loans from non-FDI sources. In other words, they ignore the fact that decisions regarding large portions of FDI are often determined by portfolio considerations and may be unrelated to the production activities of the MNC affiliate involved.

There are many Asian examples of this. For one, during the economic boom of 1986-1996, many East Asian economies experienced much more rapid increases in FDI or FDI stocks than in employment or sales of MNCs (Ramstetter 1998a, 2000), partially because booming East Asian markets attracted a lot of capital used by MNCs to invest in non-fixed assets.

[2] The assumption of zero depreciation is made for simplicity in order to clarify the major uses of FDI capital. If one assumes depreciation related to KF and/or portions of KO, then the financing of depreciation is another potential use of FDI finance, but it is rarely a major one.

Conversely, large negative flows of FDI in Indonesia did not lead to declines in manufacturing MNC employment or production after the 1997-1998 crisis (Takii and Ramstetter 2005), nor did the large boom in FDI after this crisis lead to a commensurate increase in sales of MNCs in Thailand (Kohpaiboon and Ramstetter 2008). Another example is that Japan's stock of FDI in all Asian affiliates fell much more rapidly than sales of non-finance affiliates in 1997-1999 (changes of -54 percent versus -7 percent, measured in current yen, Figure 1), and then increased much more rapidly in 1999-2002 (changes of 51 versus 25 percent, respectively).[3]

On the other side of the balance sheet, the change in fixed assets plus related depreciation, or fixed investment, is probably the most common measure of investment in economics. This measure tells one how much a firm increases net purchases of tangible assets used to produce a firm's output and is qualitatively similar to the change in KF in equations (1) or (2). I in principle, it is thus more closely related to other measures of real activity such as sales or employment. Unfortunately most countries do not have data on fixed investment by MNCs, though China is a notable exception in this respect. There are also several other measures of investment such as equity investment or total (fixed plus other) investment. Whatever the definition, investment flows tend to be among the most volatile indicators of economic activity over time, and the inability to explain this volatility has frustrated economists for centuries. The large degree of volatility is also another reason that FDI can be a poor indicator of MNC activities such as employment and production, which tend to be less volatile.

Partially because patterns and trends in FDI flows or stocks often diverge from patterns of real activity, many studies of FDI determinants choose instead to focus directly on measures

[3] The inclusion of financial MNCs in the FDI data and their exclusion from the sales data probably accounts for an important portion of the differences in trends in FDI stocks and sales, but similar differences are common in the data for other home countries (Lipsey 1999) and trends for Japanese MNCs were similar in 2002-2006, with all FDI stocks growing 90 percent and non-financial affiliate sales by 84 percent.

of real MNC activity such as the number of firms (affiliates) or their employment and sales.[4] These studies have the advantage focusing directly on production-related activities and of avoiding many of measurement problems that arise when using FDI as an indicator.[5] The important point here is that studies focusing on measures of production-related activity or the number of firms can logically focus on the non-financial aspects of MNC behavior more clearly than studies focusing on FDI. And although this study does not formally model determinants of MNC activity, it proceeds to discuss those determinants, assuming that the primary purpose is to describe variation in the number of affiliates or real activities such as employment or sales across locations.

3. Determinants of MNC Location: A Survey of the Recent Literature

The literature on determinants of the location of MNC activity has expanded rapidly during the last two decades. Because this author is not aware of a comprehensive, recent survey focusing on the determinants of location, this paper's first contribution is to survey this aspect of the recent literature.[6] The review identifies 10 sets of determinants, two of which are primarily related to revenue generation and eight of which are more related to cost structure. This taxonomy was adapted primarily because the 10 sets of determinants were thought to

[4] For example, there are a large number of studies analyzing variation in Japanese affiliate counts, for example, including Azemir and Delios (2008), Belderbos and Carree (2002), Examples of studies that examine variation in affiliate sales include Blonigen, et al. (2007) and Markusen (2002), while Lipsey (1999) carefully compares how hypothesized determinants relate to several alternative measures of affiliate activity.

[5] Although various versions of the International Monetary Fund's *Balance of Payments Manual* have clearly defined the concept of FDI for decades, many countries still do not collect or publish consistent FDI data. In addition, FDI stocks are often measured at book value and valuation changes arising from depreciation or changes in asset prices ignored.

[6] There are several studies containing useful surveys of important aspects of this literature such as Agarwal (1980), Balasubramanyam (1984), Bellak et al. (2008), Blomström and Kokko (2003), Blonigen (2005), Caves (2007, ch. 1-3, 6), Dembour (2008), Dunning (1998), Hill and Athukorala (1998), Miyamoto (2003), and United Nations Conference on Trade and Development (1998). There are also several important recent theoretical advances (e.g., Markusen 2002; Rugman and Verbecke 2001).

reflect the concerns of potential investors from Kitakyushu, Japan considering FDI in East Asia. However, the framework adopted is also a reasonably general one and should be useful for analyzing other groups of potential investors and interested readers.

3a. Local Market Size, Income, and Preferential Access

The relentless search to find new markets and expand existing ones is one of the most pervasive characteristics of MNCs and an important subject of many studies. To quote one review by United Nations Conference of Trade and Development (1998, p. 107):

> An important group of traditional economic determinants of inward FDI corresponds to the need of firms, including TNCs, to grow and/or to stay competitive by gaining access to new markets at home and abroad and/or increasing existing market shares (p. 107).

In retrospect, Hymer's (1960) seminal thesis, which emphasized how U.S. MNCs tried to exploit monopolistic advantages in Europe, represented an important breakthrough regarding this point because it was one of the first explanations of why FDI is concentrated among relatively large, high-income economies with similar factor endowments.[7]

Correspondingly, it is very common to test the hypothesis that FDI flows are positively related to the size and incomes of host country markets, and sometimes the GDP growth rate. United Nations Conference on Trade and Development (1998, pp. 135-140) provides a very simple example of this kind of analysis concluding that "host country market-size variables remain the dominant influence on inward FDI, although they explain less of the variation across countries in more recent years than in earlier periods" (p. 140).[8] There are also a large number of studies that examine the effects of local market size and incomes in conjunction with a wide range of other determinants including labor and capital costs, distance-related

[7] This important empirical fact that was at odds with most (if not all) of the predictions by contemporaneous theoretical literature, which predicted that most FDI (and other foreign capital) would flow from rich economies with low rates of return to capital (high capital-labor ratios) to poor economies with high rates of return (low capital-labor ratios).

[8] Alternatively, some studies use population to measure market size, which can also make sense when a per capita income variable is also included in the model (Alsan, et al. 2006).

transactions costs, protection, regional trade agreements, (RTAs), and governance (see below).

The observation of a strong, positive correlation between FDI and market size in the host economy is one of the more robust results in the econometric literature.[9] Some studies also provide evidence that that host market size is among the most important determinants of FDI (Bellak et al., 2008, Brooks et al. 2008). For example, Head and Thayer (2004) suggested that a 10% increase in measures of their market potential term increased the probability Japanese firms will choose a European region by 3 to 11 percent, depending how the probability is measured and estimated.[10] Survey studies of investing firms in Asia's developing economies further highlight the importance of market size and growth.[11] The importance of high demand or potential demand in host markets was also the most commonly cited investment motive in recent (2004-2006) surveys of Japan's manufacturing MNC parents (Table 2).

Econometric results suggest that the effects of market growth and income levels or growth are less consistent, however. One reason is that the income effect can be difficult to distinguish from the size effect, partially because large economies also tend to be rich.[12] A

[9] Some recent examples include Alsan et al. (2006), Bellak et al. (2008), Bevan and Estrin (2004), Blonigen et al (2007), Buch et al (2003), Busse and Hefeker (2007), Egger and Winner (2006), Globerman and Shapiro (2002), Kang and Lee (2007), Lipsey (1999), Neumayer (2007), and Wei (2000). Studies obtaining similar results for Japanese firms include Azemir and Delios, (2008), Barrel and Pain (1999), Belderbos (1997), Belderbos and Carree (2002), Farrell et al. (2004), Cheng (2007), Fung et al. (2003), and Kirkpatrick and Shimamoto (2008). On the other hand, results from Cassidy and Andreosso-O'Callaghan (2006) suggest a weak correlation for Japan's FDI in Chinese regions and Yamawaki (2006) finds a negative correlation between Japanese investments in EU machinery in the early 1990s, which becomes significant when an agglomeration variable is added. He attributes this result to the preoccupation of Japanese affiliates with cost side determinants.

[10] Belderbos and Carree (2002) also provide evidence that Japanese investors are attracted to relatively large regions in China. In a related study, Cheng and Kwan (2000) do not consider market size directly but interpret a positive correlation between per capita incomes and FDI as evidence that larger regional market size leads to larger FDI.

[11] See, for example, Ali and Guo (2005) who highlight the importance of market size and growth for investors in China in the early 21st century and Michener and Ramstetter (1990) who show that production for the local market was important for U.S. firms in Thailand in 1988 and document that sales to local and/or third markets was by far the most commonly cited motive for Japanese investors in eight Asian economies in 1982-1988.

[12] Another reason is that the income effect could conceivably be negative if MNCs produce

relatively weak correlation with growth can also result if growth rates tend to be higher in relatively small, mid-low income economies. Another potential reason for the relatively weak correlation with incomes and growth is the fact that competition from local firms may be stronger in richer and rapidly growing host economies and stronger local competition is likely to discourage MNC investment, all other things equal.[13]

The importance of access to local markets is also implicit in the literature emphasizing how tariffs and non-tariff barriers can entice MNCs to establish production facilities in a host. Many Japanese investors have also faced large trade barriers when attempting to penetrate major foreign markets. Kojima (1990) was one of the first to emphasize this point and worried that protection induced Japanese MNCs to transfer production from low cost Japanese facilities to higher cost affiliates in Europe and the United States. Empirical results from Barrel and Pain (1999) also suggest that reported Japanese FDI in Europe was positively and significantly related to the level of trade protection, particularly the number of antidumping actions initiated. Farrell et al. (2004) also find that protection had similar effects on reported FDI in a panel of 8 manufacturing industries across 15 countries.[14] Similarly, Belderbos (1997) found that antidumping actions encouraged FDI by Japanese electronics firms in the European Union (EU) and the United States, with EU measures more likely to lead to tariff jumping than U.S. actions.

Brainard (1997) took a somewhat different approach, showing that the ratio of U.S. affiliate sales to total firm sales (exports plus affiliate sales) in a country tends to increase with the

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inferior goods, though this theoretical possibility is probably not likely to occur.

[13] Somleva. and Hoshino (2003) also provide evidence that Japanese MNCs choosing the "wholly owned greenfield mode of entry" in Europe were attracted by a low level competitiveness in the host economy.

[14] Both Barrel and Pain (1999) and Farrell et al. (2004) examine variation in FDI as reported to or approved by (before December 1981) the Japanese Ministry of Finance. Because the variation of actual FDI differs greatly across time, industries, and countries, their results should be interpreted as indications that protection had an effect on the intentions of potential investors, not their actual investment behavior.

level of tariffs and NTBs, after accounting for the effects of per capita income, transport costs, exchange rate changes, openness to FDI, and plant-level scale economies. Brainard's study also emphasizes that exports to a country and MNC presence in that country tend to be positively correlated or complements, not substitutes as often hypothesized in the theoretical literature. There is also substantial evidence exports from Japan or Japanese parents to a host economy tend to be positively correlated with the extent of MNC affiliate operations in that host.[15] This is important, further evidence that one of the most important effects of MNC investment is to expand existing markets and develop new ones in the host, not simply to replace exports, even when high trade barriers contribute to increased investment.

Belderbos and Carree (2002) also find that small and medium-sized and export-oriented Japanese investors were less responsive to local market demand and/or incentives (and relatively sensitive to Japanese agglomeration) than others.[16] The fact that some firms are heavily influenced by local market size, incomes, and protection, while others are not is also illustrated from surveys of Japan's manufacturing MNC parents in 2004-2006 (Table 2). For example, high demand or potential demand in host markets was the most commonly cited investment motive for a larger portion of large firms (67-74 percent of the total) than for medium-large firms (54-65 percent), or small-medium firms (42-58 percent).

3b. Export Market Size and Access

Firms that establish affiliates for the primary purpose of producing goods that are then exported back to the home economy or to third markets are an important example of firms that are unlikely to be very sensitive local market size or incomes. Notably, a larger proportion of small-medium Japanese parents (about one-quarter) appear to be concerned with

[15] See Head and Ries (2001), Lipsey et al. (2000), and Lipsey and Ramstetter (2003).

[16] Head and Ries (2003, p. 464) also "underscore the importance of simultaneous consideration of firm and host country differences in research on the FDI versus export decision.

exports to Japan than larger parents (11-18 percent for medium-large and large affiliates, Table 2). Sales of manufacturing affiliates in Hong Kong are also disproportionately concentrated in the Japanese market (Table 1). The theoretical literature often emphasizes the differences between MNCs established with the primary purpose of serving host economy markets and those producing goods for export back to the home economy or to third economies (Caves 2007, pp. 255-259; Markusen 2002, pp. 241-261). There is also a substantial literature highlighting how MNC affiliates in Asia generally make their largest direct contributions to their respective host economies in the form of exports (i.e., MNC shares of host economy exports tend to be larger than corresponding shares of production or employment, for example), and how the export-sales ratios of manufacturing affiliates in Asia tend to be concentrated around very low or very high levels.[17]

Exports have also accounted for about half of the sales by Japan's manufacturing affiliates operating in Asia in 2002-2006 (Table 1), though the ratio of exports to total affiliate sales in recent years (2002-2006) was relatively large in Hong Kong (65-70 percent) and the four larger ASEAN (Association of Southeast Asian Nations) economies (Indonesia, Malaysia, Philippines, Thailand; 54-56 percent) and relatively small in China (43-46 percent) and the other three NIEs (Newly Industrialized Economies; Korea, Singapore, and Taiwan; 40-43 percent). The data on Japanese affiliates also highlight how exports of MNC affiliates tend to be disproportionately concentrated in the home market, Japan in this case. Exports to Japan accounted for particularly large shares of all exports from manufacturing affiliates in China and Hong Kong (57-60 percent), probably reflecting the relative ease of producing for and shipping to Japan from these nearby economies. On the other hand, Japan's shares of exports from the other NIEs and the ASEAN-4 were markedly lower, 25-40 percent and 37-45 percent,

[17] See surveys in Blomström (1990) and Ramstetter (1993, 1999) as well as more detailed information in Ramstetter (1998b) and Ramstetter and Takii (2006) on Indonesia, Ramstetter and Umemoto (2006) on Thailand, and Phan and Ramstetter (forthcoming) on Vietnam.

respectively. Nonetheless, all of these shares were markedly larger than Japan's shares of total exports from these economies, again reflecting the tendency of MNC affiliates to concentrate their exports in the home market more than other firms.[18]

Few studies consider the effects of export market size directly but Vogiatzoglou (2008) finds that inward FDI from the so-called triad (EU, Japan and the United States) is positively related to the strength of bilateral trade ties between the home and the host, and to the degree of access the home has to other markets in the ASEAN Free Trade Area (AFTA).[19] Similarly, some studies have found that RTAs have generally encouraged FDI in the EU (Baltaggi et al 2008) and the North American Free Trade Area (NAFTA; MacDermmot 2007). Blonigen et al (2007) also emphasize the effects of geographical proximity in the EU, and both they and Baltaggi et al indicate that results are sensitive to the countries and industries included in their samples. In a related analysis of FDI in developing economies, Neumeyer (2007) finds that membership in the World Trade Organization (WTO) has a positive or insignificant effect on multilateral FDI, but a negative or insignificant effect on FDI from the United States.

3c. Labor Costs

In their recent study of FDI in Central and Eastern European economies, Bellak et al (2008) provide a thorough review of the literature on how labor costs affect FDI flows and alternative measures of labor costs. They emphasize the important point that

> …real unit labour costs [defined as the ratio of total nominal labour costs per worker to nominal GDP per employment, or equivalently, the labor share of value added] focus more directly on the profitability pressures associated with the employment of labour than nominal unit labour costs do [another commonly used measure defined as the ratio of total nominal

[18] Kojima (1990) was among the first to examine these relationships in some simple empirical models and he hypothesized that Japanese affiliates were more trade oriented than affiliates from Europe or the United States, though available data on export propensities is generally inconsistent with this proposition (Ramstetter 1993, 1999).

[19] However, it should be cautioned that studies of bilateral FDI in Asia (such as Vogiatzoglou and Kim and Oh 2007) probably suffer from severe measurement errors related to the lack of accurate, consistently defined data on many of the bilateral FDI flows studied.

labour costs per worker and real GDP per employment]" (p.24).

They also emphasize that nominal labor costs by themselves are not likely to be an important determinant of FDI, and this is also reflected by Cohen (2007 p. 149) who says "low wages (excluding China) are inversely related to the volume of incoming FDI".

Nonetheless, it is clear that MNCs using labor-intensive production processes can reduce production costs by locating such activities in host countries with low labor costs, as long as productivity levels are commensurate with wage levels. Correspondingly, many researchers have found evidence that high labor costs discouraged FDI in European economies, particularly in Eastern Europe's transition economies, and in Chinese regions.[20] Similarly, high labor costs were negatively correlated with the amounts of Japan's reported FDI in Europe (Farrell et al. 2004) and also appear to have deterred Japanese investors in Chinese regions (Belderbos and Carree 2002; Cheng and Kwan 2000).[21] The availability of cheap, high-quality labor is also the second most commonly cited investment motive for most size groups of Japanese MNCs in recent years (Table 2).

MNC operations tend to be relatively skill intensive and Miyamoto's (2003) review of the literature on human capital formation and inward FDI concludes that "cross-country evidence indicates that human capital is an important determinant for inward FDI especially among efficiency-seeking MNEs, while not being an important determinant among market or resource-seeking MNEs" (p. 22).[22] In a related study, Alsan, et al. (2006) conclude that "a

[20] For evidence on Europe, see for example, Bellak et al (2008), Bevan and Estrin (2004), Deferver (2006), and Demekas, et al. (2007). For evidence on Chinese regions, see Cheng (2007), Du et al (2008), Fung et al. (2003), Gao (2005), and Kang and Lee (2007).

[21] However, the evidence is not uniform here either. For example, Yamawaki (2006) found that correlations with the number of Japanese or U.S. affiliates in European regions were generally weak in machinery and chemicals, and Cassidy and Andreosso-O'Callaghan (2006) found an insignificant correlation for Japanese MNCs in Chinese regions.

[22] Globerman and Shapiro (2002), Noorbaknashsh et al (2001) and Egger and Winner (2006) highlight how skilled labor availability or educational achievement affects the cross-country allocation of FDI, while Cassidy and Andreosso-O'Callaghan (2006), Cheng (2007), Du et al (2008), Fung et al. (2003), Gao (2005), Kang and Lee (2007) provide evidence that these

one-year improvement in life expectancy is associated with a 9% increase in gross FDI inflows to low- and middle-income countries, and this result seems fairly robust" (p. 626). There is thus some evidence that the labor education and health levels are also correlated with MNC investment decisions but such results are not always consistent.[23]

3d. Capital and Land Costs

Before Hymer's (1960) seminal thesis, the cost of capital was considered to be the central cause of FDI allocation, with capital hypothesized to flow from capital abundant, presumably richer economies, to capital scarce, generally poorer economies. By the mid-1980s, the focus of the literature had swung nearly 180 degrees, leading Rugman (1980, 1985) to assert that the cost of capital was irrelevant to the investment decision. Studies of the reactions of MNCs to financial crises have further clarified when capital costs matter. For example, results from Barrel and Pain (1999) suggest that tightening of Japanese monetary policy 1989-1990 contributed to the decline of Japan's FDI in Europe during the early 1990s by increasing the cost of finance at home. Blonigen et al. (2007) also find investment costs were negatively correlated with FDI in more recent sample of European host economies. In some contrast, Bevan and Estrin (2004) find that interest rate differentials did not have a significant effect on the allocation of FDI into Europe's transition economies. For Asian hosts, Aguiar and Gopinath (2005) find that firm liquidity played a significant and sizable role in explaining both the increase in foreign acquisitions and the decline in the price of acquisitions during the Asian financial crisis in 1996-1998. However, they also emphasize that this pattern contrasted with the role of liquidity in years and economies not affected by the crisis.

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factors attract MNCs or Japanese MNCs in Chinese regions. On the other hand, evidence for Japanese MNCs from Cheng and Kwan (2000) suggests weak correlations

[23] For example, Yamawaki (2006) finds that educational attainment is negatively and significantly correlated with Japanese and U.S. MNC investments in EU chemicals and U.S. investments in EU machinery in the early 1990s while Deferver (2006) finds it is negatively correlated with MNC production locations in the EU.

The cost of land is another factor which has been generally ignored in most literature on MNC location choice. One exception was the debate over why inward FDI in Japan was so low in the early 1990s, with Ramstetter and James (1993) citing surveys showing high land costs to be a major problem for MNCs in Japan. Cheng (2007) also provides evidence that the cost of land was negatively correlated with the location of Japanese MNCs in China. However, the portion of Japanese firms citing land or capital costs as an important factor in the investment decision was relatively small, no more than 13-14 percent for medium-large and small-medium firms and no more than 7 percent for large firms (Table 2).

3e. Other Local Costs

MNCs also incur a large variety of other local costs related to suppliers, transportation, communication, and business coordination, among other things. One approach to capturing the effects of these costs is to estimate a gravity model, which in its simplest formulation, examines how market size, income levels, and distance between home and host economies affect MNC investments.[24] The distance variable is often negatively correlated with MNC investments, reflecting the tendency for various costs to increase with distance. Bellak et al. (2008, p. 33) also observe distance had a strong influence on the allocation of FDI in Eastern Europe but others find that FDI's correlation with distance is rather weak or insignificant in many cases.[25] As Blonigen's review emphasizes, the empirical literature using gravity models to explain both trade and FDI flows has increased markedly in recent years and many of the studies reviewed in this paper could be classified in this category. The gravity literature is also

[24] In addition to host country size and incomes, home country size and incomes are often found to be positively correlated with FDI flows in models that to include many home and host countries. However, because this paper is concerned with only on home country, Japan, this aspect is not considered in detail.

[25] Bevan and Estrin (2004) also find negative and significant effects for Eastern Europe, while studies by Alsan et al. (2006), Egger and Winner (2006), and Lipsey (1999) often find relatively weak correlations between MNC investments and distance.

related to the international business literature emphasizing how most MNCs tend to concentrate their activities in regions nearby the home economy (Arregle, et al. 2009, Rugman and Verbecke 2004).

However, the precise meaning of distance is ambiguous in important respects. In addition, the effects of infrastructure for transportation, communication, power generation, and other related public goods raise important policy issues that are particularly important in many developing economies. Correspondingly, a number of studies examine how a wide variety of measures of infrastructure capacity affect MNC investment behavior, and this is particularly common in studies of regional allocation in China. However, results regarding the influence of infrastructure variables are often contradictory and many of the observed correlations are weak.[26] Related survey data also suggest that infrastructure or local acquisition of parts and materials were relatively unimportant investment motives.[27]

3f. Taxation

Hines (1999) provides a concise summary of how taxation can have important effects on a broad range of MNC decisions, including those related to location (see also Caves 2007, ch. 8, Feldstein et al. 1995, Hines 2001). Other studies, some of which do not focus on taxation per

[26] Relatively strong correlations involve FDI in developing economies and positive internet externalities (Ko 2007) and Japan's FDI in Europe and the density of transport networks (Yamawaki's 2006). For FDI in China's regions, they involve road infrastructure (Cheng and Kwan 2000, Du et al. 2008), rail infrastructure (Kang and Lee 2007), both road and rail (Fung et al. 2003, Li and Park 2005), or long-distance telephone lines (Blaise 2005). On the other hand, Alsan et al (2006) and Belderbos and Carree (2002) find that telephone line density is not an important determinant of FDI in developing economies or China, respectively. For China, weak correlations are also observed for a composite measure of transportation infrastructure (Cheng 2007, Gao 2005), road infrastructure (Kang and Lee 2007), and rail infrastructure (Cheng and Kwan 2000).

[27] According to a survey of 22 firms in China by Ali and Guo (2005), China's weak industrial infrastructure ranked 9 or 7 out of 11 possible FDI determinants. Surveys of Japanese parents (Table 2) also indicate that local acquisition of parts and materials and social overhead capital (primarily infrastructure) supply were not that important to the investment decisions of Japanese MNC parents. However, they were slightly more important for medium-large and large parents than the costs local capital or land, for example.

se, generally find that higher levels of taxation deter FDI.[28] For Japanese firms, Azemir and Delios (2008, p. 103) also cite evidence that "Japanese firm operations are strongly and negatively influenced by the level of statutory tax rates in host developing countries" but "when a special provision, namely tax sparing [an agreement allowing investing MNCs to benefit fully from lower tax rates in the host economy], is signed between a developing country and Japan, the level of corporate tax rates has no impact on the locational decisions of Japanese multinational firms." Hines (1998) also estimates that tax sparing agreements resulted in 23 percent lower tax rates for Japanese MNCs than for U.S. MNCs and that these agreements increased Japanese FDI 1.4-2.4 times over what it otherwise would have been.

However, evidence about the effects of taxation is not uniform. For example, Neumayer (2007) suggests that middle-income developing countries which sign double-taxation treaties with the United States or a high number of treaties with other sources of FDI receive more FDI from the United States and overall, but that similar effects are not observed in low-income countries. Wells et al. (2001) also argue that tax incentives for MNCs are unlikely to be an effective way of stimulating FDI in many developing economies and are often very costly to the local taxpayer. Furthermore, evidence from Blonigen and Davies (2002) suggested that the tax treaties did not increase FDI among OECD economies, and provide some evidence that they decreased FDI. They then assert that this result is consistent with the view that tax treaty establishment can discourage FDI by reducing tax evasion.

3g. Costs Related to International Trade

Most of the literature relating international trade activities to FDI determinants has stressed how protection can induce inward FDI by facilitating preferential access to protected local markets. However, in Asia's developing economies, imports are often the only viable source

[28] See, for example, Lipsey (1999), Wei (2000), Simmons (2003), and Yamawaki (2006).

of certain sophisticated machinery, parts, and materials that MNCs (and local firms) require to produce quality goods and services. Correspondingly, Japanese manufacturing affiliates in Asia imported 45 percent of their raw materials and parts in 2006, 30 percent from Japan and 15 percent from other countries (Ministry of Economy, Trade, and Industry, various years). Although these figures suggest a slight decline from 33 and 16 percent, respectively, in 2002, Japanese affiliates continue to depend heavily on imports. Thus, high protection and/or cumbersome import-export procedures can be extremely costly to these MNCs.[29]

Unfortunately, it is almost impossible evaluate how the revenue generation effects of protection compare to the cost increasing effects, though some studies do emphasize the negative effects of protection on the performance of MNC affiliates.[30] However, the fact that MNCs affiliates are often highly dependent on both exports and imports does suggest that high protection is likely to discourage FDI by some MNCs in the Asian region, even if it encourages tariff jumping by others. This view is also consistent with the findings of many studies which show that the openness of an economy, usually measured as the sum of exports and imports divided by GDP, tends to be positively correlated with MNC investments.[31]

3h. Foreign Ownership Regulations, Foreign Presence, and Currency Transactions

There is now a long literature examining the effects of various policies taken by host economies to both encourage and regulate FDI (Balasubramanyam 1984, Blomström and

[29] This sentiment was reflected in Ramstetter's (1997) survey of moderate or large problem faced by 25 MNCs operating in Thailand general, electric, and transportation machinery industries in 1994. 15 affiliates identified import regulations, 9 identified labor supply, and 6 identified infrastructure bottlenecks, while no more than 3 identified the remaining seven problems asked about.

[30] In addition, Moran (2001) makes the important point that excessive protection (or other regulation) can prevent affiliates from gaining the full benefits of integration into an MNC's international network, while James and Ramstetter (2008) argue that high protection has led to chronic inefficiencies in the automobile industries of Indonesia and Thailand, while much lower protection contributed to greater efficiency in electronics.

[31] See, for example, Adam and Filapois (2007), Alsan et al (2006), Azemar and Delios (2008), Blonigen et al. (2007),

Kokko 2003, Moran 2001). Some oversight is clearly understandable because MNCs tend to be relatively large firms with the potential to wield market power and cause market failures. However, it is not at all clear whether MNCs should be scrutinized any differently than dominant, local firms, which may cause similar problems. Moreover, most existing, MNC-specific policies are more motivated by political considerations than by economic ones, and end up creating distortions that encourage inefficiency.

For example, one common policy package often observed in East Asia imposes local content requirements, on one other hand, but then allows for import duty exemptions on imports, especially when they are used in the production of exports, on the other. Other commonly adopted regulations include the adoption of MNC-specific minimum wage levels or tax rates. The combined effect of any country's policy package on inward FDI is thus often complex and difficult to evaluate with any certainty.

There is evidence that bilateral trade and investment treaties do lead to increased total FDI in developing economies and that these effects have important interactions with governance indicators (Neumayer and Spess 2005). Moreover, some hosts such as Hong Kong and Singapore have a well established reputation of implementing policies that are very favorable to inward FDI, and these economies have attracted very high levels of inward FDI as a result. The effects of the U.S.-Vietnam Bilateral Trade Agreement, which was concluded in December 2001, appears to have been particularly large in this respect (Ministry of Planning and Investment Research Team 2005).

There has been an increasing emphasis on how the agglomeration of MNCs can attract further FDI. The role of formal, Japanese business groups or *keiretsu* was one of the first characteristics that attracted attention in this literature, and many studies have found unusually high agglomeration among Japanese MNCs, who often tend to be concentrated in industries and regions where strong *keiretsu* ties work to reduce various entry and operation

costs.[32] Belderbos and Sleuwaegen (1996) emphasized that both horizontal and vertical manufacturing networks among *keiretsu* members in Southeast Asia facilitated the establishment of manufacturing plants by member firms. In China, there is strong evidence of regional agglomeration among Japanese electronics firms (Belderbos and Carree 2002; Cheng 2007), U.S. MNCs (Du et al., 2008), and among all foreign and local investors (Ng and Tuan, 2006). There is also some evidence that Japan's overseas development assistance (ODA) had a positive impact on location choice by Japanese MNCs (Blaise 2005).

However, the effects of agglomeration do not appear to be uniform. Belderbos and Carree (2002) find that small and medium-sized and export-oriented Japanese investors are relatively sensitive to Japanese agglomeration. This result is also consistent with surveys of Japan's manufacturing parents (Table 2), which show that the previous success of Japanese investors was a more commonly cited investment motive among small-medium and medium-large MNC parents (27-52 percent) than among large parents (25-35 percent). On the other hand, a relatively small portion of all MNC size groups (16 percent or less) cited encouragement and protection by the host government as an important motive.

3i. Macroeconomic Instability

Macroeconomic instability is a two-edged sword from the point of view of an individual investor. On the one hand, MNCs and many others find instability and unpredictability costly. On the other hand, instability can create business opportunities that MNCs and other firms are often keen to exploit. At the aggregate level, however, costs related to instability are generally thought to be larger than benefits. Moreover, cyclical downturns generally discourage investment among all investors, MNCs included.[33] And although the effects of cyclical

[32] See, for example, Blonigen and Tomlin (1999), Blonigen et al. (2005), Head et al. (1995), Head and Mayer (2004).

[33] An interesting exception was the reaction of MNCs to the Korean and Thai downturns to

downturns on the allocation FDI is ambiguous, countries that have chronic macroeconomic management problems are generally thought to have more difficulty attracting FDI than others. Correspondingly, a few studies have found a negative correlation between the unemployment rate and the amounts or numbers of MNC investments received by a host.[34]

There are a number of studies that find a tendency for MNCs to be attracted by hosts with depreciating currencies, perhaps because a cheaper currency makes assets in the host economy relatively cheap. There is also some evidence that exchange rate volatility can affect FDI. However, as emphasized in a review of this literature by Stevens (1998), the evidence regarding the effects of exchange rate levels and volatility on FDI is mixed and there are good theoretical reasons to expect mixed results. Regarding Japanese firms, Azemar and Delios (2008) and Farrell et al. (2004) both find that exchange rates did not correlate strongly with the cross country distribution of Japanese MNCs, while Kogut and Chang (1996) emphasize that exchange rates affected the timing of Japanese FDI in the United States. However, probably because macroeconomic fluctuations exert their influence more on the timing of investments than on their location, direct evidence on the relationships among macroeconomic variables and the location of FDI is limited.

3j. General Governance

In the last two decades economists and other social scientists have become increasingly concerned with the effects of various aspects of general governance (as distinguished from

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the Asian financial crisis in 1997-1998 when MNCs greatly increased FDI in these economies despite the severe contractions these economies experienced in 1998. FDI increases were also related to policy changes, in particular the relaxation of limits on foreign ownership shares in many firms. However, the fall in asset prices and local currencies, which made previously planned investments relatively cheap, was another important factor behind the FDI increases

[34] Because meaningful comparisons of the unemployment rate are difficult for many developing economies, including several of the Asian hosts studied here, most studies examining the effects of the unemployment rate involve developed economies (Head and Mayer 2004, Yamawaki 2006).

corporate governance) on economic activity and research on FDI determinants is no exception. In particular, there is now a rather large literature examining the effects of corruption on FDI. For example, Wei (2000) demonstrated that a rise in the corruption level of a host country had the same negative effect on inward FDI as did increases in the tax rate.[35] However subsequent studies suggest that the relationship between FDI and corruption may not be straightforward. For example, Egger and Winner (2006) study investment from 21 OECD economies in 59 OECD and non-OECD economies, concluding that "corruption seems important for intra-OECD FDI, whereas it seems much less relevant, if not irrelevant, for the FDI of the OECD economies in non-OECD member countries" (p. 479). Egger and Winner's (2005) previous study of 73 developed and less developed economies for 1995-1999 also contrasted, finding "a clear positive relationship between corruption and FDI" (p. 932). Cuervo-Cazurra (2008) distinguishes two types of corruption (pervasive and arbitrary) finding the corruption's effects are smaller in transitional economies than others, and that pervasive corruption has a larger negative effect in those economies. With regard to Japanese MNCs, Voyer and Beamish (2004) find that corruption leads to lower Japanese FDI per capita in host economies, but the standard controls in their model (GDP size, cultural proximity, unemployment, labor growth, and government consumption) were not generally significant.

Busse and Hefeker (2007) examine the effects of a broader range of governance indicators, finding that government stability, internal and external conflicts, law and order, ethic tensions, bureaucratic quality and, to a lesser degree, corruption and democratic accountability are important determinants of multilateral FDI in a sample of developing economies for 1984-2003. Globerman and Shapiro (2002) construct an aggregate governance index from an

[35] An example given by the author was that an increase Singapore's corruption level to that of Mexico would have the same negative effect on inward FDI as raising the tax rate by 50 percentage points. He also found that relatively stringent U.S. legal sanctions against engaging in corrupt practices did not appear to make American investors more averse to corruption than average OECD investors.

earlier (1999) version of the six groups of indicators in Kaufmann et al (2008), concluding that governance is an important determinant of both inward and outward FDI. Although Alsan, et al. (2006) focuses on life expectancy as an FDI determinant, results from this study also suggest that Knack and Keefer's (1995) measures of corruption was negatively and significantly correlated with FDI in middle and low-income countries, while their measures of good bureaucratic quality were positively and significantly correlated with FDI in same countries.[36] Fan et al. (2009) also emphasize that "the rule of law" attracts FDI and that China's ability to attract FDI is partially related to the fact that it does not differ much in this regard from other economies with similar income levels.[37] Du et al (2008, p. 412) provide evidence that U.S. MNCs prefer Chinese regions "that have better protection of intellectual property rights, lower degree of government intervention in business operations, lower level of government corruption, and better contract enforcement". Interestingly, Kirkpatrick and Shimamoto (2008) also find that Japanese MNCs tend to be attracted to countries which have a track record of good environmental management.

Thus, there appears to be a growing consensus that good governance practices of various types encourage FDI. However, the empirical evidence regarding this determinant, and most of the determinants discussed in this review, is not uniform. For example, although there is also a fair amount of evidence that the provision of civil liberties is positively related to FDI, Adam and Filapios (2007) also provide evidence that there is a threshold below which repression of civil liberties is associated with more FDI. In concluding this review, it is thus appropriate to reemphasize Chakrabarti's (2001) point that most empirical results regarding FDI determinants often vary considerably depending on the econometric specifications and

[36] In a related vein, Rammal and Zurbrugegg (2006) suggest that deteriorating effectiveness and enforcement of investment regulations (such as increased price controls and excessive regulation in foreign trade and business development) have had an adverse effect upon intra-ASEAN FDI.

[37] This study also finds that the cross-country distribution of FDI is not significantly related to corruption or limits on executive power.

the data sets used and appear rather sensitive to specification and sampling practices.

4. An Investment Attractiveness Index for Japanese Manufacturing MNCs in East Asia

There have been several attempts to rank the attractiveness of investment locations using indexing methodologies.[38] However, most of these indexing efforts have not considered alternative rankings of heterogeneous investment motives, which is one distinguishing aspect of this exercise. The exercise is also distinguished by its rather narrow focus on Japanese manufacturing investors in East Asian manufacturing industries. The narrow focus has the disadvantage of making the analysis less general than some readers may prefer, but it also has the advantage of allowing for the creation of a more precise index than if the geographical or industrial focus of the exercise were expanded.

4a. Methodology

The precision of this index approach is facilitated both by the narrow focus itself and by the ability to use of several data sources that would not be available or meaningful if a wider focus were adopted.[39] Following the literature review above, the index is comprised of 140 components divided into 10 groups. The 10 groups, the number of components in each group, group weights, and baseline values for each group index as well as the overall index are all summarized in Table 3. A small number of components (14) are discrete variables defined by

[38] See, for example, A.T. Kearney (2007, various years), Organisation for Economic Co-operation and Development (2006), and United Nations Conference on Trade and Development (2002, pp. 23-36).

[39] Major international sources include World Economic Forum (various years; 40 index components), World Bank (2009; 18 components), International Monetary Fund (2008, 2009; 15 components; the 2009 source is also supplemented with national sources from Taiwan), World Trade Organization (2009a, 2009b, various years; 12 components), Kaufman et al. (2008; 5 components), Heritage Foundation (2008; 5 components), and United Nations (2009; 4 components. Data from Japan External Trade Organization (various years; 24 components) and various official and private, national sources (11 components) were also important. Please see the References section and Appendix Tables 1 and 2 for detailed information on sources.

the author to reflect the influences of RTAs involving 11 major export markets, WTO membership, currency conversion costs, and nationalization risks. The remaining 126 components are simple rankings of indicators taken from other sources for the 10 host economies being compared (see details in Appendix A). These 126 rankings are defined as 1 for the least favorable value among these economies and 10 for the most favorable value.[40] For some components, notably those obtained from survey questionnaires or other rankings using clearly defined scales, this procedure may have the effect of exaggerating differences among the region's economies. However, this procedure was thought to be the most consistent approach to creating a weighted ranking of the 126 components taken from other sources.

The inclusion of a large number of index components means that the overall index inevitably contains several closely related components. This is done purposefully with the aim of reducing measurement error and reflecting different perspectives on related issues. For example, it is virtually impossible to accurately measure important variables such as productivity-adjusted labor costs or MNC shares of manufacturing production in many economies. This mandates the use of proxies and one important advantage of an index approach is that one can create weighted averages of alternative proxies and hopefully reduce the influence of measurement errors in the process.

In addition, many of the index's components are the results of opinion surveys because the opinions of businessmen and others who actually evaluate investment locations are thought to be relevant when ranking these locations. Results of the Executive Opinion Survey conducted as part of World Economic Forum (various years) are used particularly heavily because these surveys are thought to reflect the concerns of MNCs rather well. Data from Japan External Trade Organization (various years) are also very relevant to Japanese MNCs and used frequently. On the other hand, several other sources are not quite as representative of the

[40] This formula is essentially the same as the one used by World Economic Forum (various years) to rank world economies by indicators of economic performance such as GDP.

MNC perspective, but are used because they are relevant and no better alternatives were known. For example, World Bank (2009) is designed to reflect the perspectives of local investors in each host economy and the governance indicators of Kaufmann et al. (2008) are presented as general evaluations relevant to all members of society, not just firms or MNCs. In addition, Heritage Foundation (2008) contains several relevant indicators, but this source has a well known political bias that some might worry would bias the data. Thus, related components from these various sources are often averaged to reflect their alternative perspectives in the overall index.

As Table 3 indicates, local and export market groups were assigned the highest weights in the overall index, 23 and 22 percent respectively. These weights were set at relatively high levels because market concerns were thought to be slightly less important than cost concerns on average. The relative weights of local and export markets were then set to reflect the fact that local market sales accounted for slightly more than half of all sales by Asian manufacturing affiliates in 2006 (Table 1). Within these groups, the largest components reflected the size and growth of the local market (12% combined), the level and growth of per capita income in the local market (5% combined), as well as the sizes of Japan (9%) and 10 other major export markets (slightly over 8%).[41]

The other eight groups of components were defined to reflect eight groups of costs incurred by MNCs and reviewed in the previous section. Reflecting the frequency with which Japanese MNCs cited related motives (Table 2) and the frequent attention paid to them in the literature, labor costs and costs related to foreign capital restrictions or the lack of foreign and Japanese presence have the largest weights among the cost categories, 9 percent each.[42] Costs related

[41] The 10 other markets were China, Korea, Taiwan, Indonesia, Malaysia, Philippines, Thailand, Vietnam, the EU (27 members), and the United States. See Appendix A for further details.

[42] Note that large foreign or Japanese presence can also lead to increased demand for intermediate goods produced by some MNCs. In other words, agglomeration can affect the

to international trade, macroeconomic instability, and general governance also are given relatively large weights of 7 percent each, because Japanese MNCs depend a lot on trade while macroeconomic management and governance have large influences on the investment environments in host economies. Next, a heterogeneous group of other local costs related to suppliers, transportation, communication, utilities, and business coordination, is given a weight of 6 percent. Although the literature indicates that these costs are not always statistically significant determinants of MNC investments, they are clearly important to some MNCs. The smallest weights (5 percent each) are assigned to taxation costs as well as capital and land costs. The relatively small weights of infrastructure, capital and land costs reflect both survey evidence (Table 2) and the sentiment in the literature. The low weight of taxation reflects the infrequency with which Japanese MNCs mention this motive, but the econometric literature suggests it may deserve a larger weight in the baseline.

4b. Patterns Observed in the Baseline Index

Given the group weights described and the definitions and weights of individual components summarized in Appendix A below, the overall index yields remarkably similar rankings of these potential host economies for 2006-2008 (Table 3). First, China and Singapore, followed by Hong Kong, are clearly the three most favorable destinations for Japanese MNCs according to this ranking. China supplanted Singapore as the top-ranked destination in 2007, but differences between the rankings for these economies was very small during this period. Second, Taiwan, Korea, and Malaysia, followed by Thailand, comprise another distinct group of economies that are moderately attractive locations. Among this group Taiwan was the highest ranked in 2006 but it was supplanted by Malaysia in 2008.

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local and export market factors, in addition to the costs of entry and operation. However, these effects all work in the same direction (making a host economy more attractive) and they are not separated in the index.

However, here again there is relatively little overall difference among the host economies within the group. Third, Indonesia, followed by Vietnam and the Philippines are the least attractive investment locations among the group. Here again there is little movement over time except for a slight widening of the gap between Indonesia and the others.

The stability of the index values and ordering over time reflect the fact that the index incorporates a lot of components related to institutions and governance that do not usually fluctuate greatly over time. This is probably a weakness if the goal is to predict the variation of annual flows of FDI, which often fluctuate in a wide range. On the other hand, if the goal it to produce an index that businessmen can use to evaluate the medium- and long-term prospects of alternative markets, this characteristic could be considered an advantage.

Not surprisingly, China's high score is closely related to the large size of its own market and large imports from China into major export markets. China's group indexes were at least 7.7 and usually over 8 for both local markets and export markets, while no other economy recorded a value of more than 4.6 in these categories. In other words, this baseline suggests that China's sheer size and the ability of exporters based in China to penetrate major markets, particularly the Japanese market, makes it an extremely attractive location compared to the other hosts in this sample. China also ranked consistently high in the macroeconomic instability group and improved its rank to relatively high levels in the groups for capital and land costs and other local costs. On the other hand, it ranked quite lowly with respect to foreign capital restrictions and presence, and governance. The low rank for foreign presence was partially a consequence of China's large size but it is also related to the inability of the aggregate measures used in the index (ratios of FDI stocks or Japanese firm counts to GDP) to adequately capture the extent of foreign manufacturing MNC presence in China.[43]

[43] For example, in 2007, the share of foreign MNCs in manufacturing GDP was 1.45 times larger in China than in Hong Kong, (32% versus 22%, Census and Statistics Department 2008 and National Bureau of Statistics 2008). However, the ratio of the total FDI stock to GDP was

In contrast, the high ranks of Singapore and Hong Kong derive from consistently high ranks in seven of the eight cost groups. Excluding capital and land costs, Singapore's minimum score in the remaining seven cost groups was 6.1 in macroeconomic instability in 2008; and if this category is also excluded, the minimum was 7.4 in other local costs. Likewise, Hong Kong's minimum score in the seven cost groups excluding capital and land costs was 6.7 in macroeconomic instability and, if this category is excluded, 7.1 in foreign capital restrictions and presence. It is also interesting to note that the high-income economies of Hong Kong and Singapore ranked far higher with respect to labor costs than low-income economies such as China and Vietnam (7.8-8.4 versus 4.1-5.3). In other words, the group index for labor costs appears to do a good job of reflecting the often stated fact that actual costs are as much related to productivity and labor quality, as to direct compensation.

At the other end of the scale, the low scores of the Philippines and Vietnam result partially from the relative inability of exporters based in the two economies to penetrate the major export markets. These two economies and Indonesia were all among the lowest ranked in other local costs, taxation, macroeconomic stability, and governance. Indonesia also ranked lowly in capital and land costs and in foreign ownership regulations and presence while the Philippines and Vietnam had low ranks in labor costs and taxation. However, the intermediate rank of Indonesia's labor costs contrasts with the substantial literature focusing on labor cost issues and related problems in the country (Manning and Roesad 2007).

Among the four intermediately ranked economies, the local market ranking was relatively high for Korea, but lower in the other three economies, while the export market ranking was high for both Korea and Taiwan in most years. Taiwan and Malaysia were also ranked relatively highly for labor costs, capital and land costs, and other local costs, while Thailand

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8.3 times higher in Hong Kong (Appendix Table 1), primarily because of large FDI in services. Unfortunately, similar data are not available for many other economies in the sample so the use of aggregate indicators is the only practical alternative for the index.

ranked highly in terms of capital and land costs. In addition, Taiwan ranked highly for international trade costs, macroeconomic stability, and governance, while Thailand's rank for foreign ownership regulations and presence was relatively high. Malaysia consistently ranked in the middle of the 10 economies for these groups.

4c. Alternative Scenarios and Index Sensitivity

One of the important advantages of the index approach is that one can easily change the weights of index groups and/or components, and thereby consider alternative scenarios representing different investor perspectives. These alternatives are also useful to investigate the index's sensitivity to changing the weights of the various groups and components that comprise the index.

One common distinction made in the literature is between MNCs who invest with the aim of serving the host country market and those who aim to produce exports. The first two scenarios in Table 4 consider these alternative perspectives by first weighting the local market group at 45 percent and the export group at 0 percent (scenario 1), and then reversing this assumption (scenario 2). The weights of the eight cost components are the same as in the baseline case because costs are thought to be important in either case and because it is easier to sort out the effects of different market orientation on the rankings in such a scenario.

Largely because China was both the largest local market of the 10 host economies, and the largest supplier of imports to Japan and many of the 10 other major export markets considered, there are relatively few large differences in the rankings in these alternative scenarios. China was still ranked as the most attractive location under both scenarios, its index remaining unchanged under the export-oriented scenario and falling from 6.2 to 6.1 under the local market-oriented scenario (Table 4). Singapore and Hong Kong remained the second and third ranked countries. The increase from 5.4 to 5.5 for Hong Kong under the local market-oriented

scenario was the sole change that resulted. In addition, there remained three distinct groups of economies, which consisted of the same members as in the baseline case, the three top-ranked economies discussed above, four intermediately ranked economies (Malaysia, Taiwan, Korea, Taiwan) and three lowly ranked economies (Indonesia, Philippines, Vietnam).

However, within groups of the four intermediately ranked economies and the three lowly ranked economies, there were a few larger changes. The largest changes were for Vietnam whose index increased from 3.6 to 4.0 under the local market-oriented scenario and decreased to 3.2 under the export market-oriented scenario. The reverse pattern was observed in Taiwan, with the index increasing to 5.0 under the export market-oriented scenario and falling to 4.4 under the local market-oriented scenario (baseline=4.7). Thus, under the export-oriented scenario 2, Vietnam became the lowest ranked economy while Taiwan rose to fourth. More than anything, this reflects the fact that Taiwan has a record of large exports to Japan and the other major markets, whereas Vietnam does not.

Next a number of scenarios which give larger weights to cost-side factors are considered. Such scenarios may be useful in cases when the investing MNC already has a secure market for its product and costs are the primary concern. The first attempt in this direction increased the weights of all eight cost groups by 2 percentage points each and commensurately lowered the weights of the local and export market groups by 8 percentage points each (scenario 3). In the remaining scenarios (4 to 11), the 16 percentage point increase in cost side factors is allocated to only one of the eight cost groups in turn (e.g., in Scenario 5 the weight of labor costs is increased from 9% to 25%, in Scenario 6 the weight of capital and land costs is increased similarly, and so on). Here again the aim is both to consider alternative MNC perspectives and examine the index's sensitivity to changing weights.

As in the baseline case and the first two scenarios, there remained 3 distinct groups of highly ranked economies, intermediately ranked economies, and lowly ranked economies, and

the membership of these groups was consistent in the baseline and all scenarios considered. However, under the cost emphasizing scenarios, there were relatively large changes among all intra-group rankings, reflecting the fact that cost structures differ among economies.

Among the top-ranked economies, all cost emphasizing scenarios displaced China from the top rank, reducing its index from the 6.2 baseline value to at least 6.0 under the scenario emphasizing macroeconomic stability emphasis and as far as 5.2 under the scenario emphasizing foreign capital restrictions and presence and 5.3 under the scenario emphasizing international trade costs. Under most of these scenarios China's rank fell from first to third. The sole exception was the scenario emphasizing capital and land costs, when it was ranked second. Conversely, in all of the cost emphasizing scenarios, indexes for Singapore and Hong Kong rose over the baseline and Singapore became the top ranked host. Hong Kong's rank rose to second in all but one of these scenarios, that emphasizing capital and land costs.

Among the intermediately ranked economies, cost emphasizing scenarios resulted in index increases over the baseline for all scenarios in Malaysia, Taiwan, and Thailand, and all but one scenario (emphasizing international trade costs) in Korea. Among these economies, Malaysia remained the highest ranked (4) in five of the eight cost emphasizing scenarios, but fell to fifth in scenarios emphasizing taxation costs, foreign capital restrictions and presence, and macroeconomic instability. Conversely, Taiwan remained the fifth ranked economy in most scenarios and replaced Malaysia as the fourth economy in the three scenarios when Malaysia fell to fifth. As in the baseline, Korea and Thailand remained sixth and seventh ranked, respectively, in all but one of the scenarios, that emphasizing international trade costs. In this case, Thailand rose to fifth, while Taiwan fell to sixth and Korea to seventh.

Among the lowly ranked economies, Indonesia maintained its baseline rank (8) in all cost emphasizing scenarios and its index rose in six of the eight cases considered, the two exceptions being scenarios emphasizing international trade costs and macroeconomic

instability. Indexes for the Philippines rose over the baseline in all but one cost emphasizing scenario, that emphasizing macroeconomic instability. It also replaced Vietnam as the ninth ranked economy in all but three of these cases when Vietnam ranked ninth, scenarios emphasizing capital and land costs, international trade costs, and macroeconomic instability.

5. Conclusions and the Future Research Agenda

This paper has investigated the determinants of the regional distribution of Japan's MNCs in Asian manufacturing in two ways. First, after a brief review of measurement issues that have important implications for the interpretations of previous studies, the paper provided a detailed review of the voluminous, recent literature and surveys on related subjects. This review first suggested that the size of the host country market was among the most important determinants of the regional distribution of MNC activity and indicated that this result is probably the most consistent one in the existing literature and survey evidence. It then pointed to numerous indications that labor costs (adjusted to account for the influences of productivity and labor quality) were also an important consideration, especially for Japanese investors. Agglomeration of Japanese investors was another factor commonly found to influence the locations chosen by Japanese MNCs. The review also considered a wide range of other potential determinants such per capita incomes in host economies and numerous other costs routinely incurred by MNCs, including costs related to capital and labor, local suppliers, transportation, communication, utilities, fuel, business coordination, taxation, international trade, macroeconomic instability, and general governance. Although evidence regarding these categories was mixed, MNCs were generally found to be attracted by higher incomes and lower costs of all types. The review then concluded by emphasizing how empirical results regarding all potential determinants of MNC location were not uniform.

An index of investment attractiveness that ranked 10 East Asian host economies for Japan's

manufacturing MNCs was then constructed. Both the baseline index and 10 alternative scenarios identified three distinct groups of hosts. The three most attractive hosts were led by China in the baseline case and in two alternative scenarios that emphasized production for the local market or export markets. This reflects the large size of the Chinese market and its relatively large exports to markets often serviced by Japanese MNCs. China was followed closely by Singapore and more distantly by Hong Kong. However, Singapore became the top-ranked economy when eight cost-emphasizing scenarios were examined and China fell to third behind Hong Kong. There were four intermediately ranked hosts, Malaysia, Taiwan, Korea, and Thailand. Malaysia was usually the highest ranked among this group though it was surpassed by Korea or Taiwan in two of the alternative scenarios considered. The least attractive hosts were Indonesia, the Philippines, and Vietnam. Indonesia was usually the highest ranked of this group (all but one alternative scenario), and the ranks of Vietnam and the Philippines interchanged quite a bit in the alternative scenarios.

This index approach is useful because it provides empirical evidence in a format that considers a large number of potential determinants and because the weights of these determinants can easily be altered to simulate the differing priorities of various investors. It thus provides an important supplement to the econometric literature, which usually focuses on the behavior of the average investor, though are some econometric studies that also emphasize investor heterogeneity. One important way in which to extend this research is to consider a much larger number of alternative scenarios and to taxonomize those results in an easily understandable format. Another important extension would be to estimate the index for more potential investors. For example, it would be interesting and possible to add India, which is an increasingly important Asian host to Japan's MNCs.[44] It will also be important to review

[44] Unfortunately, the data used in this study are often missing for other potential Asian hosts (e.g., Cambodia, Laos, Mongolia, Myanmar) and Japanese presence is so small in these economies that extensions to them would be relatively unimportant at this time.

index components and data sources in efforts to reduce the influence of measurement errors and incorporate newly available data. However, if there is one thing that stands out from the present exercise, it is the consistency with which the three groups of Asian economies are ranked as locations for investments by Japan's manufacturing MNCs. This characteristic, combined with the fact that many of the factors considered to determine the location of MNC investments, suggests that this result may remain robust under future extensions and revisions.

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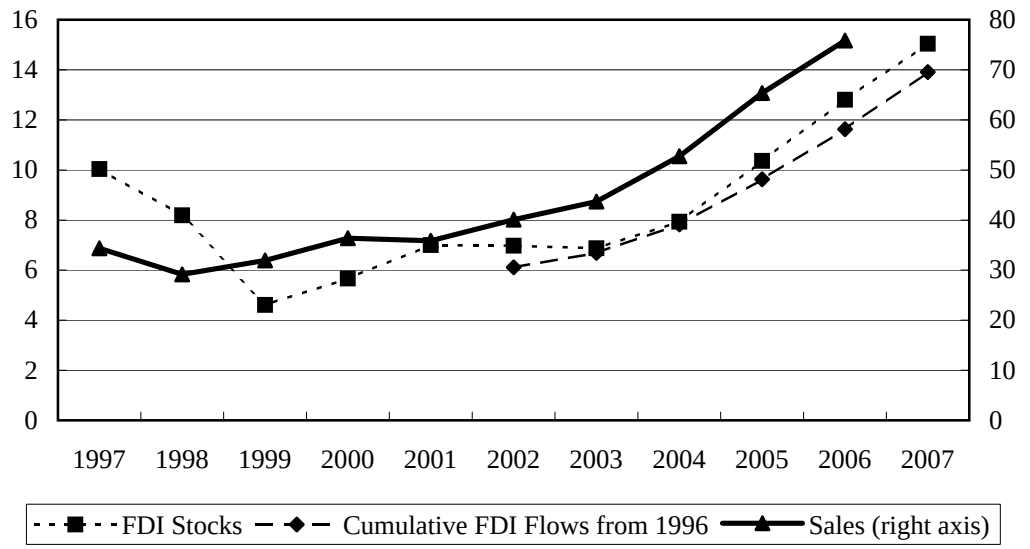
Figure 1: FDI Stocks of All Japanese MNCs and Sales of Non-finance Japanese MNCs in Asia (trillion yen)



Sources: Bank of Japan (2009); Ministry of Economy, Trade and Industry (various years).

Table 1: Sales of Japanese Manufacturing MNCs in Asia by Market

Host Economy	Year	Total (trillion yen)	Shares of total sales by market (percent)					
			Local	Japan	Other Asia	North America	Europe	Others
Asia	2002	22.077	49.5	23.5	17.2	4.9	2.9	1.9
	2004	31.109	49.5	21.3	19.8	4.6	3.3	1.5
	2006	42.517	51.9	22.1	17.6	3.9	2.7	1.6
NIEs-3	2002	5.509	57.1	17.0	17.7	4.2	2.3	1.8
	2004	6.514	56.7	11.8	22.0	5.8	2.7	1.0
	2006	8.763	59.8	10.1	21.9	4.2	2.5	1.5
Hong Kong	2002	2.168	31.9	39.9	15.1	9.5	3.0	0.6
	2004	3.216	30.0	39.5	13.8	12.8	3.6	0.3
	2006	3.196	34.8	38.4	14.7	9.0	3.0	0.2
China	2002	4.115	56.6	25.9	11.3	3.0	2.1	1.1
	2004	6.990	53.5	27.1	13.0	3.1	2.6	0.6
	2006	12.286	56.4	26.0	11.8	3.7	1.7	0.4
ASEAN-4	2002	9.244	43.6	24.2	20.1	5.7	3.7	2.7
	2004	12.794	46.5	19.9	23.6	3.3	4.0	2.7
	2006	15.974	45.9	24.2	19.6	3.3	3.8	3.1

Note: ASEAN-4=Indonesia, Malaysia, Philippines, Thailand; NIEs-3=Korea, Singapore,
Sources: Ministry of Economy, Trade and Industry (various years)

Table 2: Foreign Investment Motives Identified by Japanese Manufacturing Parents
(percent of replies, except number of replies for group totals; multiple replies possible)

Firm size, motives	2004	2005	2006
Large Firms: number of replies	482	546	487
Host governments encourage and protect investors	16	10	9
Availability of cheap, high-quality labor	52	37	37
Easy to hire (contract) technical workers	3	4	3
Easy to acquire parts and materials locally	14	9	11
Land and local capital are cheap	7	7	6
Possible to produce cheap, high quality goods for Japanese market	12	13	11
High demand or potential demand in the local market	70	67	74
High demand or potential demand in the third markets	22	22	24
Social overhead capital (mainly infrastructure) supply is adequate	10	11	8
Other Japanese firms have performed well	35	25	27
No Answer	5	12	3
Medium-large firms: number of replies	90	147	109
Host governments encourage and protect investors	10	8	8
Availability of cheap, high-quality labor	46	26	36
Easy to hire (contract) technical workers	3	3	4
Easy to acquire parts and materials locally	16	8	6
Land and local capital are cheap	13	8	12
Possible to produce cheap, high quality goods for Japanese market	18	14	15
High demand or potential demand in the local market	60	54	65
High demand or potential demand in the third markets	14	17	17
Social overhead capital (mainly infrastructure) supply is adequate	10	5	5
Other Japanese firms have performed well	48	33	34
No Answer	3	20	2
Small-medium firms: number of replies	126	230	149
Host governments encourage and protect investors	15	12	6
Availability of cheap, high-quality labor	56	35	46
Easy to hire (contract) technical workers	2	4	6
Easy to acquire parts and materials locally	10	9	11
Land and local capital are cheap	14	10	13
Possible to produce cheap, high quality goods for Japanese market	27	23	22
High demand or potential demand in the local market	48	42	58
High demand or potential demand in the third markets	10	15	24
Social overhead capital (mainly infrastructure) supply is adequate	5	4	10
Other Japanese firms have performed well	52	27	35
No Answer	4	20	1

Note: Large firms are those with equity of 1 trillion yen or more (all industries); small-medium firms are those with equity of 50 million or less (retail trade or services), 100 million yen or less (wholesale trade), or 300 million or less (other industries including manufacturing); medium-large firms are those with intermediate equity stocks.

Sources: Ministry of Economy, Trade and Industry (various years)

Table 3: Indexes for Overall Investment Attractiveness and Groups of Index Components, 2006-2008: Baseline Case (Representative Firm)

Group, Year	Year, Index Group, Number of Components	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
all.2006	OVERALL INVESTMENT ATTRACTIVENESS	100%	6.0	5.6	4.7	5.0	3.9	4.9	3.6	6.1	4.4	3.6
all.2007			6.1	5.5	4.8	4.9	4.0	4.8	3.6	6.1	4.4	3.7
all.2008			6.2	5.4	4.6	4.7	4.0	4.8	3.5	5.9	4.4	3.6
A.2006	Local market size, income, & access (10=large size, high income, preferential access; 1=small size, low income no preferential access); 8 components	23%	7.7	3.3	4.0	2.8	2.4	2.4	2.6	3.8	2.9	4.6
A.2007			8.1	2.9	3.8	2.6	2.9	2.6	3.1	3.7	2.9	4.6
A.2008			8.0	2.5	4.0	2.4	3.1	2.9	3.2	3.4	2.9	4.2
B.2006	Export market size & access (10=large size, preferential access, 1=small size, no preferential access); 23 components	22%	8.2	2.4	4.3	3.8	3.3	3.3	2.6	3.5	3.1	1.9
B.2007			8.3	2.4	4.2	3.7	3.3	3.6	2.6	3.4	3.1	2.4
B.2008			8.2	2.4	3.4	3.7	3.7	3.6	2.6	3.5	3.4	2.5
C.2006	Labor costs (10=low, 1=high); 20 components	9%	4.3	7.8	4.8	7.6	7.1	7.4	3.8	7.8	5.5	4.4
C.2007			4.7	8.0	5.0	7.0	6.7	7.2	3.8	7.8	5.1	4.1
C.2008			5.3	8.4	4.7	7.0	5.0	6.6	3.7	8.2	4.9	4.7
D.2006	Capital & land costs (10=low, 1=high); 8 components	5%	4.8	5.2	5.9	6.4	4.9	7.5	6.3	6.1	7.6	5.7
D.2007			5.2	5.8	6.1	6.7	5.0	7.8	6.5	5.9	7.3	5.4
D.2008			6.1	5.1	6.9	6.7	5.6	7.6	6.7	5.2	7.3	6.2
E.2006	Other local costs (suppliers, transportation, communication, utilities, fuel, business coordination (10=low, 1=high); 28 components	6%	5.6	8.3	7.4	8.2	4.4	8.0	4.2	7.9	6.2	3.9
E.2007			5.7	8.2	8.3	8.2	4.1	7.9	4.0	7.4	6.3	4.2
E.2008			6.5	8.0	7.7	8.0	4.2	7.9	3.5	7.6	6.4	3.9
F.2006	Costs of taxation (10=low, 1=high); 6 components	5%	4.3	7.7	7.0	6.4	6.6	6.9	6.5	9.0	6.7	4.8
F.2007			4.2	7.7	7.0	6.4	7.2	7.0	6.2	9.0	6.9	4.8
F.2008			5.5	7.7	7.1	6.4	7.3	7.4	6.4	8.8	7.3	4.8
G.2006	International trade costs (10=low, 1=high); 8 components	7%	4.5	9.9	5.3	7.1	4.8	6.0	5.4	9.7	4.4	1.5
G.2007			4.0	9.9	5.3	6.7	5.0	5.2	4.6	9.6	4.5	1.3
G.2008			2.8	9.7	4.7	5.8	5.0	4.8	4.1	9.2	4.5	1.3
H.2006	Costs related to foreign capital restrictions or lack of foreign and Japanese presence (10=low, 1=high); 13 components	9%	2.5	7.1	2.4	3.3	3.9	4.7	4.7	8.0	6.6	4.6
H.2007			2.1	7.2	2.5	3.2	3.6	4.4	4.3	8.2	6.4	4.7
H.2008			1.9	7.4	2.5	3.2	3.1	4.1	4.1	7.8	6.3	5.0
I.2006	Costs related to macroeconomic instability (10=low, 1=high); 10 components	7%	6.9	6.7	4.2	6.6	3.1	6.5	3.2	6.7	4.1	4.0
I.2007			6.8	7.1	4.9	6.8	4.1	6.0	3.5	6.7	4.6	4.0
I.2008			6.8	6.9	5.5	6.3	4.3	5.8	4.0	6.1	4.7	2.9
J.2006	Costs related to general governance (10=low, 1=high); 16 components	7%	2.7	9.0	5.4	6.6	2.8	6.4	2.2	9.9	4.6	2.6
J.2007			2.9	9.0	6.2	6.3	2.5	6.2	2.0	9.8	4.1	2.6
J.2008			3.3	8.8	5.9	5.9	2.1	5.4	1.6	9.9	3.3	2.5

Table 4: Scenarios for 2008: Values of the Investment Attractiveness Index Assuming Alternative Group Weights

Year, Index Group, Number of Components	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
1. Local market oriented index (A. Local market size, income, & access=45%, B. Export market size & access=0%, all others unchanged)	6.1	5.5	4.7	4.4	3.8	4.6	3.7	5.9	4.3	4.0
2. Export-market oriented index (A. Local market size, income, & access=0%, B. Export market size & access=45%, all others unchanged)	6.2	5.4	4.5	5.0	4.1	4.9	3.4	5.9	4.5	3.2
3. Cost emphasizing index: diversified emphasis (A. Local market size, income, & access=15%, B. Export market size & access=14%, all others increased 2% from baseline)	5.6	6.3	4.9	5.2	4.1	5.3	3.8	6.6	4.8	3.7
4. Cost emphasizing index: focus on labor costs (A. Local market size, income, & access=15%, B. Export market size & access=14%, C. Labor costs=25%, all others unchanged)	5.7	6.3	4.9	5.2	4.1	5.3	3.8	6.6	4.8	3.7
5. Cost emphasizing index: focus on capial and land costs (A. Local market size, income, & access=15%, B. Export market size & access=14%, D. Capital and land costs=21%, all others unchanged)	5.8	5.8	5.1	5.3	4.3	5.5	4.2	6.2	5.1	4.1
6. Cost emphasizing index: focus on other local costs (A. Local market size, income, & access=15%, B. Export market size & access=14%, E. Other local costs=22%, all others unchanged)	5.9	6.3	5.2	5.5	4.1	5.5	3.6	6.6	4.9	3.7
7. Cost emphasizing index: focus on taxation costs (A. Local market size, income, & access=15%, B. Export market size & access=14%, F. Taxation=21%, all others unchanged)	5.8	6.3	5.2	5.2	4.6	5.4	4.1	6.8	5.1	3.9
8. Cost emphasizing index: focus on international trade costs (A. Local market size, income, & access=15%, B. Export market size & access=14%, G. International trade=23%, all others unchanged)	5.3	6.6	4.8	5.1	4.2	5.0	3.8	6.8	4.6	3.3
9. Cost emphasizing index: focus on foreign restrictions & presence (A. Local market size, income, & access=15%, B. Export market size & access=14%, H. foreign restrictions & presence=25%, all others unchanged)	5.2	6.2	4.4	4.7	3.9	4.9	3.7	6.6	4.9	3.9
10. Cost emphasizing index: focus on macroeconomic instability (A. Local market size, income, & access=15%, B. Export market size & access=14%, I. Macroeconomic instability=23%, all others unchanged)	6.0	6.1	4.9	5.2	4.1	5.2	3.7	6.4	4.7	3.6
11. Cost emphasizing index: focus on general governance (A. Local market size, income, & access=15%, B. Export market size & access=14%, J. General governance=23%, all others unchanged)	5.4	6.4	4.9	5.1	3.8	5.1	3.3	7.0	4.4	3.5
ADDENDUM: Baseline Index (from Table 3)	6.2	5.4	4.6	4.7	4.0	4.8	3.5	5.9	4.4	3.6

Note: Please see Table 3 for baseline index group weights which are used for unchanged items.

Appendix A: Components of Group Indexes

This appendix highlights major details regarding the components of each group index. Please also see Appendix Tables 1 and 2 for further details regarding precise component definitions, related notes, sources, and indexed values for each index component.

A. Local Market Size, Income, and Access

The major component of this group is a simple measure of market size in the host economy, nominal GDP in U.S. dollars, which occupies 8 percent of the overall index. An important alternative would be to measure this factor (and other size and income factors) at purchasing power parity, which would have the effect of making poorer countries larger relative to rich countries and this is often done in the econometric literature requiring such measures (e.g., in the estimation of gravity models). However, the index uses the U.S. dollar alternative because it is believed that potential investors are more likely to make decisions on the basis of U.S. dollar (or yen) comparisons of size. Because investors are also likely to be attracted to rapidly growing markets, the real growth rate of GDP measured in local currency is also given a relatively large weight of 4 percent. Similar to gravity models the per capita incomes (in US$) and their real growth rates (in local currency) are also included but with much lower weights, 3 and 2 percent, respectively.[45]

This group also includes one measure of the degree of competition from local firms which has a 3 percent weight and three alternative measures of level of import which have a weight of 1 percent each (3% combined). The degree of competition from local firms is a complicated matter because stiff local competition can improve the overall business environment, promote growth, and actually encourage FDI. However, because many of the factors related to these encouraging factors are accounted for elsewhere in the index, stiff local competition is assumed to take markets away from competing MNCs and discourage FDI here. The effect of protection is also complicated and enters in two places in this index. In this instance higher protection is assumed to afford preferential access to the local market and encourage FDI.

B. Export Size and Access

This group contains 11 components related to the size of major export markets for Japanese manufacturing affiliates in Asian host economies and 11 components related to RTA membership and 1 related to WTO membership for those host economies. The size of a major market is measured the amount of imports by that market from a host economy. Import data are used because they are generally more accurate than export data and because they make it easier to consistently compare the access of the 10 host economies to a given market.[46]

Weights for the major export markets were first based on the shares of these markets in affiliate exports (e.g., from Table 1 and its sources). However, because this source only includes data on groups of export markets, these group shares were then divided up based on the country distribution of Japan's exports. Not surprisingly, this procedure resulted in a very large share for Japan (9%), with China (1.8%) and the United States (1.6%) following. Perhaps surprisingly, weights for Korea and Taiwan (1.1%) slightly exceeded than of the EU

[45] As noted in the gravity literature, the effect of the per capital income factor is potentially ambiguous if the investor is producing inferior goods or unusual demand-supply interactions exist (Lipsey and Ramstetter 2003). However, MNCs are usually thought to prefer high income markets and the index assumes this.

[46] It should also be noted that some countries report large imports from themselves; for example China reports that it imports a very large amount from itself. These flows are assumed to be irrelevant (=0) for the purpose of index calculation.

(1.0%), reflecting the relatively low amount of exports from Japanese manufacturing affiliates in Asia to countries outside the Asian region. Combined imports by the 11 major export markets account for 17.085 percent of the total index.

As indicate above, the RTA and WTO variables were defined by the author a discrete variable. This definition reflects the nature of the RTA involved or the date of WTO membership.[47] Weights for the RTA variables were generally given a weight equal to about one-tenth of the sum of weights assigned to the RTA variable and the related market size variable (imports by the market) for relatively open markets (e.g., Japan, Taiwan, Indonesia, Malaysia, Thailand, EU, United States) and about two-tenths of this sum for more protected markets (China, Korea, Philippines, Vietnam), though the weights are not always precise because of adding up constraints. Combined, these weights amount to 2.345 percent. The weight of WTO membership is slightly larger (2.57%) but this component has little influence because all host economies were treated as members for index purposes since 2007.

C. Labor Costs

The measurement of labor costs is always a problem because the ideal measure would reflect both the skill and productivity levels of employees in Japanese MNCs, as well as their wage and non-wage bills. However, even simple indicators like average wages for manufacturing are unavailable for Japanese MNCs or for manufacturing in many of the host economies studied. The index thus uses a number of other indicators to reflect labor costs. The two most important components from an economic perspective relate to the correlation between pay and productivity and wage flexibility (3.5% combined weight). The index also includes six components measuring nominal wages (largest weight given to factory worker wages), the minimum wage, and social security costs for Japanese firms operating in the capital cities of each host country as reported by JETRO (1.9%). These measures have the advantage of referring directly to Japanese firms, who often pay higher wages than other firms, but are not adjusted for productivity differences and are measured imprecisely.[48] Unfortunately, there is no better alternative known. There are also five components related to labor quality (1.5%), three about working hours and firing practices (0.9%), and four measuring the health related costs incurred by firms (1.2%).

D. Capital and Land Costs

Capital costs are reflected by the difference between lending and deposit rate and survey data evaluating the sophistication of capital markets (2% combined). This is a relevant variable because it reflects the difference between what a firm pays for a loan or earns from keeping cash reserves in the bank. Factory purchase prices, office rentals, and apartment rentals (2.25% combined) and three indicators of the procedures required when registering land or property (0.75% combined) are used to reflect the level of land costs in an economy. Note that the data on land price and rentals also come from JETRO's data on Japanese firm

[47] The eight RTA variables were defined to range between 10 (a customs union involving a major export partner) and 1 (no RTA). The maximum value in the sample was 7 (a free trade area and/or economic integration agreement) and there were also several 4s (partial scope agreements). This variable was also assigned the value of zero when the relevant RTA was meaningless by definition (e.g., China's RTA with China). The WTO variable was defined as 5.5 for Vietnam in 2006 because it became a member in year t+3 (2009) and 10 for all observations in the sample which met this criteria. Membership in year t+3 is used as the criterion because it requires a substantial amount of liberalization to approach membership.

[48] Note that these wages are often presented in ranges and the wage figures used in the index were calculated as the mean of the maximum and minimum values given.

operations and are subject to the same imprecision that affect estimates of labor costs from this source. However, these data are also the only know hard data on relevant land costs.

E. Other Local Costs

This group of indicators is the largest in the index (28 components) and is quite diverse, covering five distinct aspects of business operations. There are five components related to the local suppliers, their ability to innovate and maintain high auditing standards (1.8% combined weight). Of these, survey evaluation of local supplier quantity and quality are most important (1.4% combined). Next there are six components related to transportation infrastructure and costs (1.4% combined). Half of this is accounted for by three components related to shipping infrastructure and costs. Reflecting dramatically lower communications costs in most economies in recent years, the six communications-related components have a very low weight (0.8% combined), half of which is split between the cost of calling Japan and the cost of internet access. There are five components related to utilities and fuel (1.0% combined). All are weighted equally, with two relating to electricity costs, two to fuel costs, one to water costs. The last subgroup relates the business coordination and procedures and contains six equally weighted items (1.2% combined).

F. Costs of Taxation

The group consists of 4 components measuring tax rates and 1 each measuring the time it takes to pay taxes and whether the host economy has a dual taxation treaty with Japan. Because of uncertainty over tax rate estimates, the index includes the corporate rate (1.5% combined), the aggregate national tax burden (1.0%), and the value-added or general sales tax rates (VAT or GST, 0.5%). The other two components have similar weights (1% each).

G. Costs Related to International Trade

The majority of this group consists of the inverses of the same three components used to measure import protection in Group A (local markets) above. In other words, higher protection encourages some MNCs seeking to serve the local market in protected markets and importing little but discourages MNCs that import a lot, sell little in the local market or operate in unprotected markets. On balance, the costs of high protection are assumed to exceed the benefits for the average MNCs (5.25% combined weight in this group versus 3% in Group A). The remainder of this group consists of 5 components related to importing and exporting costs and procedures.

H. Foreign Ownership Regulations, Foreign Presence, and Currency Transactions

This group first consists of three equally-weighted components evaluating the ease of currency conversion and general restrictions on international capital movements (0.9% combined). One of these is an estimate of currency conversion costs made by the author, using the spreads between selling and buying rates at the Bank of Tokyo Mitsubishi UFJ to rank conversion costs in Japan.[49] There are also four related components measuring the cumulative levels of portfolio investment and official development assistance (ODA) relative to host economy GDP, two measuring total foreign presence (0.6% combined) and two measuring Japanese presence (1.0% combined). Six FDI-related indicators account for the vast majority of this group, however (6.5% combined). Two of these relate to general foreign

[49] The minimum value of 1 for costs of currency conversion was defined as the inability to convert anywhere while the minimum value in the sample was 5 (possible to convert in the local economy but not in Japan).

presence (1.5% combined) and two more relate to the policy environment (1.0% combined).[50] The largest individual components were two alternative measures of Japanese MNC presence in the host economy, ratios of cumulative Japanese FDI and the number of active Japanese MNC affiliates to host country GDP.

I. Macroeconomic Instability

The macroeconomic stability group consists of 10 interrelated components which are all weighted equally (0.7%) and can be grouped into five subgroups of closely related components. For example, the first subgroup comprises the short-term (annual) and mid-term (3 year average) inflation rates, which are defined as 10 if the fall between 0 and 2 percent. Deviations from that range, both inflation and deflation, result in lower ranks. The second subgroup includes the annual government deficit and the cumulative government debt, both as a ratio to GDP. Although evidence regarding the influence of exchange rates is not always clear, this index assumes a depreciating and a relatively stable rate will be evaluated highly by potential investors. The current account deficit, both the annual value and the five-year average are then used to reflect the influence of the external balance. Finally, ratios of international reserves to monthly imports and cumulative portfolio investment are also used to provide other perspectives on the external balance.

J. General Governance

The index also considers five subgroups of governance indicators which are given equal weights (1.4% each). Half of each subgroup is accounted for by indicators from Kaufmann et al (2008) and other indicators are taken from World Economic Forum (various years) or Heritage Foundation (2008).[51] The first group includes Kaufmann's looks at "political stability and absence of violence" index as well as 3 indicators of violence-related business costs. The second comprises Kaufmann's government effectiveness index and an alternative estimate of transparency in government policy making. Kaufmann's index of regulatory quality is then supplemented with an alternative measure of burdens imposed by government regulation. Kaufmann's rule of law index is then supplemented with two estimates of property rights and one each for intellectual property rights and the efficiency of the legal framework. Finally, Kaufmann's control of corruption index is supplemented with an alternative measure of the same thing and another measure of favoritism by government officials.

[50] One of these is the author's evaluation of nationalization risks, which were theoretically defined as 1=high and 10=low, but assigned values were 4 for China and Vietnam, 10 for Singapore, and 7 for all remaining countries in the sample.

[51] Kaufmann's voice and accountability index is not used here because of aforementioned evidence suggesting that the relationship between political rights and FDI is complicated and because the author is aware of many Japanese businessmen operating in Asia who express a clear preference for Singapore-style authoritarianism to more open democracy, for example.

Appendix Table 1: Indexes for Overall Attractiveness, Groups, and Individual Components, 2006-2008: Baseline Case (Representative Firm)

Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
all.2006	**OVERALL INVESTMENT ATTRACTIVENESS**	**100%**	**6.0**	**5.6**	**4.7**	**5.0**	**3.9**	**4.9**	**3.6**	**6.1**	**4.4**	**3.6**
all.2007			**6.1**	**5.5**	**4.8**	**4.9**	**4.0**	**4.8**	**3.6**	**6.1**	**4.4**	**3.7**
all.2008			**6.2**	**5.4**	**4.6**	**4.7**	**4.0**	**4.8**	**3.5**	**5.9**	**4.4**	**3.6**
A.2006	**Local market size, income, & access (10=large size, high income, preferential access; 1=small size, low income no preferential access)**	**23.0%**	**7.7**	**3.3**	**4.0**	**2.8**	**2.4**	**2.4**	**2.6**	**3.8**	**2.9**	**4.6**
A.2007			**8.1**	**2.9**	**3.8**	**2.6**	**2.9**	**2.6**	**3.1**	**3.7**	**2.9**	**4.6**
A.2008			**8.0**	**2.5**	**4.0**	**2.4**	**3.1**	**2.9**	**3.2**	**3.4**	**2.9**	**4.2**
1.2006	Size (GDP) of local market (US$ bil., 10=high 1=low); actual values or projections as of October 2008; source=WEO	8.000%	10.0	1.4	3.9	2.1	2.1	1.3	1.2	1.3	1.5	1.0
1.2007			10.0	1.4	3.5	1.9	2.0	1.3	1.2	1.3	1.5	1.0
1.2008			10.0	1.3	2.9	1.7	1.9	1.3	1.2	1.2	1.4	1.0
2.2006	Real growth of local market (local currency, average, years t-2 to t, high=10, low=1); actual values or projections as of October 2008; source=WEO	4.000%	10.0	5.2	1.0	1.6	2.1	2.9	2.3	6.2	2.0	6.2
2.2007			10.0	3.8	1.0	1.2	2.5	2.4	2.5	5.1	1.0	6.0
2.2008			10.0	2.5	1.0	1.1	2.7	2.7	2.3	3.5	1.2	5.2
3.2006	Income (GDP per capita) in local market (US$, 10=high 1=low); actual values or projections as of October 2008; source=WEO	3.000%	1.4	9.0	6.2	5.5	1.3	2.6	1.2	10.0	1.7	1.0
3.2007			1.4	8.6	6.0	5.2	1.3	2.6	1.2	10.0	1.8	1.0
3.2008			1.5	7.9	5.2	4.9	1.3	2.5	1.2	10.0	1.7	1.0
4.2006	Real income growth in local market (local currency, average, years t-2 to t, high=10, low=1); actual values or projections as of October 2008; source=WEO	2.000%	10.0	5.7	2.6	3.0	2.2	2.2	1.0	4.4	2.9	5.5
4.2007			10.0	3.8	1.9	1.9	1.9	1.2	1.0	1.7	1.8	5.0
4.2008			10.0	2.9	2.4	2.1	2.6	2.1	1.4	1.0	2.1	4.6
5.2006	Local competition in most industries (10=limited 1=intense); source=GCReos	3.000%	4.9	1.0	4.9	2.9	2.3	2.3	6.8	3.6	5.5	10.0
5.2007			7.3	1.0	4.6	2.8	5.5	3.7	10.0	5.5	7.3	10.0
5.2008			4.8	1.8	7.8	1.0	7.0	5.5	10.0	5.5	7.0	8.5
6.2006	Trade-weighted tariff rate in year t-1 (percent, 10=high 1=low); sources=GCRDAT, WTP; 2006 data refer to 2004 for Malaysia and Vietnam	1.000%	3.9	1.0	6.0	2.5	4.0	3.9	3.3	1.0	4.0	10.0
6.2007			4.5	1.0	6.0	2.5	3.8	4.3	4.0	1.0	3.6	10.0
6.2008			9.6	1.0	7.0	4.3	4.3	4.6	3.5	1.0	5.6	10.0
7.2006	Trade freedom (=lack of tariffs & non-tariff barriers) index for year t+1 (10=low freedom 1=high freedom); source=HF	1.000%	7.2	1.0	7.0	4.1	5.8	5.2	4.5	2.2	5.8	10.0
7.2007			7.9	1.0	9.0	3.3	7.1	6.3	5.5	2.4	6.5	10.0
7.2008			7.7	1.0	8.1	3.8	6.3	5.8	5.7	2.4	6.5	10.0
8.2006	Prevalence of trade barriers (10=strongly agree barriers reduce import competition 1=strongly disagree); source=GCReos	1.000%	8.3	1.0	6.5	4.5	5.8	5.8	6.5	1.0	8.6	10.0
8.2007			8.5	1.0	5.1	6.3	5.1	6.6	7.4	1.4	8.9	10.0
8.2008			8.3	1.0	6.3	7.3	5.7	8.0	9.3	2.3	9.3	10.0
B.2006	**Export market size & access**	**22.0%**	**8.2**	**2.4**	**4.3**	**3.8**	**3.3**	**3.3**	**2.6**	**3.5**	**3.1**	**1.9**
B.2007			**8.3**	**2.4**	**4.2**	**3.7**	**3.3**	**3.6**	**2.6**	**3.4**	**3.1**	**2.4**
B.2008			**8.2**	**2.4**	**3.4**	**3.7**	**3.7**	**3.6**	**2.6**	**3.5**	**3.4**	**2.5**
9.2006	Imports of Japan from host (US$bil, 10=high 1=low); sources=IFS, NSjp1, NSjp2	9.000%	10.0	1.0	3.0	2.4	2.7	2.1	1.5	1.5	2.2	1.3
9.2007			10.0	1.0	2.8	2.3	2.8	2.1	1.5	1.4	2.2	1.3
9.2008			10.0	1.0	2.8	2.3	3.0	2.4	1.5	1.4	2.2	1.5

Appendix Table 1: Indexes for Overall Attractiveness, Groups, and Individual Components, 2006-2008: Baseline Case (Representative Firm)

Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
10.2006	RTA involving Japan (10=customs union, 7=free tree area and/or economic integration agreement, 4=partial scope agreement, 1=none, 0=not an export market); source=RTA	1.000%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7.0	1.0	1.0
10.2007			1.0	1.0	1.0	1.0	1.0	7.0	1.0	7.0	1.0	1.0
10.2008			1.0	1.0	1.0	1.0	7.0	7.0	1.0	7.0	7.0	1.0
11.2006	Imports of China from host (US$bil, 10=high 1=low); sources=UNC, NSch1	1.840%	1.0	2.1	10.0	9.7	2.0	3.4	2.8	2.8	2.8	1.2
11.2007			1.0	2.1	10.0	9.8	2.1	3.5	3.0	2.5	3.0	1.3
11.2008			1.0	2.1	2.1	10.0	2.2	3.8	2.7	3.7	3.2	1.4
12.2006	RTA involving China (10=customs union, 7=free tree area and/or economic integration agreement, 4=partial scope agreement, 1=none, 0=not an export market); source=RTA	0.460%	0.0	7.0	1.0	1.0	4.0	4.0	4.0	4.0	4.0	4.0
12.2007			0.0	7.0	1.0	1.0	4.0	4.0	4.0	4.0	4.0	4.0
12.2008			0.0	7.0	1.0	1.0	4.0	4.0	4.0	4.0	4.0	4.0
13.2006	Imports of Korea from host (US$bil, 10=high 1=low); source=NSkr1	1.080%	10.0	1.4	1.0	2.7	2.6	2.3	1.4	2.1	1.6	1.2
13.2007			10.0	1.3	1.0	2.4	2.3	2.2	1.3	2.0	1.5	1.2
13.2008			10.0	1.3	1.0	2.2	2.3	2.2	1.4	2.0	1.5	1.2
14.2006	RTA involving Korea (10=customs union, 7=free tree area and/or economic integration agreement, 4=partial scope agreement, 1=none, 0=not an export market); source=RTA	0.270%	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14.2007			1.0	1.0	0.0	1.0	1.0	1.0	1.0	7.0	1.0	1.0
14.2008			1.0	1.0	0.0	1.0	1.0	1.0	1.0	7.0	1.0	1.0
15.2006	Imports of Taiwan from host (US$bil, 10=high 1=low); source=NStw1	1.116%	10.0	1.7	6.4	1.0	2.9	3.2	2.0	2.9	2.2	1.3
15.2007			10.0	1.6	5.9	1.0	2.9	3.0	1.7	2.5	2.2	1.3
15.2008			10.0	1.4	4.8	1.0	3.1	2.9	1.6	2.4	1.9	1.3
16.2006	RTA involving Taiwan (10=customs union, 7=free tree area and/or economic integration agreement, 4=partial scope agreement, 1=none, 0=not an export market);	0.124%	1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
16.2007			1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
16.2008			1.0	1.0	1.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0
17.2006	Imports of Indonesia from host (US$bil, 10=high 1=low); 2008 data refer to the first 8 months and include previously excluded imports through EPZs; sources=UNC, NSid1	0.225%	7.0	1.3	3.6	2.2	1.0	3.9	1.3	10.0	3.7	1.8
17.2007			8.8	1.4	3.9	2.4	1.0	6.9	1.3	10.0	4.9	1.9
17.2008			6.7	1.9	3.8	2.1	1.0	4.9	1.3	10.0	3.5	1.3
18.2006	RTA involving Indonesia (10=customs union, 7=free tree area and/or economic integration agreement, 4=partial scope agreement, 1=none, 0=not an export market);	0.025%	4.0	1.0	1.0	1.0	0.0	7.0	7.0	7.0	7.0	7.0
18.2007			4.0	1.0	1.0	1.0	0.0	7.0	7.0	7.0	7.0	7.0
18.2008			4.0	1.0	1.0	1.0	0.0	7.0	7.0	7.0	7.0	7.0
19.2006	Imports of Malaysia from host (US$bil, 10=high 1=low); 2008 data refer to the first 9 months; sources=UNC, NSml1	0.333%	10.0	3.0	5.0	5.1	3.8	1.0	2.6	9.7	5.1	1.8
19.2007			10.0	3.0	4.4	5.0	4.0	1.0	2.4	9.0	4.7	1.9
19.2008			10.0	2.9	4.3	4.5	4.3	1.0	2.0	8.9	5.0	2.0
20.2006	RTA involving Malaysia (10=customs union, 7=free tree area and/or economic integration agreement, 4=partial scope agreement, 1=none, 0=not an export market);	0.037%	4.0	1.0	1.0	1.0	7.0	0.0	7.0	7.0	7.0	7.0
20.2007			4.0	1.0	1.0	1.0	7.0	0.0	7.0	7.0	7.0	7.0
20.2008			4.0	1.0	1.0	1.0	7.0	0.0	7.0	7.0	7.0	7.0
21.2006	Imports of Philippines from host (US$bil, 10=high 1=low); 2008 data refer to the first 9 months only; sources=UNC, NSph1	0.216%	8.6	5.3	7.6	9.4	3.1	5.3	1.0	10.0	5.3	2.4
21.2007			6.9	4.3	5.8	6.9	2.9	4.3	1.0	10.0	4.4	2.3
21.2008			6.5	4.1	5.5	6.6	2.7	4.0	1.0	10.0	4.1	2.3

Appendix Table 1: Indexes for Overall Attractiveness, Groups, and Individual Components, 2006-2008: Baseline Case (Representative Firm)

Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
22.2006	RTA involving Philippines (10=customs union, 7=free tree area and/or economic integration agreement, 4=partial scope agreement, 1=none, 0=not an export market);	0.054%	4.0	1.0	1.0	1.0	7.0	7.0	0.0	7.0	7.0	7.0
22.2007			4.0	1.0	1.0	1.0	7.0	7.0	0.0	7.0	7.0	7.0
22.2008			4.0	1.0	1.0	1.0	7.0	7.0	0.0	7.0	7.0	7.0
23.2006	Imports of Thailand from host (US$bil, 10=high 1=low); source=NSth1	0.567%	10.0	2.0	4.4	4.4	3.3	6.6	2.4	4.8	1.0	1.6
23.2007			10.0	1.8	3.9	4.2	3.2	5.8	2.2	4.5	1.0	1.6
23.2008			10.0	1.9	4.1	3.8	3.4	5.4	2.0	4.2	1.0	1.6
24.2006	RTA involving Thailand (10=customs union, 7=free tree area and/or economic integration agreement, 4=partial scope agreement, 1=none, 0=not an export market);	0.063%	4.0	1.0	1.0	1.0	7.0	7.0	7.0	7.0	0.0	7.0
24.2007			4.0	1.0	1.0	1.0	7.0	7.0	7.0	7.0	0.0	7.0
24.2008			4.0	1.0	1.0	1.0	7.0	7.0	7.0	7.0	0.0	7.0
25.2006	Imports of Vietnam from host (US$bil, 10=high 1=low, 0=not an export market); sources=NSvi1, NSvi2	0.080%	10.0	2.8	5.8	6.9	2.2	2.8	1.4	8.6	4.7	1.0
25.2007			10.0	2.4	4.8	6.0	2.0	2.6	1.3	6.5	3.7	1.0
25.2008			10.0	2.5	5.1	5.8	2.0	2.5	1.2	6.4	3.8	1.0
26.2006	RTA involving Vietnam (10=customs union, 7=free tree area and/or economic integration agreement, 4=partial scope agreement, 1=none, 0=not an export market);	0.020%	4.0	1.0	1.0	1.0	7.0	7.0	7.0	7.0	7.0	0.0
26.2007			4.0	1.0	1.0	1.0	7.0	7.0	7.0	7.0	7.0	0.0
26.2008			4.0	1.0	1.0	1.0	7.0	7.0	7.0	7.0	7.0	0.0
27.2006	Imports of United States from host (US$bil, 10=high 1=low); source=NSus1	1.629%	10.0	1.0	2.2	2.0	1.2	1.9	1.1	1.3	1.5	1.0
27.2007			10.0	1.0	2.2	1.9	1.2	1.7	1.1	1.3	1.4	1.1
27.2008			10.0	1.0	2.1	1.8	1.3	1.7	1.1	1.3	1.5	1.2
28.2006	RTA involving United States (10=customs union, 7=free tree area and/or economic integration agreement, 4=partial scope agreement, 1=none); source=RTA	0.181%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7.0	1.0	1.0
28.2007			1.0	1.0	1.0	1.0	1.0	1.0	1.0	7.0	1.0	1.0
28.2008			1.0	1.0	1.0	1.0	1.0	1.0	1.0	7.0	1.0	1.0
29.2006	Imports of European Union (EU27) from host (US$bil, 10=high 1=low); sources=NSeu1, NSeu2	0.999%	10.0	1.3	2.6	2.0	1.3	1.5	1.0	1.6	1.4	1.0
29.2007			10.0	1.2	2.4	1.8	1.3	1.5	1.0	1.5	1.4	1.1
29.2008			10.0	1.2	2.3	1.7	1.3	1.5	1.0	1.4	1.4	1.1
30.2006	RTA involving European Union (10=customs union, 7=free tree area and/or economic integration agreement, 4=partial scope agreement, 1=none); source=RTA	0.111%	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
30.2007			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
30.2008			1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
31.2006	WTO member (10=member in year t, 5.5=member in year t+3, 1=not a member in t+3 or sooner); source=WTO	2.570%	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	5.5
31.2007			10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
31.2008			10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
C.2006	**Labor costs**	**9.0%**	**4.3**	**7.8**	**4.8**	**7.6**	**7.1**	**7.4**	**3.8**	**7.8**	**5.5**	**4.4**
C.2007			**4.7**	**8.0**	**5.0**	**7.0**	**6.7**	**7.2**	**3.8**	**7.8**	**5.1**	**4.1**
C.2008			**5.3**	**8.4**	**4.7**	**7.0**	**5.0**	**6.6**	**3.7**	**8.2**	**4.9**	**4.7**
32.2006	Correlation of pay and productivity (10=strong 1=weak); source=GCReos	3.000%	3.1	10.0	3.6	9.5	7.9	7.9	1.0	7.9	3.1	2.6
32.2007			3.6	10.0	4.9	7.4	6.8	7.4	1.0	7.4	1.6	1.6
32.2008			5.5	10.0	4.9	7.2	4.4	7.2	1.0	8.9	2.1	4.4

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Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
33.2006	Monthly wage in Japanese firms, general factory workers (US$, 10=low 1=high); source=JETRO	0.700%	10.0	1.0	1.7	3.5	9.9	9.5	9.6	7.5	9.9	10.0
33.2007			9.8	2.3	1.0	4.6	9.8	9.5	9.1	6.9	9.9	10.0
33.2008			8.8	7.4	1.0	5.3	9.6	8.6	9.0	4.8	9.1	10.0
34.2006	Monthly wage in Japanese firms, mid-level engineers (US$, 10=low 1=high); source=JETRO	0.300%	9.6	1.0	2.1	3.1	10.0	7.6	10.0	3.5	9.8	9.9
34.2007			10.0	1.0	1.3	4.9	9.7	7.5	9.5	3.0	9.4	9.5
34.2008			8.4	4.2	1.0	5.2	9.5	8.4	8.8	3.9	8.9	10.0
35.2006	Monthly wage in Japanese firms, mid-level management(US$, 10=low 1=high); source=JETRO	0.300%	8.6	1.0	4.7	3.7	9.8	6.9	9.7	3.0	9.9	10.0
35.2007			9.6	1.0	1.6	5.5	10.0	6.8	9.1	2.6	9.6	9.5
35.2008			6.3	1.3	2.4	4.9	9.1	6.5	8.3	1.0	7.1	10.0
36.2006	Monthly minimum wage level in Japanese firms (US$, 10=low 1=high); source=JETRO	0.100%	8.9	10.0	1.0	2.9	8.9	10.0	8.2	10.0	8.3	9.4
36.2007			8.9	10.0	1.0	3.4	8.8	10.0	8.1	10.0	8.3	9.4
36.2008			8.9	10.0	1.0	4.0	8.8	10.0	8.1	10.0	8.4	9.3
37.2006	Wage flexibility (10=wages are set by firms 1=wages are constrained by centralized bargaining); source GCReos	0.500%	6.4	10.0	7.3	8.7	6.0	7.8	1.0	8.2	2.8	2.8
37.2007			5.9	10.0	7.1	8.0	6.3	7.1	1.0	8.4	3.9	2.6
37.2008			5.5	10.0	6.0	8.2	4.2	6.0	1.0	9.6	3.3	1.9
38.2006	Social security cost in Japanese firms, firm contribution rate (percent, 10=high 1=low); source=JETRO	0.300%	1.0	10.0	6.9	8.3	8.5	7.6	9.6	7.3	10.0	5.9
38.2007			1.0	10.0	8.8	8.4	10.0	7.7	8.7	7.4	10.0	6.1
38.2008			1.6	10.0	1.0	8.6	10.0	8.0	9.7	7.2	10.0	6.5
39.2006	Social security cost in Japanese firms, worker's contribution (percent, 10=high 1=low); source=JETRO	0.200%	5.8	8.5	6.8	9.7	10.0	5.5	9.3	1.0	8.5	8.0
39.2007			5.8	8.5	7.4	9.5	10.0	5.5	8.0	1.0	8.5	8.0
39.2008			5.8	8.5	7.3	9.7	10.0	5.5	8.0	1.0	8.5	8.0
40.2006	Semiskilled labor supply, secondary enrollment rate in year t-2 (percent, 10=high 1=low); source=GCRdat	0.300%	3.2	6.5	8.1	10.0	1.0	4.1	6.8	9.9	4.5	3.5
40.2007			3.2	6.9	8.4	10.0	1.0	4.0	6.6	9.7	3.3	4.0
40.2008			3.7	6.1	9.0	9.3	1.0	2.2	5.5	10.0	4.3	1.1
41.2006	Skilled labor supply, tertiary enrollment rate in year t-2 (10=high 1=low); source=GCRdat	0.300%	2.0	3.5	10.0	8.8	1.8	3.2	3.2	5.2	4.5	1.0
41.2007			2.0	3.5	10.0	9.3	1.7	3.5	3.1	5.2	4.7	1.0
41.2008			2.3	3.5	10.0	9.2	1.8	3.1	3.1	6.0	4.9	1.0
42.2006	Labor quality, quality of education system (10=meets the needs of a competitive economy 1=does not meet the needs of a competitive economy); source=GCReos	0.300%	1.8	8.4	4.8	8.4	6.5	7.8	3.5	10.0	4.8	1.0
42.2007			2.9	8.1	7.3	7.5	6.2	7.8	4.0	10.0	4.8	1.0
42.2008			4.0	6.8	6.0	6.5	5.0	7.0	4.5	10.0	4.0	1.0
43.2006	Labor quality, quality of math & science education (10=among the best worldwide 1=lags far behind most other countries); source=GCReos	0.300%	4.3	8.5	6.9	8.2	6.7	7.9	1.0	10.0	5.4	4.1
43.2007			5.0	8.9	7.9	8.1	6.3	7.6	1.0	10.0	5.5	3.4
43.2008			5.5	8.2	7.3	7.9	4.9	6.4	1.0	10.0	4.3	2.8
44.2006	Labor quality, extent of staff training (10=companies invest heavily in training 1=companies invest little); source=GCReos	0.300%	1.0	8.7	9.1	9.1	4.6	9.6	5.1	10.0	6.4	1.0
44.2007			2.3	6.1	10.0	7.9	5.3	8.3	5.7	10.0	4.9	1.0
44.2008			3.8	5.3	8.1	6.7	4.8	6.7	4.8	10.0	2.9	1.0

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Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
45.2006	Rigidity of hours (employment, 10=rigid 1=not rigid); source=DB	0.300%	7.0	10.0	1.0	4.0	10.0	10.0	7.0	10.0	7.0	7.0
45.2007			7.0	10.0	1.0	4.0	10.0	10.0	7.0	10.0	7.0	7.0
45.2008			7.0	10.0	1.0	4.0	10.0	10.0	7.0	10.0	7.0	7.0
46.2006	Difficulty of firing (10=easy 1=difficult); source=DB	0.300%	4.0	10.0	5.5	4.0	1.0	5.5	5.5	10.0	10.0	4.0
46.2007			4.0	10.0	5.5	4.0	1.0	5.5	5.5	10.0	10.0	4.0
46.2008			2.5	10.0	5.5	4.0	1.0	5.5	5.5	10.0	10.0	4.0
47.2006	Firing costs (weeks of wages, 10=low 1=high); source=DB	0.300%	2.5	5.0	2.5	2.5	1.0	3.9	2.5	10.0	5.7	2.8
47.2007			2.5	5.0	2.5	2.5	1.0	3.9	2.5	10.0	5.7	2.8
47.2008			2.5	5.0	2.5	2.5	1.0	3.9	2.5	10.0	5.7	2.8
48.2006	Health-related costs, general (infant mortality in year t-3, percent, 10=low 1=high); source=GCRdat	0.300%	2.3	9.4	9.0	8.9	1.0	7.4	2.3	10.0	4.9	5.2
48.2007			2.3	9.4	9.0	9.2	1.0	7.4	2.3	10.0	4.9	5.2
48.2008			2.7	10.0	8.6	9.0	1.0	7.2	2.0	9.9	4.4	5.1
49.2006	Health-related costs, business impact of malaria (10=not a problem 1=extremely serious); source=GCReos	0.300%	1.0	7.3	4.6	9.1	10.0	7.3	1.0	5.5	7.3	4.6
49.2007			2.8	10.0	1.0	9.1	9.1	7.3	3.7	8.2	9.1	5.5
49.2008			4.3	9.2	1.8	10.0	1.0	4.3	1.8	8.4	7.5	3.5
50.2006	Health-related costs, business impact of TB (10=not a problem 1=extremely serious); source=GCReos	0.300%	5.2	8.9	6.8	7.9	10.0	7.4	1.0	8.9	7.4	5.2
50.2007			4.9	10.0	4.2	7.4	9.4	7.4	1.0	10.0	8.7	4.9
50.2008			5.8	8.9	4.7	8.4	3.6	6.3	1.0	10.0	7.9	3.6
51.2006	Health-related costs, business impact of AIDS (10=not a problem 1=extremely serious); source=GCReos	0.300%	3.8	7.8	3.3	6.1	10.0	3.8	1.6	6.6	1.0	3.8
51.2007			5.2	10.0	3.8	5.2	9.3	4.5	3.1	8.6	1.0	4.5
51.2008			7.4	9.5	5.8	7.4	4.2	5.2	5.8	10.0	1.0	4.2
D.2006	**Capital & land costs**	**5.0%**	**4.8**	**5.2**	**5.9**	**6.4**	**4.9**	**7.5**	**6.3**	**6.1**	**7.6**	**5.7**
D.2007			**5.2**	**5.8**	**6.1**	**6.7**	**5.0**	**7.8**	**6.5**	**5.9**	**7.3**	**5.4**
D.2008			**6.1**	**5.1**	**6.9**	**6.7**	**5.6**	**7.6**	**6.7**	**5.2**	**7.3**	**6.2**
52.2006	Interest rate spread (lending less deposit rates, 10=low 1=high); 2008 data are 10-month averages except for Taiwan (9 mo.) and Vietnam (8 mo.); source=IFS, NStw2	1.000%	4.7	1.0	10.0	8.9	2.2	5.3	2.4	1.8	6.4	4.8
52.2007			6.1	4.1	10.0	9.3	1.0	6.3	2.8	3.2	4.4	5.4
52.2008			5.6	2.0	10.0	9.2	1.0	6.2	3.2	1.8	2.7	6.1
53.2006	Financial market sophistication (10=good by international standards 1=poor by international standards); source=GCReos	1.000%	1.0	10.0	5.0	6.0	1.8	6.8	3.8	9.0	5.0	1.3
53.2007			1.5	10.0	6.7	5.6	2.5	7.2	4.1	9.2	5.6	1.0
53.2008			2.8	10.0	6.4	5.4	3.6	7.2	4.6	9.2	6.1	1.0
54.2006	Factory purchase or 30 yr rental (US$/sq m) in capital (10=low 1=high); source=JETRO	1.000%	9.2	6.6	7.1	1.0	9.6	10.0	9.4	8.0	9.3	9.1
54.2007			9.3	7.2	6.8	1.0	9.6	10.0	9.5	8.2	9.4	9.2
54.2008			9.2	6.7	5.9	1.0	9.5	10.0	9.5	6.6	9.1	9.6
55.2006	Office rental (US$/sq m per mo) in capital (10=low 1=high); source=JETRO	1.000%	3.3	3.0	1.0	8.3	6.2	8.9	10.0	3.6	9.0	5.9
55.2007			3.2	2.1	1.0	9.9	6.7	9.0	10.0	1.1	8.8	4.9
55.2008			6.7	1.0	5.6	9.8	8.8	8.3	10.0	1.2	9.3	6.9

Appendix Table 1: Indexes for Overall Attractiveness, Groups, and Individual Components, 2006-2008: Baseline Case (Representative Firm)

Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
56.2006	Apartment rental (US$/sq m per mo) in capital (10=low 1=high); source=JETRO	0.250%	1.0	4.1	7.3	8.1	6.7	10.0	7.9	6.7	8.3	6.6
56.2007			1.0	4.6	6.9	7.8	7.3	10.0	8.7	4.7	7.9	3.8
56.2008			1.0	3.9	7.7	8.4	7.6	10.0	8.6	2.2	8.2	5.8
57.2006	Land registration cost (percent of property value, 10=low 1=high); source=DB	0.250%	7.7	6.3	6.2	5.2	1.0	8.8	7.1	8.5	5.1	10.0
57.2007			7.7	6.3	6.2	5.2	1.0	8.8	7.1	8.5	5.1	10.0
57.2008			8.0	6.3	6.3	5.2	1.0	8.7	7.0	8.4	10.0	9.9
58.2006	Time required to register property (days, 10=short 1=long); source=DB	0.250%	8.3	6.7	9.4	9.8	7.7	1.0	8.0	9.6	10.0	5.9
58.2007			8.3	6.7	9.4	9.8	7.7	1.0	8.0	9.6	10.0	5.9
58.2008			8.3	6.7	9.4	9.8	7.7	1.0	8.0	9.6	10.0	6.5
59.2006	Procedures to register property (number, 10=few 1=many); source=DB	0.250%	7.0	5.5	2.5	8.5	4.0	5.5	1.0	8.5	10.0	7.0
59.2007			7.0	5.5	2.5	8.5	4.0	5.5	1.0	8.5	10.0	7.0
59.2008			7.0	5.5	2.5	8.5	4.0	5.5	1.0	8.5	10.0	7.0
E.2006	**Other local costs (suppliers, transportation, communication, utilities, fuel, business coordination)**	**6.0%**	**5.6**	**8.3**	**7.4**	**8.2**	**4.4**	**8.0**	**4.2**	**7.9**	**6.2**	**3.9**
E.2007			**5.7**	**8.2**	**8.3**	**8.2**	**4.1**	**7.9**	**4.0**	**7.4**	**6.3**	**4.2**
E.2008			**6.5**	**8.0**	**7.7**	**8.0**	**4.2**	**7.9**	**3.5**	**7.6**	**6.4**	**3.9**
60.2006	Local supplier quality (10=very good 1=very poor); source=GCReos	0.700%	5.5	10.0	8.7	9.4	8.1	10.0	4.9	5.5	6.1	1.0
60.2007			5.8	9.3	10.0	7.9	5.8	8.6	3.1	4.5	6.5	1.0
60.2008			10.0	10.0	7.8	7.8	4.4	10.0	1.0	5.5	7.8	1.0
61.2006	Local supplier quantity (10=numerous and include key items 1=largely nonexistent); source=GCReos	0.700%	3.5	10.0	8.4	10.0	5.1	8.4	3.9	8.4	5.9	1.0
61.2007			3.3	9.6	9.6	10.0	5.1	8.2	4.2	8.2	6.4	1.0
61.2008			4.7	9.5	7.9	10.0	5.2	7.9	4.7	8.4	7.4	1.0
62.2006	Value chain breadth (exporters are 10=present across the entire value chain 1=primarily limited to individual steps of the product chain); source=GCReos	0.100%	3.3	10.0	8.5	8.5	1.6	7.4	4.2	9.1	4.5	1.0
62.2007			3.1	9.7	10.0	8.3	3.1	7.6	4.5	9.0	3.8	1.0
62.2008			3.3	10.0	10.0	8.4	4.9	6.9	4.1	9.6	3.7	1.0
63.2006	Capacity for innovation (companies obtain technology from 10=formal research and pioneering new products 1=only from licensing or imitation); source=GCReos	0.100%	2.8	7.3	10.0	8.7	1.0	7.3	1.0	7.3	1.9	3.3
63.2007			3.6	5.1	10.0	7.4	2.1	6.3	1.0	6.3	1.8	3.3
63.2008			5.3	3.6	10.0	7.4	1.4	5.7	1.0	6.6	1.0	2.3
64.2006	Strength of auditing and reporting standards (10=extremely strong (world's best) 1= extremely weak); source=GCReos	0.200%	1.0	10.0	5.5	6.9	3.8	8.3	5.5	9.3	5.5	2.4
64.2007			1.0	10.0	7.0	5.9	3.6	8.1	5.5	9.6	5.5	1.4
64.2008			3.2	10.0	6.4	5.7	3.9	7.1	6.0	9.3	5.3	1.0
65.2006	Quality of roads (10=extensive and efficient by international standards 1=underdeveloped); source=GCReos	0.200%	4.7	9.2	7.1	8.4	1.0	8.0	2.0	10.0	6.7	1.8
65.2007			4.3	9.4	7.9	8.1	1.0	8.3	1.8	10.0	7.1	1.6
65.2008			4.5	9.6	8.2	7.8	1.0	8.0	1.7	10.0	6.5	1.2
66.2006	Quality of railroads (10=extensive and efficient by international standards 1=underdeveloped); source=GCReos	0.200%	5.1	10.0	7.8	8.2	2.4	7.5	1.0	8.8	4.7	2.0
66.2007			5.4	10.0	8.8	8.6	3.0	7.8	1.0	9.0	4.6	2.2
66.2008			5.7	10.0	9.2	9.0	3.0	7.5	1.0	8.8	3.7	2.2

Appendix Table 1: Indexes for Overall Attractiveness, Groups, and Individual Components, 2006-2008: Baseline Case (Representative Firm)

Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
67.2006	Container shipping cost to Yokohama (10=low 1=high); source=JETRO	0.200%	10.0	8.1	6.7	7.8	4.5	6.5	6.9	5.5	2.2	1.0
67.2007			10.0	7.6	9.5	9.2	1.5	7.0	4.2	5.2	1.0	2.5
67.2008			10.0	4.4	6.1	7.4	1.0	3.7	1.9	4.1	3.4	3.2
68.2006	Container shipping cost to Los Angeles (10=low 1=high); source=JETRO	0.200%	8.8	8.4	3.1	10.0	4.3	4.5	7.3	4.3	1.0	2.6
68.2007			8.1	7.4	9.6	10.0	2.4	3.8	7.3	4.4	1.0	6.0
68.2008			7.1	5.5	10.0	9.3	9.6	7.3	5.9	8.8	2.4	1.0
69.2006	Quality of ports (10=extensive and efficient by international standards 1=underdeveloped); source=GCReos	0.300%	3.6	9.4	6.6	7.0	1.0	7.8	1.6	10.0	5.6	1.6
69.2007			3.9	9.3	7.1	7.1	1.0	7.6	1.2	10.0	5.4	1.2
69.2008			4.4	9.6	6.4	7.1	1.5	7.5	1.9	10.0	4.6	1.0
70.2006	Quality of air transport (10=extensive and efficient by international standards 1=underdeveloped); source=GCReos	0.300%	1.0	9.4	6.1	6.9	2.1	7.5	1.8	10.0	6.1	1.3
70.2007			1.6	9.4	6.4	6.4	1.6	7.3	1.6	10.0	6.4	1.0
70.2008			2.5	9.4	7.0	6.4	2.5	7.3	1.6	10.0	6.7	1.0
71.2006	Cost of local phone line per month (10=low 1=high); source=JETRO	0.050%	9.6	3.7	9.7	6.6	8.3	7.1	1.0	7.6	9.7	10.0
71.2007			9.6	5.7	8.5	6.8	8.2	7.2	1.0	7.6	9.6	10.0
71.2008			9.6	5.1	8.8	8.5	8.6	7.5	1.0	8.1	9.6	10.0
72.2006	Cost of local call per 1 min; (10=low 1=high); source=JETRO	0.050%	8.7	10.0	8.7	8.4	8.7	8.7	10.0	9.2	1.0	9.3
72.2007			6.6	10.0	8.9	8.3	8.9	8.9	10.0	9.2	1.0	9.5
72.2008			7.8	10.0	7.0	9.6	8.5	9.3	1.0	9.4	2.5	9.7
73.2006	Cost of call to Japan (US$ per 3 min call, 10=low 1=high); source=JETRO	0.200%	2.2	10.0	4.9	7.3	1.0	6.5	7.1	7.7	6.4	6.3
73.2007			1.0	9.4	4.7	9.7	6.6	8.1	9.4	10.0	7.4	8.3
73.2008			1.0	4.9	4.8	9.8	1.6	7.5	9.7	10.0	6.8	9.1
74.2006	Cost of mobile phone access per month (US$, 10=low, 1=high); source=JETRO	0.050%	9.2	2.5	7.1	1.0	9.1	8.6	4.0	5.8	1.6	10.0
74.2007			9.3	1.0	7.2	3.0	9.6	8.8	4.3	6.0	3.3	10.0
74.2008			8.3	1.0	6.5	2.7	8.3	10.0	2.5	6.4	6.2	9.0
75.2006	Cost of mobile phone local call (US$ per 1 min call; 10=low 1=high); source=JETRO	0.050%	10.0	3.6	1.0	4.9	4.9	8.7	1.6	4.9	10.0	3.6
75.2007			10.0	9.9	7.0	8.2	1.0	9.4	5.5	7.0	8.8	8.3
75.2008			9.0	8.6	4.3	1.0	7.0	10.0	3.7	5.5	7.0	8.0
76.2006	Cost of best available broadband internet access per month (10=low, 1=high); source JETRO	0.200%	10.0	9.4	8.4	9.3	8.4	9.2	1.0	7.7	9.4	7.1
76.2007			10.0	9.7	9.2	9.7	4.3	9.7	2.2	1.0	9.7	6.8
76.2008			10.0	9.7	9.5	9.7	9.6	8.6	1.0	3.8	9.7	5.5
77.2006	Electricity costs per kwh, commercial (10=low 1=high); source JETRO	0.200%	7.0	1.0	9.1	8.7	10.0	9.1	4.0	5.0	9.9	8.7
77.2007			7.8	1.4	8.4	8.4	9.6	9.6	3.8	1.0	10.0	9.3
77.2008			8.9	2.4	10.0	9.5	6.7	8.9	2.3	1.0	7.8	8.5
78.2006	Quality of electricity supply (10=high 1=low); source JETRO	0.200%	2.1	10.0	8.3	7.8	1.0	7.5	2.4	9.7	6.6	1.0
78.2007			3.0	10.0	8.8	7.7	2.5	8.0	2.7	10.0	7.1	1.0
78.2008			4.9	10.0	8.7	7.9	2.8	7.7	3.6	10.0	6.9	1.0

Appendix Table 1: Indexes for Overall Attractiveness, Groups, and Individual Components, 2006-2008: Baseline Case (Representative Firm)

Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
79.2006	Water costs per cubic meter (industrial, 10=low 1=high); source=JETRO	0.200%	5.2	2.9	10.0	8.3	3.0	6.7	7.0	1.0	7.5	8.2
79.2007			5.5	3.4	9.9	10.0	2.1	6.9	6.8	1.0	7.3	8.3
79.2008			5.3	4.0	10.0	8.4	1.9	6.6	6.3	1.0	7.9	8.0
80.2006	Regular gasoline costs per liter (10=low 1=high); source=JETRO	0.200%	9.3	1.0	2.8	7.7	9.9	10.0	8.2	8.9	8.7	8.8
80.2007			8.8	1.0	2.5	7.7	10.0	9.7	8.1	5.9	8.5	8.7
80.2008			8.4	1.0	2.0	6.9	10.0	9.3	6.1	4.2	6.8	7.9
81.2006	Fuel oil costs per liter (10=low 1=high); source=JETRO	0.200%	8.1	1.7	1.0	6.9	8.9	10.0	7.0	6.3	7.6	8.5
81.2007			8.0	2.5	1.0	7.2	9.6	10.0	7.4	5.6	7.7	8.9
81.2008			8.2	3.7	1.0	6.8	10.0	9.8	6.0	5.0	6.4	8.5
82.2006	Cost of opening business (% of income per capita, 10=low 1=high); source=DB	0.200%	9.1	9.7	8.2	9.6	1.0	8.0	7.5	10.0	9.5	7.5
82.2007			9.1	9.7	8.1	9.6	1.0	8.0	6.5	10.0	9.5	7.8
82.2008			9.1	9.8	8.1	9.6	1.0	8.4	6.6	10.0	9.5	8.1
83.2006	Time to open business (days, 10=low 1=high); source=DB	0.200%	7.1	9.5	8.9	5.8	1.0	7.6	4.9	10.0	7.3	5.6
83.2007			7.3	9.5	8.9	6.1	1.0	8.3	5.2	10.0	7.5	6.0
83.2008			5.5	9.1	8.4	5.3	1.0	8.9	4.0	10.0	6.4	4.3
84.2006	Cost of contract enforcement (% of debt, 10=low 1=high); source=DB	0.200%	9.9	9.7	10.0	9.4	1.0	8.6	8.7	9.4	9.7	8.3
84.2007			9.9	9.7	10.0	9.4	1.0	8.6	8.7	9.4	9.7	8.3
84.2008			9.9	9.7	10.0	9.4	1.0	8.6	8.7	8.8	9.7	8.3
85.2006	Time to enforce contract (days, 10=low 1=high); source=DB	0.200%	6.4	8.9	8.6	5.1	4.4	4.0	1.0	10.0	5.5	7.8
85.2007			6.4	8.9	8.6	5.1	4.4	4.0	1.0	10.0	5.5	7.8
85.2008			6.7	9.2	9.0	5.3	4.5	4.1	1.0	10.0	5.7	8.1
86.2006	Cost of closing business (% of estate, 10=low 1=high); source=DB	0.200%	4.9	8.1	9.3	9.3	5.9	6.6	1.0	10.0	1.5	6.6
86.2007			4.9	8.1	9.3	9.3	5.9	6.6	1.0	10.0	1.5	6.6
86.2008			4.9	8.1	9.3	9.3	5.9	6.6	1.0	10.0	1.5	6.6
87.2006	Time to close a business (years, 10=low 1=high); source=DB	0.200%	7.1	9.4	8.7	8.0	1.4	7.2	1.0	10.0	6.5	2.3
87.2007			8.3	9.4	8.7	8.0	1.4	7.2	1.0	10.0	6.5	2.3
87.2008			8.3	9.4	8.7	8.0	1.4	7.2	1.0	10.0	6.5	2.3
F.2006	**Costs of taxation**	**5.0%**	**4.3**	**7.7**	**7.0**	**6.4**	**6.6**	**6.9**	**6.5**	**9.0**	**6.7**	**4.8**
F.2007			**4.2**	**7.7**	**7.0**	**6.4**	**7.2**	**7.0**	**6.2**	**9.0**	**6.9**	**4.8**
F.2008			**5.5**	**7.7**	**7.1**	**6.4**	**7.3**	**7.4**	**6.4**	**8.8**	**7.3**	**4.8**
88.2006	Total national taxes/GDP in year t-1 (10=low 1=high); for Korea and Vietnam 2008 values are assumed to be the same as 2007; sources=KI, NSsi1, NSth2, NStw3	1.000%	5.8	7.8	5.7	10.0	7.9	5.9	7.6	7.8	5.0	1.0
88.2007			5.5	7.8	5.6	10.0	8.1	6.3	6.8	7.5	5.7	1.0
88.2008			4.4	7.3	5.7	10.0	8.2	6.6	7.2	6.6	7.8	1.0
89.2006	Total corporate tax rate (percent, 10=low 1=high); source=DB	0.500%	1.0	9.9	8.7	7.8	7.9	8.1	5.6	10.0	7.8	7.4
89.2007			1.0	9.8	8.7	7.3	7.8	8.0	5.4	10.0	7.8	7.4
89.2008			1.0	10.0	8.5	7.4	7.9	8.3	5.7	9.4	7.8	7.4

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Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
90.2006	Top corporate tax rate for Japanese firms (percent, 10=low 1=high); source=JETRO	1.000%	2.0	10.0	4.9	6.1	3.6	4.6	1.0	8.7	3.6	4.6
90.2007			2.0	10.0	4.9	6.1	3.6	4.6	1.0	8.7	3.6	4.6
90.2008			6.1	10.0	4.9	6.1	3.6	5.6	1.0	9.7	3.6	4.6
91.2006	VAT or GST rate (percent, 10=low 1=high); source=JETRO	0.500%	1.0	10.0	4.7	7.4	4.7	2.1	4.7	7.4	6.3	7.4
91.2007			1.0	10.0	4.7	7.4	4.7	2.1	3.6	7.4	6.3	7.4
91.2008			1.0	10.0	4.7	7.4	4.7	2.1	3.6	6.3	6.3	7.4
92.2006	Average time to pay taxes (days, 10=short 1=long); source=DB	1.000%	2.6	9.7	7.8	7.4	5.3	8.7	8.7	10.0	8.1	1.0
92.2007			2.6	9.7	7.8	7.4	8.0	8.9	8.7	10.0	8.1	1.0
92.2008			6.1	10.0	8.4	7.6	8.3	9.4	8.9	10.0	8.3	1.0
93.2006	Dual tax treaty status with Japan (10=yes 1=no); source=NSjp3	1.000%	10.0	1.0	10.0	1.0	10.0	10.0	10.0	10.0	10.0	10.0
93.2007			10.0	1.0	10.0	1.0	10.0	10.0	10.0	10.0	10.0	10.0
93.2008			10.0	1.0	10.0	1.0	10.0	10.0	10.0	10.0	10.0	10.0
G.2006	**International trade costs**	**7.0%**	**4.5**	**9.9**	**5.3**	**7.1**	**4.8**	**6.0**	**5.4**	**9.7**	**4.4**	**1.5**
G.2007			**4.0**	**9.9**	**5.3**	**6.7**	**5.0**	**5.2**	**4.6**	**9.6**	**4.5**	**1.3**
G.2008			**2.8**	**9.7**	**4.7**	**5.8**	**5.0**	**4.8**	**4.1**	**9.2**	**4.5**	**1.3**
94.2006	Trade-weighted tariff rate in year t-1 (percent, 10=low 1=high); sources=GCRDAT, WTP; data refer to year t-2 for Malaysia and Vietnam in 2006	1.750%	7.1	10.0	5.0	8.5	7.0	7.1	7.7	10.0	7.0	1.0
94.2007			6.5	10.0	5.0	8.5	7.2	6.7	7.0	10.0	7.4	1.0
94.2008			1.4	10.0	4.0	6.7	6.7	6.4	7.5	10.0	5.4	1.0
95.2006	Trade freedom (=lack of tariffs & non-tariff barriers) index for year t+1 (10=high freedom 1=low freedom); source=HF	1.750%	3.8	10.0	4.0	6.9	5.2	5.8	6.5	8.8	5.2	1.0
95.2007			3.1	10.0	2.0	7.7	3.9	4.7	5.5	8.6	4.5	1.0
95.2008			3.3	10.0	2.9	7.2	4.7	5.2	5.3	8.6	4.5	1.0
96.2006	Prevalence of trade barriers (10=strongly disagree barriers reduce import competition 1=strongly agree); source=GCReos	1.750%	2.7	10.0	4.5	6.5	5.2	5.2	4.5	10.0	2.4	1.0
96.2007			2.5	10.0	5.9	4.8	5.9	4.4	3.6	9.6	2.1	1.0
96.2008			2.7	10.0	4.7	3.7	5.3	3.0	1.7	8.7	1.7	1.0
97.2006	Customs procedures (10=rapid & efficient 1=extremely slow & burdensome); source=GCReos; because this question was not asked in 2006, 2007 data are used for	0.750%	4.2	9.2	8.7	6.6	1.0	6.3	1.3	10.0	4.4	1.5
97.2007			4.2	9.2	8.7	6.6	1.0	6.3	1.3	10.0	4.4	1.5
97.2008			5.0	8.5	6.3	6.8	2.0	5.8	1.0	10.0	4.0	2.0
98.2006	Time to import (days, short=10, long=1); source=DB	0.250%	3.0	9.0	7.0	7.0	1.0	6.3	5.0	10.0	3.7	3.3
98.2007			2.1	9.3	7.4	6.6	1.0	5.9	4.4	10.0	5.9	2.5
98.2008			2.1	9.3	8.1	6.6	1.0	5.9	5.1	10.0	6.3	2.5
99.2006	Documents required for import (number, low=10, high=1); source=DB	0.250%	7.8	10.0	5.5	6.6	4.4	6.6	5.5	10.0	1.0	5.5
99.2007			6.4	10.0	6.4	4.6	6.4	4.6	2.8	10.0	1.0	2.8
99.2008			4.6	8.2	4.6	2.8	4.6	2.8	1.0	8.2	10.0	1.0
100.2006	Time to export (days, short=10, long=1); source=DB	0.250%	2.8	9.6	6.9	6.4	1.0	4.2	4.6	10.0	1.5	1.5
100.2007			2.4	9.5	7.2	6.2	2.4	3.8	4.3	10.0	4.3	1.0
100.2008			2.4	9.5	8.6	6.2	2.4	3.8	4.8	10.0	5.7	1.0

Appendix Table 1: Indexes for Overall Attractiveness, Groups, and Individual Components, 2006-2008: Baseline Case (Representative Firm)

Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
101.2006	Documents required for export (number, low=10, high=1); source=DB	0.250%	4.6	10.0	8.2	4.6	4.6	4.6	2.8	10.0	1.0	6.4
101.2007			3.3	10.0	10.0	3.3	7.8	3.3	1.0	10.0	3.3	5.5
101.2008			3.3	10.0	10.0	3.3	7.8	3.3	1.0	10.0	10.0	5.5
H.2006	**Costs related to foreign capital restrictions or lack of foreign and Japanese presence (10=low, 1=high)**	**9.0%**	**2.5**	**7.1**	**2.4**	**3.3**	**3.9**	**4.7**	**4.7**	**8.0**	**6.6**	**4.6**
H.2007			**2.1**	**7.2**	**2.5**	**3.2**	**3.6**	**4.4**	**4.3**	**8.2**	**6.4**	**4.7**
H.2008			**1.9**	**7.4**	**2.5**	**3.2**	**3.1**	**4.1**	**4.1**	**7.8**	**6.3**	**5.0**
102.2006	Cost of currency conversion (10=cheaply convertible in Tokyo & host economy 1=not possible to convert); source=NSjp4	0.300%	5.0	8.0	8.0	5.0	6.0	5.0	6.0	10.0	8.0	5.0
102.2007			5.0	8.0	8.0	5.0	6.0	5.0	6.0	10.0	8.0	5.0
102.2008			5.0	8.0	8.0	5.0	6.0	5.0	6.0	10.0	8.0	5.0
103.2006	Restrictions on capital flows (10=not restricted 1=restricted); source=GCReos; because this question was not asked in 2006, 2007 data are used for 2006	0.300%	1.0	10.0	8.4	4.1	8.4	5.7	4.4	9.7	2.9	3.5
103.2007			1.0	10.0	8.4	4.1	8.4	5.7	4.4	9.7	2.9	3.5
103.2008			1.0	10.0	5.6	4.3	7.0	5.4	4.5	8.9	2.6	3.7
104.2006	Heritage Foundation estimates of investment freedom (10=freedom (no restrictions) 1=no freedom (strong restrictions)); source=HF	0.300%	1.0	10.0	7.0	7.0	1.0	2.5	1.0	8.5	1.0	1.0
104.2007			1.0	10.0	7.0	7.0	1.0	2.5	1.0	8.5	1.0	1.0
104.2008			1.0	10.0	7.0	7.0	1.0	2.5	2.5	8.5	1.0	1.0
105.2006	Cumulative portfolio investment from the world, 1998 to year t-1/GDP in year t-1 (percent, 10=high 1=low); sources=IFS, NStw1, WEO	0.300%	1.1	10.0	2.5	5.7	1.1	1.0	2.3	2.9	1.4	1.0
105.2007			1.0	10.0	2.1	6.0	1.0	1.2	2.5	3.2	1.4	1.0
105.2008			1.0	10.0	2.0	4.4	1.2	1.6	2.0	2.6	1.3	1.8
106.2006	Cumulative portfolio investment from Japan, 1996 to year t (to Q3 in 2008)/GDP in year t (percent, 10=high 1=low); sources=NSjp2, WEO	0.500%	4.2	4.2	4.2	6.0	4.3	1.0	6.2	10.0	3.3	4.2
106.2007			1.1	2.8	2.1	3.3	1.6	1.0	3.7	10.0	1.0	1.4
106.2008			1.1	2.1	3.1	3.8	2.1	1.0	3.6	10.0	1.2	1.6
107.2006	Cumulative ODA from the world 1980 to year t-2/GDP in year t-2 (percent, 10=high 1=low); sources=OEC, WEO	0.300%	1.4	1.0	1.0	1.0	3.1	1.6	4.5	1.0	2.7	10.0
107.2007			1.4	1.0	1.0	1.0	3.2	1.6	4.5	1.0	2.7	10.0
107.2008			1.3	1.0	1.0	1.0	3.0	1.6	4.3	1.0	2.6	10.0
108.2006	Cumulative ODA from Japan 1980 to year t-2/GDP in year t-2 (percent, 10=high 1=low); sources=OEC, WEO	0.500%	1.5	1.0	1.1	1.0	4.7	2.7	7.9	1.0	5.2	10.0
108.2007			1.6	1.0	1.1	1.0	4.8	2.6	7.9	1.0	5.3	10.0
108.2008			1.5	1.0	1.1	1.0	4.3	2.7	7.5	1.0	4.8	10.0
109.2006	Cumulative FDI from the world 1998 to year t-1/GDP in year t-1 (10=high 1=low); sources=IFS, NStw1, WEO	1.000%	2.3	10.0	1.5	1.4	1.0	2.3	1.8	7.7	2.9	2.7
109.2007			2.1	10.0	1.3	1.4	1.0	2.2	1.7	7.4	2.6	2.5
109.2008			1.9	10.0	1.2	1.3	1.0	2.1	1.5	6.6	2.4	2.6
110.2006	Prevalence of foreign ownership (foreign capital is 10=prevalent & encouraged 1=rare & often limited or prohibited); source=GCReos	0.500%	4.5	10.0	3.8	6.9	9.0	6.5	4.1	10.0	3.1	1.0
110.2007			1.8	10.0	5.1	5.9	8.8	5.5	2.2	10.0	2.6	1.0
110.2008			1.0	10.0	4.9	4.5	6.5	4.1	1.8	9.2	2.6	1.0
111.2006	Business impact of rules on FDI (10=encourage FDI 1=discourage FDI); source=GCReos	0.500%	5.1	10.0	1.0	5.5	7.8	7.3	2.8	10.0	4.2	3.3
111.2007			4.0	9.5	4.0	4.5	7.0	6.0	1.0	10.0	3.5	3.5
111.2008			4.6	10.0	4.6	4.2	5.1	4.6	1.0	10.0	4.2	5.1

Appendix Table 1: Indexes for Overall Attractiveness, Groups, and Individual Components, 2006-2008: Baseline Case (Representative Firm)

Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
112.2006	Nationalization risk (10=low 1=high); source=author's evaluation	0.500%	4.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	4.0
112.2007			4.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	4.0
112.2008			4.0	7.0	7.0	7.0	7.0	7.0	7.0	10.0	7.0	4.0
113.2006	Cumulative FDI from Japan, 1996 to year t (to Q3 in 2008)/GDP in year t (percent, 10=high 1=low); sources=NSjp2, WEO	2.000%	1.6	5.8	1.0	1.4	3.1	5.0	5.7	7.4	10.0	4.7
113.2007			1.4	6.1	1.0	1.8	2.9	4.4	5.6	8.3	10.0	5.0
113.2008			1.0	6.2	1.1	1.6	2.4	4.1	5.2	7.5	10.0	5.1
114.2006	No of Japanese firms surviving to 2007 per US$bil of GDP in year t-1 (10=high 1=low); sources=NSjp5, WEO	2.000%	2.4	7.3	1.0	2.9	2.7	6.4	4.9	9.5	10.0	6.0
114.2007			2.4	7.9	1.0	3.2	2.4	6.4	4.7	9.7	10.0	6.8
114.2008			2.2	8.5	1.0	3.5	2.2	6.3	4.4	9.5	10.0	7.2
I.2006	**Costs related to macroeconomic instability**	**7.0%**	**6.9**	**6.7**	**4.2**	**6.6**	**3.1**	**6.5**	**3.2**	**6.7**	**4.1**	**4.0**
I.2007			**6.8**	**7.1**	**4.9**	**6.8**	**4.1**	**6.0**	**3.5**	**6.7**	**4.6**	**4.0**
I.2008			**6.8**	**6.9**	**5.5**	**6.3**	**4.3**	**5.8**	**4.0**	**6.1**	**4.7**	**2.9**
115.2006	Short-term consumer price inflation (annual, absolute deviation from 0-2 percent range, 10=low 1=high); actual values or projections as of October 2008; source=WEO	0.700%	10.0	8.6	8.5	10.0	1.0	7.5	5.7	10.0	6.8	4.8
115.2007			4.8	7.8	7.3	10.0	3.3	7.8	7.0	7.7	7.6	1.0
115.2008			9.0	9.7	9.7	10.0	7.5	9.2	7.3	8.9	9.3	1.0
116.2006	Mid-term consumer price inflation (3-year average, absolute deviation from 0-2 percent range, 10=low 1=high); actual values or projections as of October 2008;	0.700%	7.8	10.0	7.4	10.0	1.0	7.5	4.0	10.0	6.4	2.9
116.2007			7.6	10.0	7.7	10.0	1.0	7.4	4.9	10.0	6.5	2.7
116.2008			8.4	9.4	9.2	10.0	3.9	8.6	6.6	9.2	8.4	1.0
117.2006	Government deficit/GDP in year t-1 (percent, 10=high [surplus] 1=low [deficit]); source=GCRdata	0.700%	3.2	4.7	6.2	2.0	4.8	1.0	2.6	10.0	4.5	1.5
117.2007			3.1	7.7	5.8	3.7	3.1	1.0	3.3	10.0	5.1	2.6
117.2008			3.9	8.6	5.3	4.0	2.0	1.0	3.2	10.0	1.6	2.0
118.2006	Government debt/GDP in year t-1 (percent, 10=low 1=high); source=GCRdata; 2007 estimate used for 2006 in Korea	0.700%	8.1	10.0	7.7	6.6	5.8	6.0	4.0	1.0	5.8	5.2
118.2007			8.1	10.0	7.7	6.8	6.2	6.0	4.2	1.0	6.3	6.0
118.2008			8.4	10.0	7.8	6.9	6.7	6.2	4.8	1.0	6.5	6.1
119.2006	Percentage change in exchange rate (US$/domestic currency, annual, 10=low [cheaper] 1=high [more expensisve]); sources=see notes below table	0.700%	5.9	8.7	1.1	10.0	2.5	5.4	1.0	3.8	2.3	9.7
119.2007			5.7	9.6	7.3	10.0	9.2	4.3	1.0	5.3	2.1	9.8
119.2008			1.0	4.6	10.0	3.0	6.6	3.4	3.0	2.1	3.2	5.3
120.2006	Exchange rate variability (US$/domestic currency, coefficient of variation of monthly rates for 60 months previous, 10=low 1=high); sources=see notes below table	0.700%	8.8	10.0	1.0	7.2	5.4	8.8	6.7	6.3	5.8	8.7
120.2007			7.0	10.0	1.0	7.6	5.7	6.4	2.9	5.2	3.5	9.0
120.2008			4.2	10.0	1.7	7.6	5.5	5.0	1.0	3.9	2.8	8.7
121.2006	Current account deficit/GDP, annual (10=high[surplus] 1=low[negative]); actual values or projections as of October 2008; source=WEO	0.700%	4.9	6.0	1.4	4.0	2.3	7.7	3.0	10.0	1.5	1.0
121.2007			6.6	7.2	3.8	5.9	4.3	7.7	4.8	10.0	5.3	1.0
121.2008			7.2	7.8	4.0	6.7	4.4	8.7	5.1	10.0	5.3	1.0
122.2006	Current account deficit/GDP, 5-year average (10=high [surplus] 1=low [negative]); actual values or projections as of October 2008; source=WEO	0.700%	4.2	6.4	2.8	5.2	2.9	7.4	2.7	10.0	2.4	1.0
122.2007			4.9	6.5	3.1	5.1	3.1	7.5	3.4	10.0	3.0	1.0
122.2008			5.8	7.0	3.3	5.3	3.3	8.0	3.9	10.0	3.4	1.0

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Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
123.2006	International reserves/monthly merchandise imports		10.0	1.8	5.0	9.7	2.8	3.8	1.6	3.3	2.8	1.0
123.2007	(10=high 1=low); 2008 data are 10-month averages except	0.700%	10.0	1.2	3.6	7.3	2.5	3.2	2.0	2.7	2.6	1.0
123.2008	for Taiwan (9 mo.) and Vietnam (8 mo.); source=IFS,		10.0	1.2	1.9	7.7	1.0	3.4	3.5	2.1	2.7	1.0
124.2006	International reserves/cumulative portfolio investment		6.1	1.0	1.4	1.4	2.3	10.0	1.1	2.9	2.8	4.3
124.2007	(1998 forward) from world, end of year t-1 (10=high	0.700%	10.0	1.0	2.2	1.7	2.9	9.0	1.1	4.6	4.2	5.5
124.2008	1=low); sources=IFS, NStw2		10.0	1.0	1.9	1.8	2.2	4.6	1.5	4.1	4.1	2.5
J.2006			**2.7**	**9.0**	**5.4**	**6.6**	**2.8**	**6.4**	**2.2**	**9.9**	**4.6**	**2.6**
J.2007	**Costs related to general governance**	**7.0%**	**2.9**	**9.0**	**6.2**	**6.3**	**2.5**	**6.2**	**2.0**	**9.8**	**4.1**	**2.6**
J.2008			**3.3**	**8.8**	**5.9**	**5.9**	**2.1**	**5.4**	**1.6**	**9.9**	**3.3**	**2.5**
125.2006	Political stability & absence of violence in year t-1		4.7	10.0	7.7	7.9	1.0	7.4	1.8	9.9	3.3	7.0
125.2007	(10=stable and non-violent 1=instable and violent);	0.700%	4.4	9.4	6.9	7.5	1.3	6.7	1.0	10.0	2.4	7.0
125.2008	source=KF		4.7	9.6	7.4	7.5	1.9	6.6	1.0	10.0	2.1	7.0
126.2006	Business costs of terrorism (10=not significant		3.7	9.6	7.7	8.0	10.0	7.3	1.0	6.9	6.5	7.7
126.2007	1=significant); source=GCReos	0.200%	4.4	10.0	7.0	7.8	9.3	7.8	1.0	6.6	5.1	6.6
126.2008			5.3	10.0	6.8	7.1	6.0	5.7	1.0	6.4	3.9	4.6
127.2006	Business costs of crime and violence (10=not significant		1.0	9.3	4.1	5.8	5.8	5.5	1.7	10.0	4.5	3.1
127.2007	1=significant); source=GCReos	0.300%	1.8	10.0	5.5	6.3	7.1	5.1	1.0	9.6	4.7	3.9
127.2008			4.4	10.0	6.1	6.6	5.3	2.3	1.0	10.0	4.9	4.0
128.2006	Organized crime costs (10=not significant 1=significant);		1.0	8.1	4.9	5.2	6.5	6.8	2.0	10.0	4.2	2.6
128.2007	source=GCReos	0.200%	1.0	8.8	5.7	5.3	6.9	6.9	1.4	10.0	4.5	2.6
128.2008			2.4	8.7	6.4	6.0	4.6	3.7	1.0	10.0	4.6	1.9
129.2006	Government effectiveness in year t-1 (10=effective 1=not		2.3	8.2	6.0	6.4	1.0	6.0	2.3	10.0	3.9	1.6
129.2007	effective); source=KF	0.700%	2.6	8.6	6.3	6.3	1.0	5.8	2.3	10.0	3.3	1.2
129.2008			2.8	8.0	6.3	5.6	1.0	5.7	2.3	10.0	2.8	1.0
130.2006	Transparency of government policy making (10=firms are		3.5	8.3	4.0	6.8	1.0	8.0	4.3	10.0	6.5	3.8
130.2007	always informed about important changes 1=never	0.700%	4.3	9.0	6.5	7.0	1.0	7.8	4.8	10.0	6.3	4.3
130.2008	informed); source=GCReos		4.8	8.8	4.8	6.2	1.0	6.2	2.7	10.0	3.9	3.9
131.2006			2.2	10.0	6.1	7.2	1.4	5.1	3.0	9.9	4.7	1.0
131.2007	Regulatory quality in year t-1 (10=high 1=low); source=KF	0.700%	1.9	10.0	5.6	6.4	2.0	5.0	2.7	9.5	4.0	1.0
131.2008			1.7	10.0	6.1	6.3	1.5	4.7	2.2	9.9	3.1	1.0
132.2006	Burden of government regulation (requirements for		4.3	9.0	3.3	6.7	9.0	8.3	1.0	10.0	6.0	1.0
132.2007	permits, regulations, and reporting are 10=not burdensome	0.700%	4.5	8.4	6.8	6.1	5.5	7.8	1.0	10.0	5.2	1.3
132.2008	1=very burdensome); source=GCReos		4.6	7.6	4.3	4.6	3.4	5.8	1.0	10.0	3.4	1.0
133.2006			2.5	8.9	6.5	6.8	1.0	5.8	2.4	10.0	4.3	2.5
133.2007	Rule of law in year t-1 (10=strong 1=weak); source=KF	0.700%	2.0	8.9	6.2	6.2	1.0	5.7	2.0	10.0	3.7	1.9
133.2008			1.9	8.6	6.5	6.0	1.0	5.5	1.4	10.0	3.3	1.6

Appendix Table 1: Indexes for Overall Attractiveness, Groups, and Individual Components, 2006-2008: Baseline Case (Representative Firm)

Item. Year	Index Group, Component, Notes, Sources	Weight	China	Hong Kong	Korea	Tai-wan	Indo-nesia	Malay-sia	Philip-pines	Singa-pore	Thai-land	Viet-nam
134.2006	Property rights, Heritage Foundation estimate (10=freedom to protect property rights 1=no freedom); source=HF	0.200%	2.1	10.0	7.8	7.8	3.3	5.5	3.3	10.0	5.5	1.0
134.2007			2.1	10.0	7.8	7.8	3.3	5.5	3.3	10.0	5.5	1.0
134.2008			2.1	10.0	7.8	7.8	3.3	5.5	3.3	10.0	5.5	1.0
135.2006	Property rights, World Economic Forum estimate (10=clearly defined and well protected by law 1=poorly defined and not protected by law); source=GCReos	0.200%	1.7	9.6	6.8	6.4	1.0	8.2	3.2	10.0	6.4	3.2
135.2007			3.7	9.7	7.9	7.0	1.0	7.9	3.7	10.0	6.1	3.4
135.2008			5.5	9.4	6.7	7.3	1.0	7.0	2.5	10.0	4.6	3.7
136.2006	Intellectual property rights (10=strong and enforced 1=weak and not enforced); source=GCReos	0.150%	2.6	8.6	6.2	6.7	3.5	7.5	1.8	10.0	5.1	1.0
136.2007			2.6	8.1	7.9	6.6	1.8	7.1	1.8	10.0	4.4	1.0
136.2008			3.6	7.6	6.6	6.3	1.0	6.0	1.5	10.0	3.4	1.3
137.2006	Efficiency of legal framework (10=efficient and follows a clear, neutral process 1=inefficient and subject to manipulation); source=GCReos	0.150%	1.6	10.0	4.2	4.9	1.6	8.1	1.0	9.4	5.2	2.9
137.2007			2.6	10.0	6.9	4.4	2.2	8.1	1.0	10.0	5.0	3.2
137.2008			3.7	8.6	5.4	4.5	2.9	7.3	1.0	10.0	4.3	3.5
138.2006	Control of corruption for year t-1 (10=good 1=poor); source=KF	0.700%	1.5	8.5	5.1	5.6	1.0	4.3	1.8	10.0	3.0	1.3
138.2007			1.6	8.7	4.2	5.1	1.0	4.3	1.0	10.0	2.5	1.1
138.2008			1.4	8.2	4.4	4.6	1.2	3.9	1.0	10.0	2.0	1.3
139.2006	Heritage Foundation estimate of freedom from corruption (10=freedom (no corruption) 1=no freedom (widespread corruption); source HF	0.350%	2.3	8.6	4.5	5.6	1.0	4.6	1.4	10.0	3.0	1.5
139.2007			2.2	8.6	4.5	5.5	1.0	4.3	1.1	10.0	2.5	1.3
139.2008			2.5	8.7	4.6	5.4	1.0	4.6	1.3	10.0	2.3	1.4
140.2006	Favoritism by government officials (10=rare 1=pervasive); source=GCReos	0.350%	2.4	7.5	3.5	5.7	5.0	6.4	1.0	10.0	3.9	1.7
140.2007			2.3	7.8	7.8	4.9	4.2	6.5	1.0	10.0	4.2	2.3
140.2008			4.1	7.7	6.7	5.4	4.3	5.9	1.0	10.0	4.1	3.3

Notes:
Abbreviations used: EPZ=export processing zones; FDI=foreign direct investment; GDP=gross domestic product;
Sources for items 119 & 120 (exchange rates)=IFS, NSch1, NShk1, NSid2, NSkr2, NSml2, NSph2, NSsi2, NSth3, NStw1, NSvi3
With a few exceptions (items All index components are defined to vary between 1, which represents the least favorable value among the 10 East Asian economies in the sample, and 10, which represents the most favorable value in the sample. When the underlying data series is positively correlated with the investment index component, the following formala is used to calculate the index:
9*((Observed Value-MinimumValue)/(Maximum Value-Minimum Value))+1
When the underlying data series and the investment index component are negatively correlated the following formala is used:
11-(9*((Observed Value-MinimumValue)/(Maximum Value-Minimum Value))+1)

Appendix Table 2: Data Sources for Indexes of Investment Attractiveness and Source-specific Notes

Abbrev-iation	Source Details
DB	World Bank (2009)
GCRdat	Hard data from World Economic Forum (various years)
GCReos	Executive Opinion Survey data from World Economic Forum (various years)
HF	Heritage Foundation (2008)
IFS	International Monetary Fund (2009)
JETRO	Japan External Trade Organization (various years)
KF	Kaufmann et al. (2008)
KI	Asian Development Bank, *Key Indicators for Asia and the Pacific 2008* (http://www.adb.org/Documents/Books/Key_Indicators/2008/default.asp)
NSch1	General Administration of Customs of the People's Republic of China, *China's Customs Statistics* , December 2008
NSch2	People's Bank of China, http://www.pbc.gov.cn/diaochatongji/tongjishuju/gofile.asp?file=2008S08.htm
NSeu1	Eurostat, EU27 Trade Since 1995 By HS2-HS4 (database; http://epp.eurostat.ec.europa.eu/newxtweb/setupdimselection.do)
NSeu2	Eurostat, Euro/ECU exchange rates - Annual data (http://nui.epp.eurostat.ec.europa.eu/nui/show.do?dataset=ert_bil_eur_a&lang=en)
NShk1	Hong Kong Monetary Authority, http://www.info.gov.hk/hkma/eng/statistics/msb/attach/T060102.xls
NSid1	BPS-Statistics Indonesia, Foreign Trade Statistics, Selected Tables
NSid2	Bank Indonesia, http://www.bi.go.id/web/id/Moneter/Kurs+Bank+Indonesia/Kurs +Transaksi
NSjp1	Ministry of Finance, Trade Statistics of Japan (http://www.customs.go.jp/toukei/suii/html/time_e.htm)
NSjp2	Bank of Japan (2009)
NSjp3	Ministry of Finance, home page information on tax treaty status (http://www.mof.go.jp/jouhou/syuzei/siryou/182.htm)
NSjp4	Bank of Tokyo-Mitubishi UFJ, home page, data on TTS and TTB exchange rates (http://www.bk.mufg.jp/gdocs/kinri/list_j/kinri/kawase.html); index defined as 10=%difference between Tokyo TTS & TTB rates is 5% or less, 8=same difference is between 5% & 10%, 6=currencies with only a TTB rate in Tokyo, 4=currencies not traded in Tokyo
NSjp5	Toyo Keizai, *Kaigai Shinshutsu Kigyou Souran 2008* (A Comprehensive Survey of Firms Overseas), Tokyo: Toyo Keizai (in Japanese).
NSkr1	Korea Customs Service, Import/Export by Country (http://english.customs.go.kr/kcsweb/user.tdf?a=user.importexportcountry.ImportExportCountryAp
NSkr2	Bank of Korea, http://ecos.bok.or.kr/EIndex_en.jsp
NSml1	Department of Statistics, *Monthly External Trade Statistics* , November 2008
NSml2	Bank Negara Malaysia, http://www.bnm.gov.my/files/publication/msb/2008/12/xls/4.6.xls
NSph1	Central Bank of the Philippines, *Seletected Philippine Economic Indicators* , December 2008 (http://www.bsp.gov.ph/statistics/statistics_selected_monthly.asp)
NSph2	Bangko Sentral ng Pilipinas, http://www.bsp.gov.ph/statistics/spei_new/tab25.htm
NSsi1	Department of Statistics, *Yearbook of Statistics Singapore 2008* (http://www.singstat.gov.sg/pubn/reference.html#yos)
NSsi2	Monetary Authority of Singapore, https://secure.sgs.gov.sg/apps/msbs/exchangeRatesForm.jsp
NSth1	Bank of Thailand, External Sector Statistics (http://www.bot.or.th/English/Statistics/EconomicAndFinancial/ExternalSector/Pages/Index.aspx)
NSth2	Ministry of Finance, Thailand Public Finance Data (http://dw.mof.go.th/foc/gfs/c.asp)

Appendix Table 2: Data Sources for Indexes of Investment Attractiveness and Source-specific Notes

Abbrev-iation	Source Details
NSth3	Bank of Thailand, http://www2.bot.or.th/statistics/ReportPage.aspx?reportID=123&language=eng
NStw1	National Statistics R.O.C.(Taiwan), MacroStatistics Database (http://61.60.106.82/pxweb/Dialog/statfile1L.asp#)
NStw2	Central Bank of the Republic of China, *Financial Statistics Monthly, Taiwan District, the Republic of China* , December 2008 (http://www.cbc.gov.tw/ct.asp?xItem=32497&CtNode=943&mp=2)
NStw3	Ministry of Finance, *Monthly Statistics of Finance Taiwan Area, the Republic of China* , December 2008 (http://www.mof.gov.tw/engweb/ct.asp?xItem=44024&ctNode=683&mp=2)
NSus1	United States International Trade Commission, ITC Trade Data Web (http://dataweb.usitc.gov/scripts/prepro.asp)
NSvi1	Vietnam, General Statistics Office, Statistical Data (http://www.gso.gov.vn/default_en.aspx?tabid=472&idmid=3&ItemID=7659)
NSvi2	*Vietnam Economic Times* , Data delivered by email, January 2009
NSvi3	General Statistics Office, http://www.gso.gov.vn/default_en.aspx?tabid=462&idmid=2&ItemID=8186
OEC	Organisation for Economic Cooperation and Development, *International Development Statistics* , 2008 CD-ROM
RTA	World Trade Organization (2009b)
UNC	United Nations (2009)
WEO	International Monetary Fund (2008)
WTO	World Trade Organization (2009a)
WTP	World Trade Organization (various years)

Notes: Source abbreviations are the same as used in Appendix Table 1, which defines each index component in detail and gives index values for each component; all web pages accessed in January-February 2009.