SNAPSHOT ASIA

FIRST IN A SERIES OF REGIONAL SECTOR ANALYSES

2003 OCTOBER

Benchmarking FDI Competitiveness **in Asia**

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Benchmarking FDI Competitiveness in Asia, a study of foreign direct investment costs and conditions for two industries in six countries, was funded under the Miyazawa Initiative, a special component of the Japanese foreign assistance program intended to promote economic recovery in the countries most affected by the 1997 Asian financial crisis. The efforts of the Multilateral Investment Guarantee Agency (MIGA) under this initiative supported capacity building in the national investment promotion intermediaries of Korea, Thailand and the Philippines, as well as in raising awareness of the importance of non-commercial risk insurance in fostering the flow of foreign direct investment.

The Multilateral Investment Guarantee Agency of the World Bank Group was established in 1988 to promote the flow of private foreign investment to developing member countries. In pursuit of this objective, MIGA's Investment Marketing Services department offers technical assistance programs to develop and implement effective strategies for attracting and retaining foreign direct investment. This hands-on technical assistance focuses on three primary areas: dissemination of information on investment opportunities and business operating conditions in developing member countries through online services; capacity building of the organizations and institutions involved in the promotion of foreign investment; and, investment facilitation activities supporting the efforts of developing countries to identify and attract investment.

MIGA also offers political risk insurance coverage to eligible investors for qualified investments in developing member countries. MIGA insures against the following risks: transfer restriction, expropriation, war and civil disturbance, and breach of contract.

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BENCHMARKING FDI COMPETITIVENESS IN ASIA

First in a Series of Regional Sector Analyses

Foreign Direct Investment Costs and Conditions
For the Electronics and Shared Services Industries in Six Countries

Note: The outbreak of SARS (Severe Acute Respiratory Syndrome) occurred in several Asian countries during the final stages of the *Benchmarking FDI Competitiveness in Asia* study, primarily after Phase II company interviews. Consequently, this study does not attempt to assess the impact, if any, of SARS on investment decisions in the two sectors in any of the six participating Asian countries.

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Study and Analysis Overview

The basic premise behind the methodology is that countries can best compete for FDI by understanding the approach of an investor in search of a site.

Introduction

When a global corporation decides to locate a new facility, it may have literally hundreds of considerations to evaluate. Some are easily quantifiable as expenses that fall directly to the bottom line, such as labor costs, taxes and costs to build or rent space. Other considerations require more qualitative judgment, for example, the quality of roads, the efficiency of government services, and the lifestyle enjoyed by expatriate employees and their families. These too, are often related to productivity, and will likely affect the facility's overall performance. Together all the factors that must be considered, and how much each will influence the overall decision, reflect the corporation's individual strategy, leadership and operating requirements for its industry and customers. For instance, a business that relies on its interface with customers on another continent will value an ample pool of trained local managers, reliable electricity for phone and computer systems, good language skills among employees, and safe commuter transportation for night shift workers.

To systematically sort through these priorities across a universe of potential and existing sites, corporations often turn to a form of competitive analysis called benchmarking. Benchmarking is an evaluation of criteria that compares and contrasts performance among a group of competitors, and in doing so, develops measurements that result in a standard for "best practices" in the given field or area. First applied to improve manufacturing processes, benchmarking is now used across a wide range of organizational disciplines, including site selection and expansion. It is evolving from its roots as a method for purely quantitative, "boilerplate" comparison, to a highly customizable mechanism that emphasizes and reinforces strategic objectives, and identifies opportunities to gain added competitive advantage.

Benchmarking is particularly adaptable to the complex, high-stakes world of foreign direct investment (FDI). Through its collection of timely, "on-the-ground" information, benchmarking reduces a variety of risk factors for investors, which in turn, helps to foster increased FDI flow. In particular, the information that is compiled and quantified during a benchmarking study often relates to five categories of issues that are important to investors: 1) the country's business climate and government policy, 2) specific industry factors, 3) investment promotion services, 4) infrastructure, such as land and building space, power and telecommunications, and 5) labor.

For investment promotion intermediaries (IPIs), whose role is to attract and retain foreign direct investment, benchmarking provides a sharp view of the environment through the lens of potential investors. It is at once a methodology, a database and a tool for

Benchmarking captures a "snapshot" in time of competitive costs and conditions that impact foreign direct investment.

"product" differentiation. As a methodology, benchmarking structures the in-depth research and analysis of costs and conditions relative to competitive locations for a particular industry sector. The results create a database of comparable information on key factors corporations consider when choosing a site, or expanding within a region. Equipped with these findings, governments of countries, regions and provinces more thoroughly understand their relative strengths and weaknesses as locations for FDI. In turn, IPI managers are able to develop strategies that differentiate their locations among competitors, and position them more effectively for investment in targeted, well-defined industry sectors.

Benchmarking also helps IPIs to strengthen relationships with existing investors. Its use is an important step in developing effective "aftercare" initiatives, which focus on the imperative of retaining investors likely to expand their operations over time. Aftercare is an increasingly critical component of IPI strategic planning, given recent corporate downsizing and trends in disinvestment, and the reality that with fierce global competition for investment, FDI growth is often more likely to come through expansion from existing investors than from new ones.

This report summarizes a recent benchmarking study conducted by the Multilateral Investment Guarantee Agency (MIGA) that analyzed the investment climate for two sectors in six Asian countries. The study was designed to provide an overview of the competitive environment, but more importantly, to address the unique needs of each participating country in its aim to attract investment. The implications of the findings were discussed independently with the participating IPIs in the context of each individual country setting. Similarly, the findings are presented here in a format that focuses on each country's unique situation.

This approach, rather than a rank order presentation of countries by sector, places proper emphasis on the inherently customized nature of the corporate decision to locate a site, and on the resulting range of highly segmented, viable IPI strategies for increasing FDI. Every company has its own formula for weighing myriad considerations that influence the process; each location has its own set of opportunities to position for various niches of investors. Investment promotion intermediaries, policymakers, and investors should find this report useful because it helps to demonstrate both the complexity of the investment environment, and the depth and sophistication of the site selection process among investing corporations.

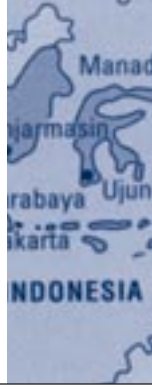
Background

In early 2003, MIGA launched a study to determine and compare operating costs and conditions in six Asian countries for two industries that are regionally strong in foreign direct investment. The two industries – electronics manufacturing and shared services – were analyzed in China, Indonesia, Malaysia, the Philippines, Thailand and Vietnam. The shared services industry incorporates regional headquarters (RHQs), call centers and shared support functions such as accounting, procurement, human resources, and administration.

At the time of the study, Asia's investment climate was very much defined in the context of recovery from the devastating financial crisis of the late 1990s, the impact of the global economic downturn of the recent past, and the events following September 11, 2001. Although markets and currencies have stabilized, investors remain tentative. In addition, FDI on a global basis is declining, and the Asian countries face increasing competition both in their region and worldwide.

The study was designed to set a baseline, or benchmark, across a range of factors against which relative strengths, improvements in the investment climate, and changes in sector dynamics could be measured. Benchmarking was a new and unique

Quality, standardized information about locations mitigates investment risk and furthers investment potential.

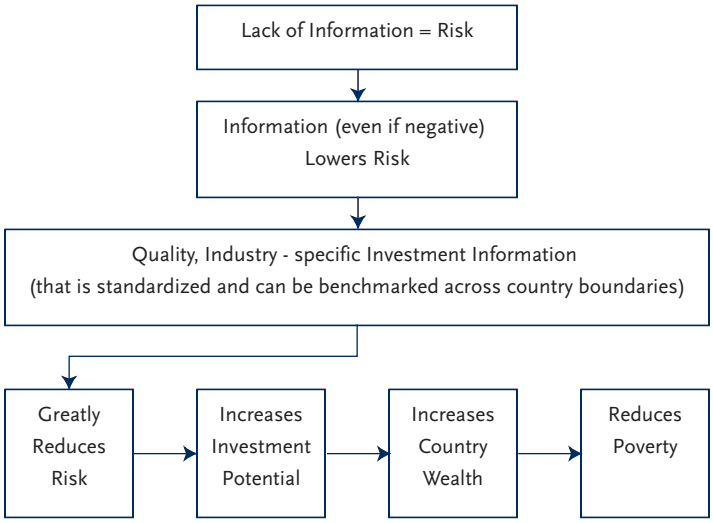


approach for the participating countries' IPIs. Although all the six countries are experienced in promotion activity, it has been very difficult for the IPIs to conduct the sort of analysis that will differentiate the countries in the marketplace, and help them compete for FDI. Specifically, they have not conducted in-depth research and analysis of costs and conditions relative to their competitors, which allows for positioning of country sites as "products" for investors to evaluate.

Mission

The study was based on MIGA's experience, and mission in general, that IPIs must dramatically improve their skills and capacities to compete for FDI. Research must extend beyond domestic borders. Investment policies and incentives, created through intelligent and accurate data collection, must be configured to the realities of the global marketplace. Given that mandate, the basic task was to create a scalable mechanism that would enable IPIs to systematically collect and analyze regionally comparative information. The perspective would reach broadly within the study's six-country region, yet pay particular attention to the motivations of key foreign investors operating in each participating country.

Figure 1: The Mission



Desktop research must be verified with live interviews to get an accurate reading of investors' actual costs and conditions.

The underlying theme of the project was that quality, standardized information, even if it is negative, mitigates investment risk and furthers investment potential, which in turn supports economic prosperity for the host countries. (See Figure 1: The Mission.)

Objectives

This study, the pilot for a broader competitive benchmarking program, was intended to equip the IPIs with both real-time, comparative information, and capacity-building knowledge that would help change the ways they operate within their competitive environment. The primary objective was to provide each IPI with a competitive "snapshot" of costs and conditions associated with the electronics and shared services industries, which could then be incorporated into FDI strategy and marketing efforts. The secondary objective was to develop a viable methodology that would serve as a template for future studies. Both objectives were to deliver an analytic tool that helps pinpoint opportunities, and generates maximum returns on resources and efforts for investing companies and IPIs alike.

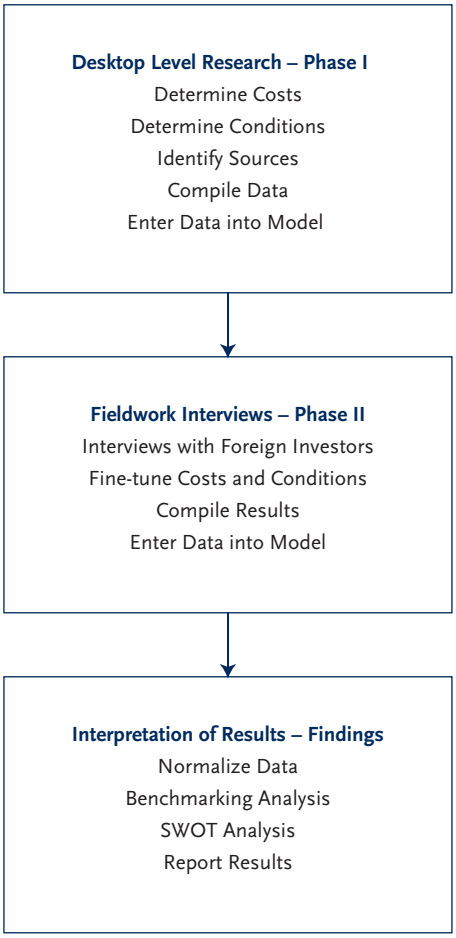
Methodology

The project methodology mirrored the type of analysis corporations often conduct in selecting a site location. Benchmarking was conducted in two phases: Phase I at the desktop level and Phase II at the fieldwork, or "due diligence" level. Regional consulting groups, Tractus and Brooker Policy Research, assisted MIGA in conducting the research in Asia.

Phase I. The team performed desktop research on eight critical site location factors, including labor and real estate costs and considerations, utilities, market access, taxes, transportation/shipping infrastructure, and business and living conditions. Using web-based and publication sources, Phase I determined the best sources for comparative information, accessibility of information, and the salient factors for each sector.

Phase II. The teams performed due diligence, conducting detailed interviews with 64 companies in either electronics or shared services at 69 operating units located in the six countries. (See box on next page: Profile of Phase II Company Interview Sample.)

Figure 2: Methodology Phases



Interview questions covered the same factors researched in Phase I, and interviewees were asked to provide answers on a scale of 1 to 5 for qualitative factors. Quantitative data from both phases was compiled and compared. (See Figure 2: Methodology Phases, and also Appendix 2: Methodology Sequence and Description.)

Once overall results for each country were compiled, the countries' costs and conditions were benchmarked against each other. Through a process of ranking and weighting, which takes into account the ascribed importance of each factor in the location decision, each country was given a composite score representing its relative competitiveness in each industry among the surveyed countries. The composite country scores are the basis for the examples, shown on matrices in Figure 3, which correlate costs against conditions and provide a sort of "cost-benefit" perspective for each country.

Factor Influences. Researchers developed two scenarios for each sector: 1) the competitive environment when all factors are treated as equal influences, and assigned no weighting, and 2) the same environment when factors are applied a weighting that recognizes varying degrees of factor importance in the location decision. The second scenario, which can be adapted to reflect an individual company's preferences, helps show how much the competitive environment is impacted by assuming some factors are more critical to investors' decisions than others. *However, it is not intended to represent an absolute competitive perspective, since factor influence is a highly subjective determination based on individual company goals and objectives.*

Desktop Research and Fieldwork Variances. In addition to country and sector findings, the study yielded results significant to its empirical model. Differences in results between Phase I desktop research and Phase II fieldwork research reinforced the logic and necessity of "interrogating" Phase I data with Phase II live interviews. Because much of the Phase I data was macro, and not specific to industry, and because Field II data was micro, at the individual company level, variations between the two phases were expected and did materialize.

For several factors, including some considered critical, discrepancies emerged between published data and information obtained directly from investors. The most dramatic example is in labor costs. The study determined labor costs in particular, are actually much lower in many cases – to the advantage of the IPIs in their promotion efforts – than was revealed through Phase I data. This was largely a function of the generic wage and benefit sources available at the desktop level that do not specify the norms within a particular industry. (See Figure 4, Differences in Reported Average Annual Labor Costs.)

Other discrepancies appear in labor conditions, real estate costs, and transportation/shipping infrastructure. In the case of utilities, telecom costs in every country were determined to be higher in Phase II research than in that of Phase I. Researchers concluded that Phase II fieldwork is essential to the process; Phase I analysis alone, although cost-efficient in its "desktop" logistics, may deliver misleading results that do not always accurately depict the competitive dynamics for all factors.

The ramifications for countries are significant, given that an estimated three-quarters of investing companies rely on desktop research to narrow their choices to a short list, or "first cut" of prospective locations that warrant visits and more in-depth fieldwork. The irony lies in that most desktop resources are based on information supplied by the countries. By providing information that does not always accurately

Profile of Phase II Company Interview Sample

- 64 total corporations; 69 distinct operating units
- 54% in electronics; 46% in shared services

- Over 60,000 total employees

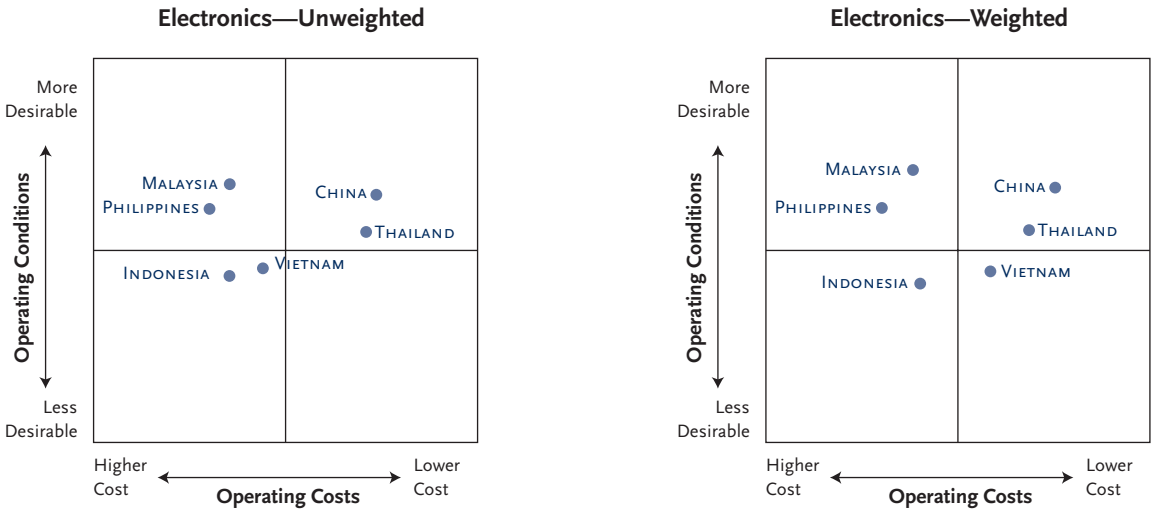
- 1,380 average number of employees in electronics operations
- 374 average number of employees in shared services operations

- 66% foreign ownership
- 31% joint ventures
- 3% domestic ownership

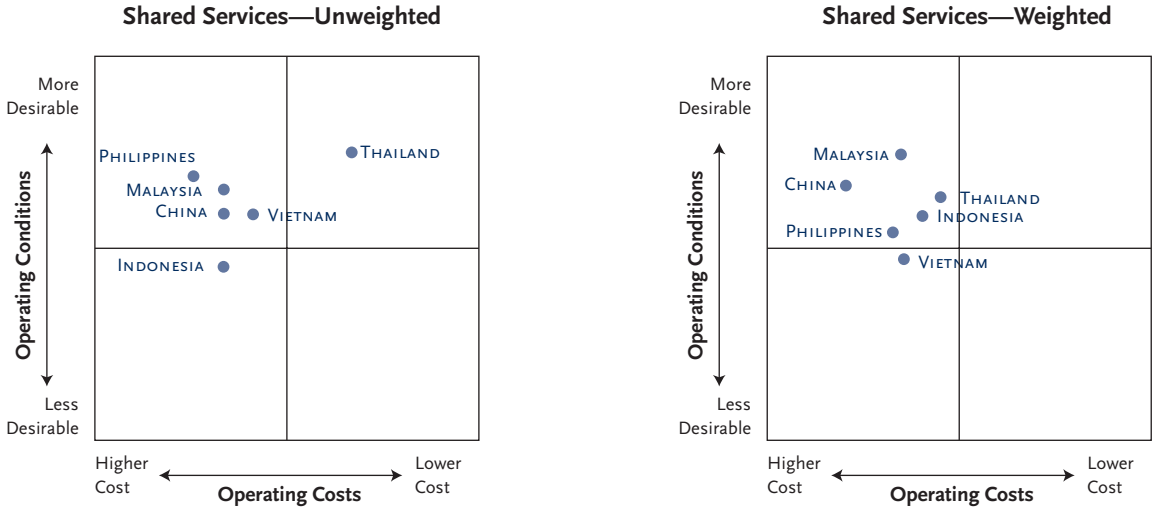
- 38% from United States
- 30% from Japan
- 17% from other Asia
- 9% from Europe
- 6% from Caribbean or other

represent their competitive advantages at the onset, the countries may set in motion a self-perpetuating, negative cycle that can limit their chances as first-cut candidates, and their overall ability to compete for FDI. The obvious remedy is for the IPIs to conduct interviews with existing investors to help substantiate the information released to commonly used resources for desktop research. (See Appendix 7: Comparisons between Phase I and Phase II Findings.)

Figure 3: Operating Costs and Conditions Matrices



The competitive landscape skews based on the relative importance assigned to the costs and conditions influencing the site selection process. *In the left-hand matrices, all factors are assigned equal importance by using unweighted scores, a useful basis for comparison, but not a realistic scenario from an individual investor perspective. The right-hand matrices reflect one of many possible weighted scenarios, taking into account that some factors may be more critical than others.*



Industry Context

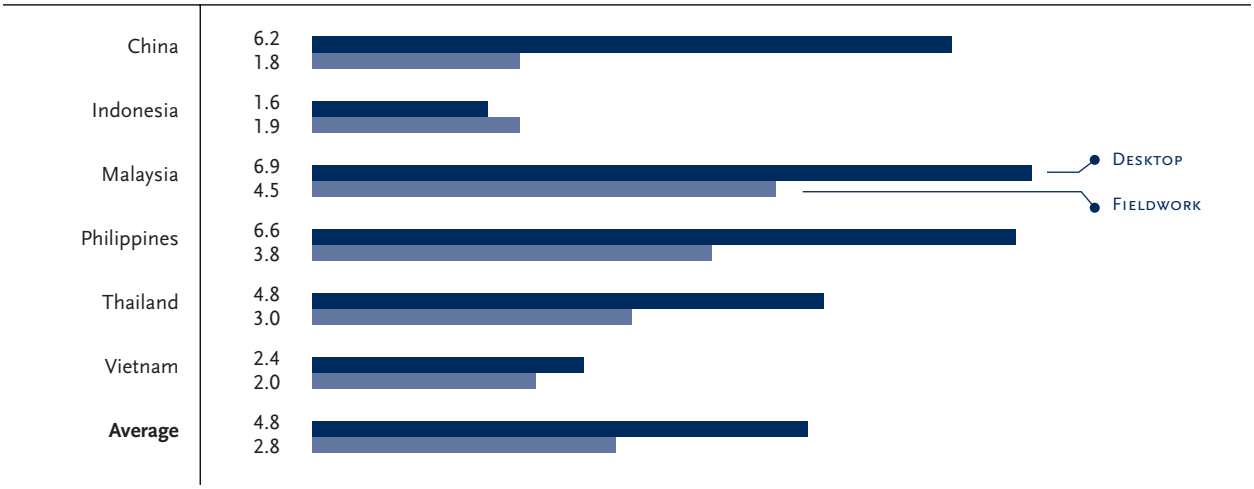
Electronics Manufacturing. The electronics manufacturing industry is thriving and diverse in the six surveyed countries, and FDI is predominantly driven by a focus on exports. In fact, electronics can represent up to a third of production for export. In the Philippines, electronics account for 33% of total exports, and in Malaysia, 30%. In several economies, the industry is both a major contributor to GDP (Gross Domestic Product), and a key driver behind planned growth.

Several trends emerge in market demand, technology development, and production:

- Products range from lower tech assembly to high-tech and high-value added operations, including research and development (R&D).
- Limited supplier bases and supporting infrastructure often require the import of materials and components, and signal opportunities for niche segmentation in FDI.
- Increasing consumer demand in the region's domestic markets for electronics – from basic kitchen appliances to personal computers and high-speed Internet applications – is an important factor in the development of technology and supplier networks.
- Production is primarily based in major metro areas, and in clusters, with new, major high-tech corridors developing in countries such as Malaysia.
- Industry consolidation of Asia-based factories may direct FDI to lower-cost production sites in the surveyed countries.

Shared Services. The shared services industry in the six surveyed countries is less developed than electronics, and by definition amorphous, incorporating a range of operations in three sectors – RHQs, call centers, and shared support. The shared support center typically

Figure 4: Differences in Reported Average Annual Labor Costs
Obtained through Desktop and Fieldwork Research
(For an average size electronics operation, in US$ M)



The average difference in annual labor costs for an electronics operation was more than 30% lower when the cost data was obtained through Phase II interviews, rather than through Phase I non-industry specific, published sources. *This table portrays annual labor costs in each subject country for an electronics operation of 1,380 employees, the average size of those interviewed in the electronics industry.*

The country findings reveal a complex competitive landscape ripe for differentiation and market segmentation.

provides various back-office functions, as either an expansion of company operations, or as a third-party provider. The shared service industry's growth and diversification in a given market are significantly determined by proficiency in the English language, and to a lesser degree, other regional languages. This is especially true for the international call center segment. The industry is growing rapidly as countries acquire expertise in one or more of the sectors, and no one country appears to have a stronghold in the entire shared services category to date.

FDI in shared services is in its early stages in at least one of the three sectors – RHQs, call centers, or shared support – per country. It is affected by corporate outsourcing and global operating plans, and by the opportunistic quality inherent in the business. The industry varies widely among surveyed countries, but can be generally characterized, as follows:

- The shared services industry tends to employ college-educated, white-collar workers with good English and office skills.
- While several countries are considered favorable environments for FDI in shared services, promotional efforts are not yet widespread, with the exception of a few incentive programs that are currently offered or in development.
- Shared support centers provide administration and accounting, customer support, procurement, and human resources functions.
- These centers often locate close to the main facilities to provide back-office functions, and in China, centralized support for multiple domestic operations.
- The international call center segment is undeveloped due to lack of proficiency in languages, except in the Philippines, and to a lesser extent, Malaysia.
- India and Australia are the main competitors outside the surveyed region for international call centers, as is Singapore for regional call centers.
- Australia and Singapore are the main competitors for RHQs.
- Call centers for serving the domestic markets are present in most of the participating countries.
- The surveyed countries may benefit as FDI relocates from high-cost to lower-cost locations.

Findings

The Phase II interview results were analyzed in order to present an interpretation of the findings that highlights strengths, weaknesses, opportunities and threats pertaining to each country's efforts to attract and retain FDI. Site selectors use this technique, called a SWOT analysis, to help evaluate potential locations. In this study, SWOT helps articulate the results at a level that can be acted upon in each IPI's individual situation and plans.

The country findings reveal a complex competitive landscape ripe for differentiation and market segmentation. No one country emerged as the clear leader across all factors and both industry sectors. Similarly, no country is too inexperienced, or too late, to compete in either field. The study suggests however, given the competitive environment, that certain opportunistic niches may offer the most viable entry strategies at this point in time.

Each country's situation is summarized below in two parts, beginning with an introductory background that briefly outlines the FDI history and climate when the study was conducted. (See also box on facing page: Surveyed Countries at a Glance.) Following these introductions are highlights of each country's SWOT interpretations. (See Section II, Country and Sector Findings for more detailed SWOT analysis by country.)

China

China is a country of huge proportions, ranking fourth worldwide in physical size, largest in its population of 1.3 billion, and seventh as a world economy. The World Bank estimates that by 2025 China will account for a quarter of the total global economy. China attracts over $40 billion in FDI annually, by far the vast majority of total FDI into Asia. Following more than two decades of near double-digit growth, China's total value of goods and services is growing about 7 percent a year, driven by increased domestic demand and its accession to the World Trade Organization (WTO).

China was able to weather the Asian financial crisis relatively unscathed, and has limited its external vulnerabilities by maintaining a high level of reserves and achieving favorable debt indicators. Lessons learned from the turbulent late 1990s have helped focus China's efforts on accelerating reforms of the state enterprise and corporate sectors. While it is too early to evaluate how successful China's entry into the WTO has been, especially given the WTO conditions related to intellectual property protection and structural reform, the FDI environment is perceived as generally positive.

Study Findings. A formidable competitor in the sheer size of its domestic market and diverse labor pool, and in expected economic growth, the study concluded China's superior package for electronics FDI includes the best-developed supply base among the countries surveyed, low-cost labor, and low-cost real estate and construction. Challenges include: onerous labor regulations that burden employers with heavy costs, and perceived differences in business culture that may make management more difficult. Quality standards, intellectual property protection and government transparency also need improvement.

China is so large that RHQs and coordinated domestic support functions or call centers are often necessary for multinationals to manage their China-based operations, an opportunity for increased FDI in shared services. New Shanghai RHQ incentives have been introduced to attract such investment. China is considered very competitive in telecommunications costs for the shared services industry. However, growth in shared services may be hindered by 1) the relatively less prevalent English language skills, 2) high service sector salaries, 3) high office leasing rates, and 4) statutory impediments.

Indonesia

Indonesia, the world's largest archipelago, has a large, ethnically diverse population that supports a rather robust domestic market and holds significant potential for consumer goods. Its well-developed petroleum industry helps fuel the GDP, which the World Bank estimates will grow at a rate of 3.3 percent in 2003. Considered one of East Asia's best performing economies prior to the Asian financial crisis, Indonesia grew at a rate of over 7 percent between 1985 and 1996.

Surveyed Countries at a Glance

	Population (M)	Surface Area ('000 km^2)	GDP (US$ B)	2001 FDI Net Inflows (US$ B)
China	1300.0	9598	1200.0	44.2
Indonesia	213.6	1905	145.3	3.3
Malaysia	23.8	330	87.5	.6 *
Philippines	78.3	300	71.4	1.8
Thailand	61.2	513	114.8	3.8
Vietnam	79.5	331	32.9	1.3

* Note: Malaysia's 2000 FDI net inflows were $3.8 billion.
Source: *World Development Indicators* Database

Since 1997 Indonesia has been experiencing disinvestment, although in early 2003 there are signs among foreign investors that some expansion of existing facilities is taking place. While Indonesia has successfully initiated many changes in its structural and political reforms, it continues to grapple with challenges that impact political and social stability, and in turn, direct investment, including: 1) alleviating widespread poverty, 2) implementing reforms of the banking sector and judicial system, 3) further addressing corruption and human rights, and 4) resolving increasing internal separatist pressures.

Study Findings. Indonesia is strong in lower-tech electronics, and very competitive in wages for unskilled and skilled electronics workers, and in other labor and building costs. Numerous electronic multinational corporations (MNCs) supply its large and underdeveloped domestic market, which is considered an opportunity for FDI in consumer electronics. Likewise, there is a large, untapped, domestic base of customers and future prospects for better services, although lack of English, relatively less-educated workers, and basic infrastructure issues are impediments to FDI.

In electronics, the poorly developed supporting industries for raw materials and intermediate components, a shortage of local technicians and managers, and the lack of standards and certification are seen as weaknesses. The limited high-bandwidth telecommunications infrastructure and associated high costs are considered impediments to FDI in shared services. Given the current economic and political environment, Indonesia is at risk of losing FDI in electronics to China, and of not keeping up with the RHQ incentives of other surveyed countries. Opportunity exists as investors 1) consolidate Asian-based electronics factories into lower-cost production sites, and 2) relocate RHQs from higher-cost locations, such as Singapore and Australia.

Malaysia

Malaysia, considered strong in its economic fundamentals, continues a gradual, broad-based recovery with intraregional trade and the accession of China into WTO aiding its economic and exports growth. The country is rich in oil and natural gas reserves, and has successfully leveraged these resources to develop infrastructure in both its urban and rural areas. The diversified economy is strong in both traditional sectors – petroleum, palm oil, and other commodities – and in modern sectors, notably electronics manufacturing. Malaysia was the most affected among the six surveyed countries by the recent global downturn in the electronics industry.

Although FDI into Malaysia declined in the late 1990s, the country has retained its stature as a strong competitor for FDI, particularly from investors based in the U.S. and Europe. It appears Malaysia is coping with increasing competitive pressure from China, and is benefiting from global FDI diverted as a result of outsourcing and relocation. Malaysia is currently focusing on new strategies, incentives and measures to encourage FDI and help develop more diversified sources of economic growth that reflect its transition from an investment-led to an innovation-led growth model.

Study Findings. High-value added technology helps power Malaysia's world-class electronics industry – which accounts for 18% of the country's manufacturing output – and incorporates a base of manufacturers across the supply chain. The Multimedia Super Corridor project aims to transform the economy through technology transfer, an improved base of "knowledge workers," clusters and incentives. In shared services, opportunity for FDI exists in the low-cost call center business, which is growing in Malaysia at a rate of 100-200% a year, bolstered by the country's multilingualism and the large domestic market for outsourced call center services.

Malaysia's utilities and infrastructure are considered well developed and reliable, and there is ample land and facilities for manufacturing operations. The quality of life for foreign management and workers in Malaysia is considered good. The English-speaking, skilled labor pool is also an advantage, although labor costs are the highest among countries surveyed for both industries, except at the management level in shared services. There is such a shortage of unskilled labor that it must be imported, a cumbersome process. In addition, the government restricts the total number of foreign laborers in the country at any one time by country of origin.

The Philippines

The Philippines, a mineral-rich archipelago of over 7,000 islands, has well-developed agriculture and manufacturing industries across a range of product sectors – food processing, textiles, furniture, aquaculture, home appliances, and high technology, including the

fast-growing microcircuits sector. In the first half of 2002, the economy grew in each major production category, strengthened by increases in manufacturing and exports. Recent growth in exports has been driven by market growth in other East Asian developing countries, whereas demand in the U.S. and Japan, the Philippines' largest trading partners, has been more restrained.

Although the Philippines did not experience a systemic financial crisis in 1997-98, financial volatility and a weak economy have presented continuing challenges, and poverty appears to have increased after falling sharply in the mid-1990s. Addressing fiscal policy and weakness in the banking sector, and implementing power sector reforms are central to the FDI outlook. The recent modest trade recovery, particularly in electronics exports, may be threatened by current global market factors.

Study Findings. The Philippines' highly educated, English-speaking workforce is considered one of the most technically proficient in Asia, and highly qualified in office and managerial skills. It helps drive the Philippines' well-developed semiconductor industry, and presents opportunity for FDI in shared services and high value-added technology niches. The third-party call center business is growing, boosted by domestic demand, although lack of facility in languages other than English is seen as a comparative weakness for the industry as a whole. The Philippines is viewed as a more cost-effective alternative to Singapore or Australia for shared services.

Proximity to the Subic/Clark industrial corridor – a major air express, cargo and logistics hub – presents an opportunity for electronics manufacturing operations in need of transportation access. Current efforts are focusing on critical upgrades of the transportation, telecom and power infrastructures in the Philippines, which are considered not yet sufficiently developed, especially the roads. Political and social instability, and terrorism are perceived to be threats to FDI.

Thailand

Over the past thirty years FDI has played a significant role as Thailand's economy evolved from an agrarian base to its present well-diversified structure. Following its early focus on import substitution through the creation of basic industries and diversified agriculture, Thailand turned to export-oriented policies that emphasized FDI in support of labor-intensive, export-oriented manufacturing, primarily from Japanese-owned corporations. In the early 1990s, the focus broadened to emphasize growth outside Bangkok into rural Thailand.

Thailand quickly emerged from the Asian financial crisis – a demonstration of the economy's resilience – although economic growth has not returned to pre-crisis levels. Issues related to financial and legal reform, to poverty, and to governance and the implementation of the new Thai Constitution remain challenges to further growth and economic development. The government embraces a transition toward a knowledge-based economy, and linkages between domestic and foreign firms to maximize technology transfer and development. Strategically situated in the heart of Southeast Asia, Thailand is favorably located for RHQs serving India, China, ASEAN and the Greater Mekong Sub-Region, and has become a gateway for investors to access nearby Cambodia, Lao PDR and Myanmar.

Study Findings. The study concluded that Thailand is competitive in labor costs, availability and productivity, and in its transportation and logistics infrastructure. Costs for electricity, high-bandwidth telecommunications and office/facilities leases are the lowest among the six countries surveyed. Thailand's high quality of life factors, the welcoming business culture, and political and social stability are seen as competitive advantages.

A shortage of engineers to fuel electronics industry growth and a poorly developed supply base are considered limiting factors for FDI. In shared services, relatively less proficiency in advanced English, other foreign languages and professional office trades, and a restriction on FDI in the services sector to minority shareholding are seen as challenges to investment. Opportunity for FDI exists in 1) just-in-time regional assembly operations for electronics, 2) higher value-added electronics component manufacturing for China-based assembly operations, and 3) shared services operations relocating from higher-cost Singapore and Australia.

Vietnam

The platform for FDI in Vietnam has improved significantly since the mid-1990s, when the lifting of the US trade embargo in 1994 prompted a rush of investment before the country had developed much basic infrastructure and a meaningful legal system for business. The effects of the Asian financial crisis have largely

Benchmarking offers a way to compare countries in different regions, and to measure progress in developing a competitive business environment over time.

subsided, giving way to strong potential for long-term growth and favorable investor reaction to government commitments to reform. In fact, as Vietnam continues a transition toward a market economy, it is poised for a new phase of high economic growth – possibly 7 percent per year – sustained by expanding domestic consumption, investment and export growth. The Vietnam-US bilateral trade agreement, effective in 2001, is expected to help boost exports.

The inflow of foreign capital, which marks the implementation of investment projects, is seen as stable, or on a modest upward trend, indicating an increasingly viable environment for FDI. Vietnam's burgeoning consumer market, coupled with both improved infrastructure in Hanoi and Ho Chi Minh City, and a strategic location for supplying China, are helping to make Vietnam a more interesting proposition to investors. Industrial parks are becoming more widely dispersed, although the rural areas remain relatively underdeveloped in terms of infrastructure, and in many areas, impoverished. Vietnam faces challenges in 1) addressing the third of its population living in poverty, and 2) ensuring that changes in its legal and administrative framework keep pace with economic growth.

Study Findings. Vietnam's relatively well-educated workforce and ample supply of low-cost unskilled labor have helped attract a base of major Japanese and Korean electronics manufacturers. An overall shortage of management-level employees, an underdeveloped transport, telecommunications and power infrastructure, and an inadequate base of supporting industries for electronics are considered relative weaknesses. Also, shipping costs are among the highest of those in the participating countries, and office lease costs are second highest after those of China. Service sector wages for skilled, technical and management employees are the lowest of those surveyed.

Opportunity for FDI in shared services exists in a small, but rapidly expanding high-growth software development sector, but the industry's opportunity as a whole is not yet fully understood by the government. Although there is a large, middle-class consumer market for electronics, risk exists in potential ASEAN Free Trade Agreement (AFTA) and WTO policies that threaten the viability of the entire industry in Vietnam.

Implications

Methodology and Future Study Design. The study has implications in its methodology for future studies, and as a practical, analytical framework to 1) understand the limitations in the investment environment, and 2) identify ways and means to address or rectify them.

The methodology utilizes a construct that compiles, clarifies and analyzes a magnitude of in-depth information on location costs and conditions relative to a country's competitors. For this study's participating countries in particular, the approach allows for a full sweep of intelligent and accurate data collection, both beyond their borders, and within each country among key investors. The results provide a solid basis of information for attracting and retaining investment, through:

- Benchmarking results, SWOT interpretations and study recommendations
- Improved, more complete information that fills gaps and upgrades quality
- Enhanced understanding of in-country investors, their goals and objectives
- A standardized platform that builds confidence among potential investors in IPI positioning
- A foundation for further studies, and more in-depth analysis on targeted areas
- The application of comparative information to business strategy and policy

The benchmarking methodology also offers a way to

The study enables fine-tuned, targeted IPI marketing programs that position strategic advantages from the investor's perspective.

measure progress in developing a competitive business environment over time, in Asia or other regions. The results from a six-country level can be considered together to glean a "snapshot" of the surveyed countries as a whole. In addition, this study can be repeated in Asia in two years for the same countries and industries, or expanded globally to other countries in developing regions, enabling comparisons between countries in different regions. The cross-regional comparison may hold the most value for the investment community; it most closely resembles the actual experience of investors in choosing sites, and of IPIs in competing for FDI in today's global environment.

Investment Promotion. The study's results and recommendations may be used to help shape FDI policy and business strategy, and as a template for future IPI-initiated studies. (See also box on next page, Common Themes: Improving the FDI Climate.) In particular, the study enables fine-tuned, segmented promotion for FDI in electronics and shared services, and targeted marketing campaigns that sell *strategic advantages from the investor's perspective.* (See box, Study Implementation: A Typical IPI Action Plan.)

The next steps also involve building capacity among the six Asian IPIs to conduct their own benchmarking studies, and to transfer these skills to regional and provincial IPIs in their countries. The process requires: 1) choosing important sectors, 2) mobilizing teams and resources, 3) performing the research and analysis, and 4) developing a comprehensive investor servicing program.

The final step lays the groundwork for expansion investment – which accounts for 42% of total global FDI – through the development of a comprehensive investor satisfaction "aftercare" program. The objective is to survey and identify current foreign investors' expectations and perceptions of the level of services provided by both the IPIs and their host governments. This process helps leverage the existing large base of investors, in order to effectively retain and expand their levels of FDI.

Study Implementation: A Typical IPI Action Plan

- Develop proactive business strategies based on the competitive environment.
- Identify ways to address limitations in the FDI marketplace.
- Advocate for policy and government reforms to improve the country's competitive position.
- Differentiate and position locations against regional competitors.
- Identify and develop new niches in electronics and shared services.
- Create more precise marketing programs and materials.
- Formulate a more meaningful "aftercare" program.
- Develop further studies using benchmarking and SWOT analysis.

Benchmarking studies benefit the FDI community by helping to channel investment to the advantage of investors and countries alike.

Conclusion

When MIGA conceived of this project its mandate was clear: how should the Asian IPIs view their markets to best compete for FDI? In many ways it is a familiar refrain about customers and prospects, and always about finding the right market niche. Yet this study is a reminder that only through competitive analysis, and in turn, clearly articulated differentiation does that "fit" become apparent.

While the study documents real-time information, its overall perspective is forward thinking. It reaches out and ahead to reveal potential niches and opportunities, and seeks to find the best fit for companies and sectors within the dynamic FDI climate. In this regard the methodology is ultimately pragmatic. It focuses on factors that influence actual investing companies, real investor perceptions and objectives, and information flows that support and sustain reform efforts to attract and keep FDI. In the end, the micro-level data collection and attention to subtleties – which allow for macro comparisons – bring clarity to a complex situation, and competitive realities to light.

Costs and conditions will always vary widely by industry, and even more so depending on the goals and objectives of individual companies. The experience in Asia is unique to six countries at this point in time, yet provides a window into FDI in a global context, and greater perspective for developing FDI in an increasingly competitive environment. *Benchmarking FDI Competitiveness in Asia*, and future studies that broaden the range of standardized, competitive information available to investors and the general public, benefit the FDI community as a whole by helping to channel investment to the advantage of investors and countries alike.

Common themes: improving the FDI climate

The SWOT analysis allowed researchers to develop strategic, country-specific recommendations, which are of a confidential nature and will not be released beyond the participating IPIs. However, several broad themes apply across the countries surveyed that help to illustrate areas where improvement will enhance the attraction of FDI in electronics and shared services.

Trade Policy Adopt WTO service industry agreements.

Education Develop curricula and training specific to information technology (IT), and also focus on the advanced office skills required for the shared services industry.

Government Procedures Improve government transparency, and cooperation between government agencies responsible for investment promotion, business licenses, and import/export matters.

Criminal Activity More vigorously prosecute smuggling and government corruption; protect intellectual property rights.

Deregulation Deregulate the telecommunications and utilities industries to help drive down costs for investors in both electronics and shared services.

Legal Reform Modernize the legal system, including labor laws; establish appropriate forums for settling labor/management disputes.

Statutory Requirements Eliminate statutory restrictions on how foreign companies can set up and operate.

Marketing Develop proactive marketing strategies that target specific niches and prospects, position against strong competitors, and focus on expansion investment.

Country and Sector Findings

The Phase II interview results were analyzed in order to present an interpretation of the findings that highlights strengths, weaknesses, opportunities and threats pertaining to each country's efforts to attract and retain FDI. This SWOT analysis is presented by country in this section, following Figure 5: Comparative Costs by Factor. (See also, Appendix 6: Detailed Findings – Phase II.)

Figure 5: Comparative Costs by Factor – Labor (Electronics)

The charts on this page compare Phase II labor costs and benefits by country, for the Electronics industry.

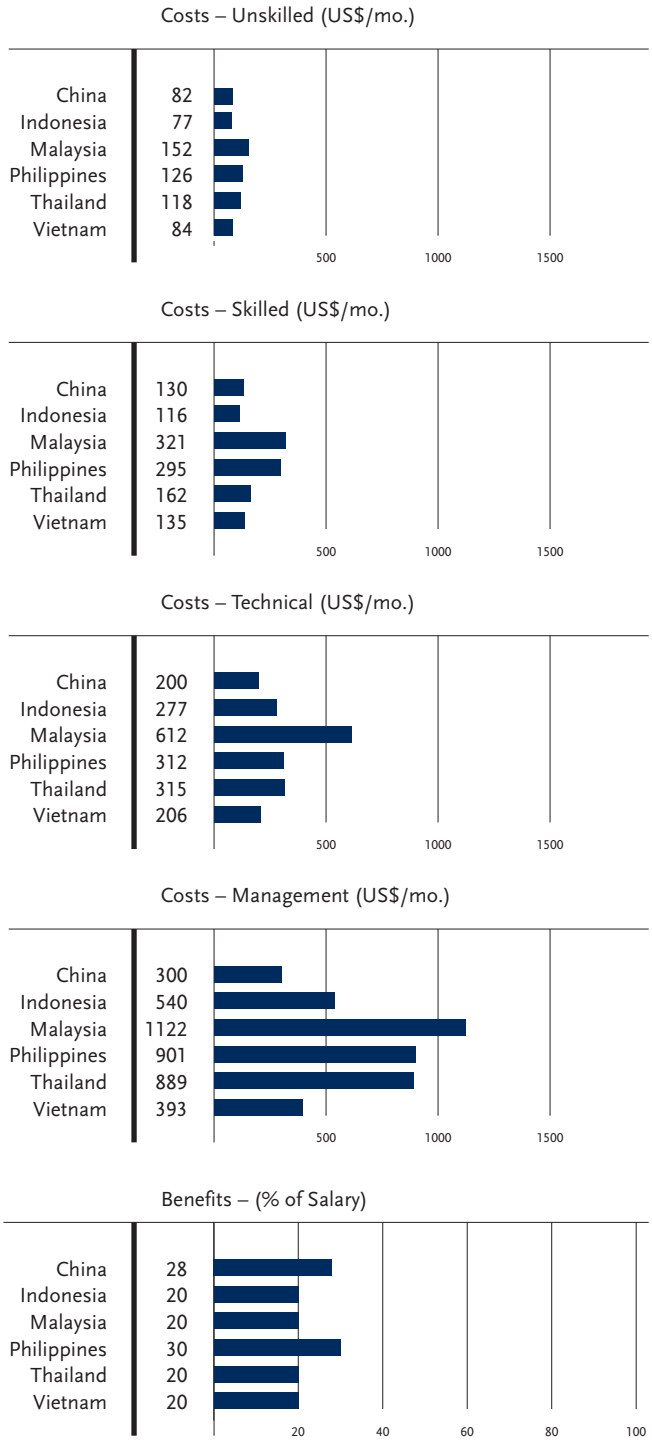


Figure 5: Comparative Costs by Factor – Labor (Shared Services) *(Continued)*

The charts on this page compare Phase II labor costs and benefits by country, for the Shared Services industry.

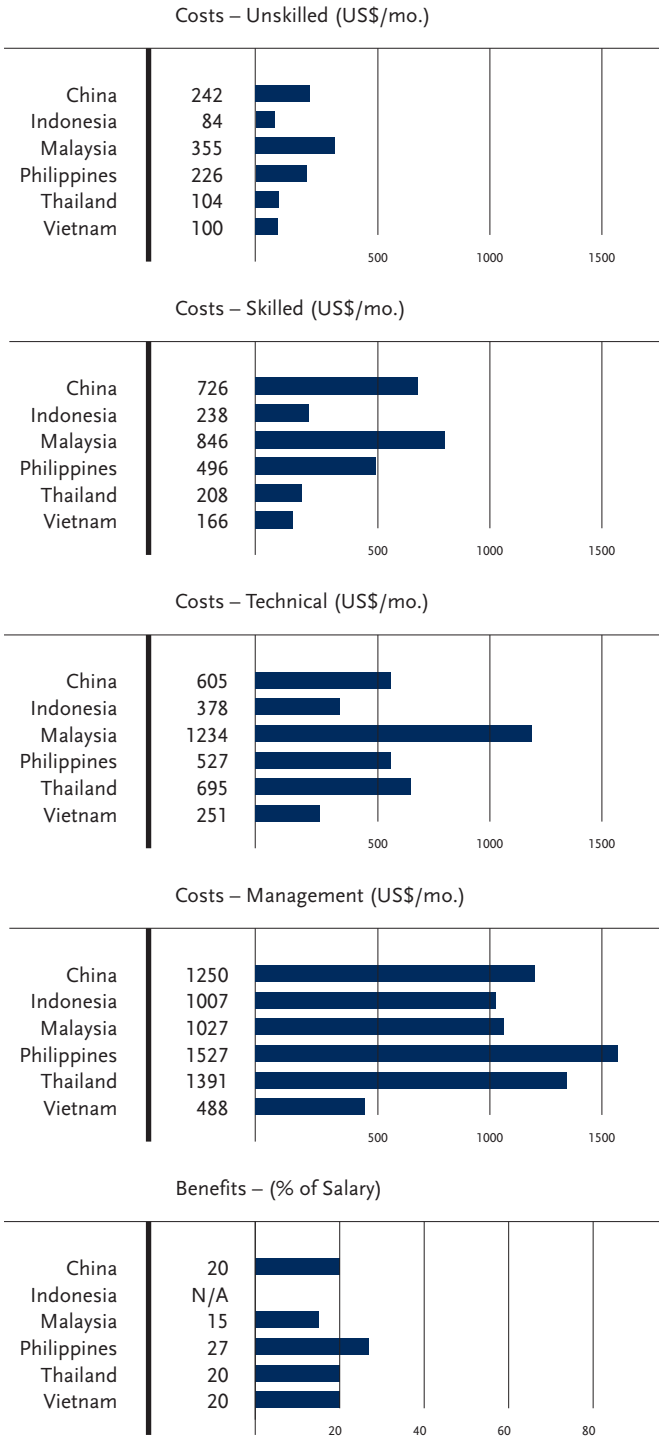
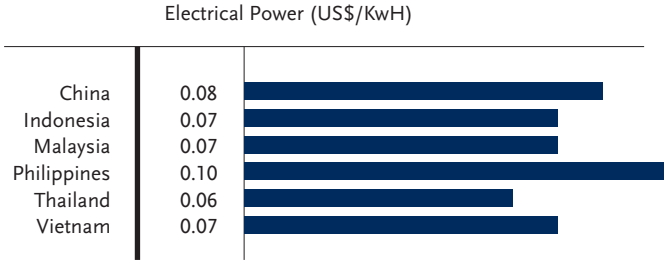
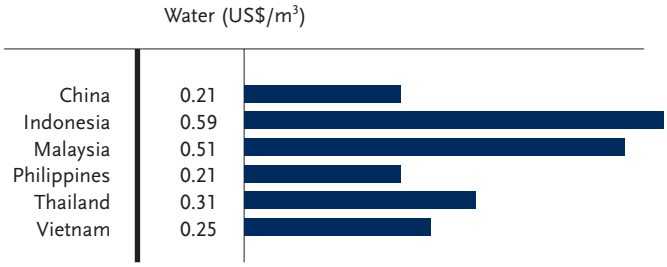
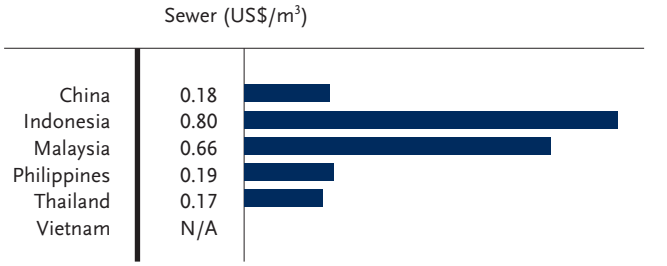


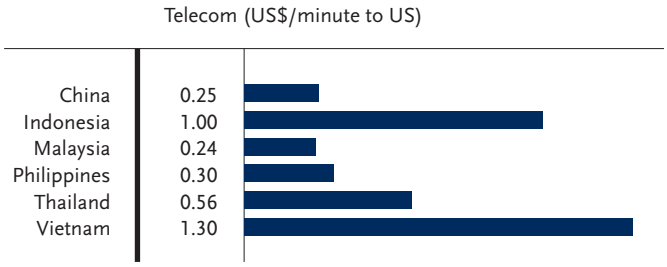
Figure 5: Comparative Costs by Factor – Utility Costs *(Continued)*

The charts on this page compare Phase II utility costs by country that apply to both the Electronics and Shared Services industries.









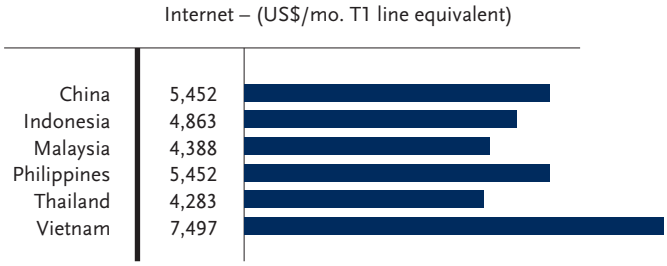
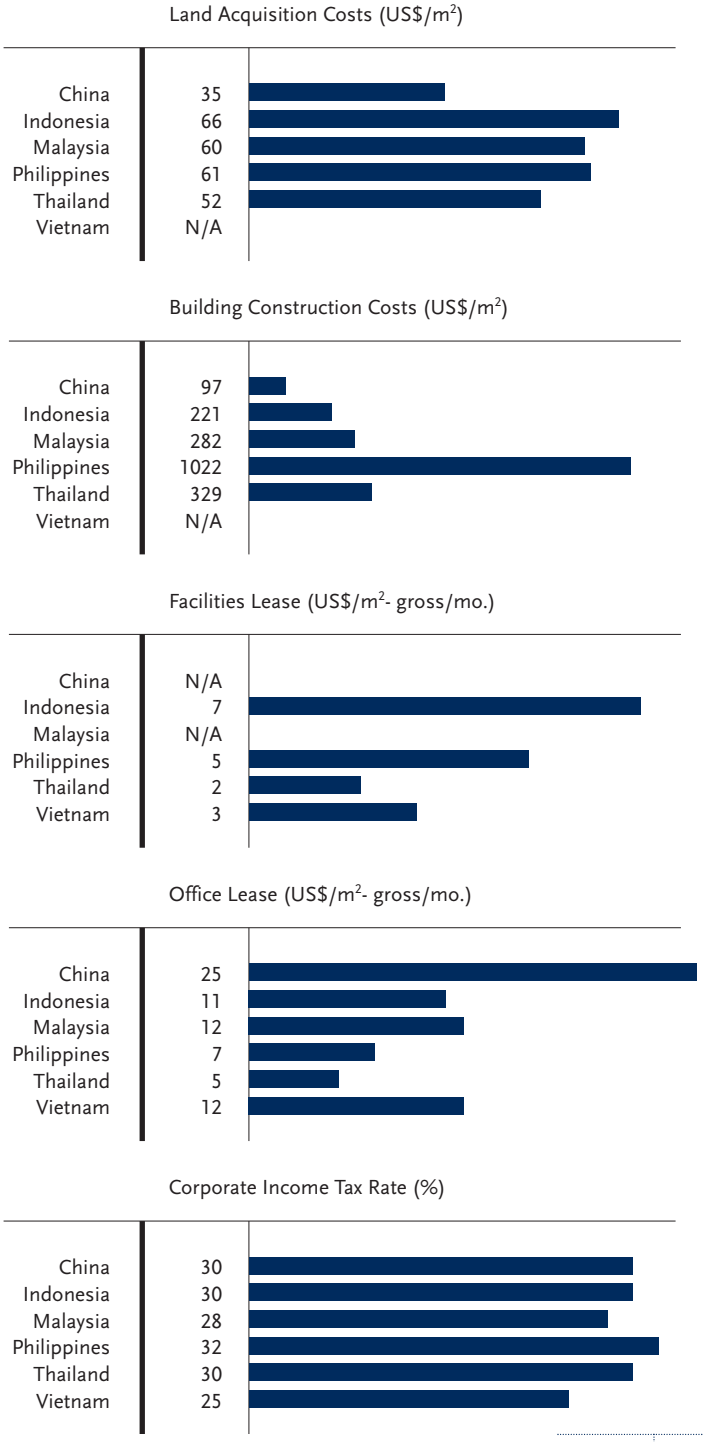


Figure 5: Comparative Costs by Factor – Real Estate Costs and Tax Rates *(Continued)*

The charts on this page compare Phase II costs by country for real estate and taxes that apply to both the Electronics and Shared Services industries.



CHINA
Electronics Manufacturing Industry

Strengths

The study concluded that China is a regional powerhouse in the size, strength and anticipated rapid growth of its domestic economy following WTO membership, and in the higher disposable incomes and increasing purchasing power of Chinese consumers. It has the best-developed electronics supply base among the countries surveyed to support its strong base of large, preeminent, global electronics manufacturers. The overall costs of labor in China rank among the lowest of participating countries, the workforce is considered the most productive, and there is a nearly inexhaustible supply of unskilled workers, as well as new college and technical school graduates. The costs for buying land and building facilities are also the lowest of those surveyed.

Weaknesses

A few labor and management issues were identified as weaknesses. The study determined that employees may lack recognition of quality issues, requiring constant supervision and high levels of quality assurance. Labor regulations, which vary widely by location, can be onerous, burdening employers with heavy costs in the form of taxes, social welfare, severance pay and maternity leave. Perceived differences in business culture – in mindset, loyalty to company, and management philosophies – tend to make management more difficult.

The study identified three additional areas for improvement. Universal quality standards and industrial certifications are lacking, which results in inconsistent quality in the local supply base. Poor protection of intellectual property has lead to theft in some instances, and there is a general lack of government transparency.

Opportunities

Numerous opportunities were identified for FDI, including the potential for a low-cost research and development center for future China and Asia regional product development. In addition, three domestic market trends are expected to bolster foreign brands and services: 1) a lack of high-end products being produced by domestic original equipment manufacturers (OEMs); 2) consumers' increasing focus on technology, brands, and higher quality products; and 3) Chinese firms' limited understanding of consumer requirements, especially the growing demand for after-sales service.

Threats

Major threats to foreign investment in large measure relate to global economic and competitive factors. A restructuring of the domestic economy could force the closing of under-performing local manufacturing facilities hit by increasing domestic and foreign competition. Current geopolitical instability could lead to a downturn in the global and Chinese economies. "Dumping" by state-owned enterprises may continue.

Insights at a Glance

- Many of the largest foreign firms contract for or manufacture/assemble at least one product line in China.
- The largest foreign manufacturers in terms of FDI originate from Taiwan, Japan and the U.S.
- FDI in the industry remains focused on manufacturing for export.
- Chinese-owned firms – 22% of the market – rapidly are gaining market share and present a significant competitive threat in China and worldwide.
- Legend Computer, the largest Chinese-owned company, is considered a world-class desktop computer manufacturer.
- Manufacturing electronics in China is seen as necessary to compete globally and to access the domestic market, and most major MNCs contract for or own one or more manufacturing operations.
- Labor costs are relatively low and expected to remain competitive for at least a decade.
- Quality is in many cases, world-class, and at least acceptable.
- Former burdensome regulations on FDI have been largely removed, but it is still more difficult for foreign firms to invest and compete in the domestic market.
- As operating costs in the major metro areas increase, companies will relocate manufacturing to lower cost, secondary metro areas.
- Intellectual property rights are not respected, and pirating is still rampant in the domestic market and spreading among exports.

CHINA
Shared Services Industry

Strengths

As in the electronics industry, the study concluded that in shared services China excels in its large and growing number of college graduates, who are proficient in English and motivated to learn. In addition, competitive telecommunications costs and China's stable government and society were identified as advantages for FDI in shared services.

Weaknesses

Most weaknesses revealed in the study relate to personnel requirements – language skills, salaries and management talent – and costs. Although English is becoming more prevalent as the second language in urban areas, China does not compete with Singapore, the Philippines, Malaysia, India and Australia in this regard. Consequently, most call centers in China serve the domestic population and rarely, the broader Asian or international markets.

Salaries in the shared services industry were found to be among the highest of those surveyed, and second only to salaries in Malaysia in the costs of unskilled and skilled labor. The study concluded that China lacks local experienced management talent in this area, and that all personnel must be trained. As in the electronics industry, perceived differences in business culture – in mindset, loyalty to company and management philosophies – were identified as a burden to foreign management.

In addition, office rental costs in China's major metro areas are the highest of the group. The study found statutory impediments to FDI in the shared services industry, notably the high registered capital requirements, and ownership structures requiring minority shareholding positions with Chinese partners for many services.

Finally, the local legal system is still developing; the concept of the rule of law is not well understood throughout the economy.

Opportunities

The study suggested that China's vast physical size creates opportunity within the shared services industry. Companies are establishing RHQs, or shared support and call centers to centralize and coordinate their country-specific activities. Newly created incentives to locate RHQs in Shanghai mean more MNCs may consider China for their RHQ operations. Finally, WTO policy promises greater liberalization of most service sectors.

Threats

However, the study concluded that slow implementation of WTO reforms for the service sectors may cause foreign investors to view locations in China as less attractive, decreasing overall FDI potential. The other main threat revealed by the study is the perception that China lacks opportunities for RHQs, which tends to focus MNCs on locations in the Philippines, India and Malaysia.

Insights at a Glance

- China is such a large market that MNCs with multiple domestic operations are likely to support these with in-country shared services, such as call centers and centralized back-office functions.
- Shared support services often include accounting, procurement and human resources functions.
- Most shared support centers are located within a short distance of the main operations, and like call centers, rarely exist away from the main office unless the company has operations throughout China.
- Third party, shared support services is a potential high-growth sector with an increasing number of foreign investors and Chinese recognizing this need for back-office operations.
- Demand is growing for Chinese language call centers.
- Due to a lack of proficiency in the English language, China is not usually considered a location for regional Asia/Pacific call centers and shared services, and does not compete with India, Australia and the Philippines for international call centers.
- Shanghai is promoting tax incentives to attract RHQs, but concerns about government transparency and potential interference, and intellectual property rights protection have kept major MNCs in Singapore or Hong Kong.
- Chinese consumers are beginning to value technical support and quality assurance, which will help move foreign companies to set up customer service and technical help centers to serve the domestic market.

INDONESIA
Electronics Manufacturing Industry

Strengths

The study found Indonesia competitive among those surveyed in several labor and cost factors in electronics manufacturing, including the lowest salaries for skilled workers, and an ample supply of unskilled workers. Other labor costs are competitive with China and Vietnam. Indonesia also was noted for its availability of land, and its construction costs, which are lower than those of the other countries except China. Indonesia's strength in the industry is already apparent in the local presence of numerous electronics manufacturers that supply the large domestic market.

Weaknesses

Indonesia currently produces lower tech/added value electronics, rather than more sophisticated higher tech products. Several weaknesses cited in the study relate to the local supply of materials and tech workers, and the limited use of the latest technology among local firms, which weakens the supply base. Indonesia's poorly developed electronics supporting industries – for raw materials, intermediate and higher-tech components – mean manufacturers must bear the higher costs of imported materials and components. The limited supply of local technicians and managers requires intensive on-the-job training. Finally, the study noted the lack of standards and certification may negatively impact the quality and consistency of the local supply base.

Opportunities

The primary opportunity rests in Indonesia's large and underdeveloped domestic market for consumer electronics and slowly improving economic growth, despite political, economic, and social challenges. In addition, the study cited the trend of MNCs consolidating their Asian factories into lower-cost production sites as an opportunity for FDI in Indonesia.

Threats

The study concluded Indonesia is at risk from better-positioned competitors for FDI in electronics manufacturing. China is attracting firms to relocate from Indonesia due to its more productive and efficient labor pool, more sophisticated supporting industry supply base, and more stable political and social environment. Other participating IPIs are gradually, yet proactively targeting companies that might have considered setting up in Indonesia. In addition, corporate restructuring and the reorganization of plants on a global scale, a recent trend, have resulted in one major foreign electronics firm leaving Indonesia, and present a continued threat in this industry.

Insights at a Glance

- Indonesia has a large, underdeveloped domestic market for electronic products, especially consumer electronics.
- Only 58% of households have televisions – an example of untapped market potential – leaving tremendous room for growth.
- Many electronics goods, even kitchen blenders, are subject to varying rates of luxury tax, which likely hurts sales.
- Indonesia's highly competitive labor costs and vast domestic market are attractive for electronics FDI.
- The overall limited base of domestic suppliers/supporting industries requires that many raw materials and parts must be imported.
- The industry apparently lacks suitable training or skill development centers, and government training centers are nonexistent.
- Most training or skills upgrading is conducted by individual firms as opposed to collaborative efforts among firms (as seen in Penang, Malaysia.)
- The manual cargo handling at Jakarta's port is less efficient and more costly than automated port facilities in other countries.

INDONESIA
Shared Services Industry

Strengths

Study findings indicate that Indonesia has the lowest unskilled worker salaries in the shared services industry among the countries surveyed.

Weaknesses

Shared services in Indonesia is in the early stages, and as might be expected, the study found the country has not yet developed some of the basic infrastructure and skills necessary to compete in this industry. Indonesia's lack of English and other major language proficiency relative to other countries surveyed, and the generally low education level, do not meet the requirements of many service industries. The study cited the limited availability of high bandwidth telecommunications infrastructure, and high telecom costs due to limited competition as mitigating factors for FDI. High levels of government bureaucracy and corruption can make doing business more difficult, and labor regulations were found to be cumbersome. The study noted that Jakarta, the capital city and primary business center, lacks developed infrastructure and is seen as relatively less desirable in quality of life issues. Finally, Indonesia has a recent history of political and social instability, and acts of terrorism.

Opportunities

The study concluded that Indonesia has a large number of domestic customers, and a potentially large, future market of prospects for better services. In addition, Indonesia presents an opportunity for MNCs looking to relocate RHQs from higher-cost locations, such as Singapore and Australia.

Threats

The Philippines, India and Australia continue to dominate the Asia/Pacific region's shared services/call center business, and other countries surveyed are offering attractive incentives for RHQs. In addition, the study cited continued acts of terrorism in Indonesia as a threat to attracting FDI.

Insights at a Glance

- Few companies locate RHQs in Indonesia, opting instead for RHQs in Australia, Malaysia or Singapore.
- Some oil companies reportedly have RHQs that may be for local production on islands other than Java.
- The call center concept is in its early stages, beginning about two years ago.
- The few firms with a call center outsource the services to other companies, particularly telecommunications solution providers.
- Although shared service operations are readily identifiable through databases, it is not yet a promoted category for FDI in Indonesia.
- Indonesia is not yet competitive in attracting FDI in shared services – except for call centers serving domestic customers – due to relatively limited English language skills and its underdeveloped IT and telecommunications infrastructure.

MALAYSIA
Electronics Manufacturing Industry

Strengths

The study noted that Malaysia is viewed as a desirable manufacturing location throughout the global electronics industry. An existing base of world-class manufacturers across the supply chain – second only to China – spans a wide range of electronics sectors, from assembly and testing equipment to semiconductors, printed circuit board assembly, electronics subcomponents and final assembly. The study concluded that Malaysia has available, reliable utilities and infrastructure, and sufficient land and facilities for electronics manufacturing. Shipping costs from Malaysia to most major markets were determined to be competitive, and are lowest among the countries surveyed for shipping to Japan.

Weaknesses

Most weaknesses identified by the study involve labor costs and limitations. Malaysia's labor costs are the highest among the countries surveyed, and a shortage of unskilled local workers requires the importation of foreign labor. Government restrictions limit the total number of foreign laborers at any one time by country of origin, and cumbersome regulations require companies to provide lengthy justifications of their needs in order to import labor.

The study also determined that complex licensing regulations for raw materials create bottlenecks in quickly clearing goods. Finally, foreign investors view Malaysia's bureaucracy as not sufficiently responsive to their needs.

Opportunities

The study found opportunity for targeting incremental expansion FDI among Malaysia's large base of existing electronics manufacturers. The decision to expand is often easier for investors to make than a "greenfield," or new location investment. There is also opportunity for Malaysia to move up the manufacturing value chain into R&D, especially given the availability of English-speaking, skilled workers.

Threats

The continued liberalization of the Chinese economy, which increases its attractiveness for FDI, is seen as a threat to Malaysia. The study cited rumors of a planned relocation from Malaysia to China of a company not interviewed for this project.

The other primary threat identified in the study is the Malaysian government's inability to quickly react to a dynamic competitive landscape with the necessary statutory changes to counteract comparative weaknesses as a location for FDI.

Insights at a Glance

- Electronics manufacturing is the main engine that powers Malaysia's economy, accounting for over 6% of GDP, 18% of manufacturing output, and 30% of exports.
- Electronics is the main contributor to manufactured exports, employment, paid-up capital and total fixed assets.
- The industry is diverse – from electronics assembly and testing equipment to wafer fabrication, semiconductor manufacturing, assembly and testing, electronic components and final assembly of finished products.
- The industry in Malaysia is oriented to exports, due to the relatively small size of the domestic market.
- Malaysia's Multimedia Super Corridor initiative – launched in 1998 – aims to transform Malaysia from its rural economy into a high-tech, industrialized nation through technology transfer and an improved base of "knowledge workers."
- Expansion of R&D facilities reflects advancement in the technical skills of the local labor force.
- Malaysia has expanded into high value-added activities, including product enhancement, sales, and distribution.
- Malaysia focuses on the expansion of high technology and capital intensive projects.
- Malaysia is encouraging the development of electronics "clusters" with targeted incentives aimed at the semiconductor, digital electronics, professional equipment/instruments, and industrial equipment sectors.
- Extensive supplier networks are key in attracting electronics manufacturers to Malaysia.

MALAYSIA
Shared Services Industry

Strengths

The study reported a wide range of strengths for Malaysia in shared services, especially for call centers serving domestic, regional and international customers. Foremost for call centers is the diversity of languages among Malaysia's residents, who speak English, Malay, Mandarin, Cantonese, Tamil and Hindi. Call centers can also affordably import agents from other countries to service regional and international customers. The study found Malaysia's domestic call center market is large because outsourcing call center services to third-party providers is prevalent, even within the public sector. Finally, the Multimedia Super Corridor's incentives are attractive to call centers and RHQs.

In terms of general business and living conditions, Malaysia is seen as more politically stable than the Philippines, with better-developed, more reliable infrastructure. The quality of life for foreign management and workers is considered good.

Weaknesses

Malaysia has the highest labor costs of all countries surveyed, except at the management level. The study also cited as weaknesses that 1) women are legally restricted from working night shifts without special government authorization, and 2) service businesses need majority Bumiputra (ethnic Malay) shareholding, especially to sell to the government. Finally, the study reported a lack of proactive marketing to potential investors in the shared services industry. Malaysia has lost business to Singapore, despite higher operating costs there.

Opportunities

The strong demand for low-cost call center facilities and burgeoning domestic market were cited as opportunities for FDI in an industry that is growing 100-200% annually. In addition, Malaysia can take advantage of its competitive position relative to higher-cost Singapore, reinforced in the study, which concluded that companies located in Singapore can easily relocate to Malaysia. Further, the study found opportunity in relatively less competitive pressure from China in shared services than in the electronics industry.

Threats

Although Malaysia is competitively strong in the region, potential competition from better-known call center locations in India, the Philippines, Australia and Singapore could hinder FDI growth. The study also noted that Malaysia has yet to identify and define its competitive strengths, and to target most likely investors, both seen as limiting factors in attracting FDI. Finally, political or social instability that forces the government to restrict the importation of multilingual skilled labor is seen as a potential threat.

Insights at a Glance

- The Multimedia Super Corridor aims to encourage multinationals to relocate their RHQs from Singapore, and has successfully attracted firms to Cyberjaya, one of two planned "intelligent" cities.
- Transaction processing is a low-margin, high volume business, prompting banks with no economies of scale to outsource it.
- A large domestic market for third-party, back-office or shared support services was created when Bank Negara Malaysia outsourced back office processing, payroll and some IT functions, and other Malaysian banks followed suit.
- Malaysians speak English, Malay, Mandarin, Cantonese, Hindi and Tamil.
- Malaysian call centers can affordably import agents from all over Asia to serve Southeast Asian customers.
- Third-party call and customer contact centers – growing 100-200% annually as a sector – provide inbound and outbound customer contact services via voice, e-mail and fax.
- Inbound services include answering customer product questions, resolving warranty issues, and providing technical support.
- Outbound services include conducting customer satisfaction surveys and telemarketing.
- Penang is the ideal location for a call center hub with its well-established Internet and telecom capabilities, and a sufficient pool of well-educated, multilingual, skilled professionals.

THE PHILIPPINES
Electronics Manufacturing Industry

Strengths

The study noted the Philippines' well-developed semiconductor industry, as well as several advantages related to labor, and to transportation infrastructure. The Philippines has one of the best-educated technical workforces in Asia, with reportedly the most effective management-labor relations of the group studied. In general, employee training is considered manageable and easily accomplished, in part because translations from English manuals are not required.

Shipping costs are competitive, and those to Japan rank lowest of all countries in the study, after Malaysia. The Subic/Clark industrial corridor, including Clark International Airport, Subic Freeport, and a planned new expressway connecting the two, serves as an air express, cargo and logistics hub for Southeast Asia.

Weaknesses

However, the study also concluded that the Subic/Clark area's development is an exception rather than the norm, and that the transportation infrastructure in the Philippines is considered underdeveloped in its overall quality and availability. Similarly, utilities and government services infrastructure are considered insufficient in meeting investor requirements, and the study noted that customs procedures pose a particular challenge for electronics manufacturers. Specific to the utilities infrastructure, the Philippines has ample capacity to meet the demand for electricity, but struggles with transmission difficulties, resulting in power outages. Electricity costs in the Philippines are the highest of those surveyed.

High relative costs are also evident in labor; overall labor costs rank second highest after Malaysia for unskilled, skilled and management employees. In addition, the statutory corporate tax rate is the highest of those surveyed.

Finally, the study concluded that the Philippines has an inadequate base of suppliers for the electronics industry, ranking it just ahead of Thailand, which is considered the most deficient in this area.

Opportunities

The study found potential opportunity in the Subic/Clark industrial corridor for manufacturers requiring access and proximity to the air express, cargo and logistics hub facilities there. In addition, the high value-added product niches requiring advanced technical skills, e.g., semiconductor wafer fabrication and R&D, were identified as opportunities for targeted marketing to attract FDI.

Threats

The study reported potential competitive risks from China, which has emerged as a powerhouse in labor-intensive electronics manufacturing. China, and to a lesser degree, Vietnam, are perceived as strong candidates for both regional expansion investment from manufacturers located in the Philippines, and for outright relocation FDI, given that many investors already have a large or growing presence in China. Increasing social instability in the South and the potential for terrorism are also considered threats for the Philippines in attracting electronics investment.

Insights at a Glance

- The Philippine electronics industry is export-oriented and primarily engaged in assembly and testing, and highly technical, labor-intensive activities such as the manufacture of semiconductors.
- The industry accounts for about 1% of GDP, 3.5% of manufacturing output, and 33% of exports.
- The Philippines' most attractive aspect for electronics companies is its large pool of low-cost engineers, who are fluent in English – a distinct competitive advantage over China, Thailand and Indonesia.
- The power infrastructure has difficulty meeting the needs of high-tech facilities, forcing manufacturers to invest in their own on-site generators, and the cost of electricity is high compared to other Asian countries.
- The majority of manufactured output is in traditional integrated circuit assembly and testing, and computer products, such as disk drives.
- The hardware-manufacturing sector is growing as Filipino consumers and businesses move online and purchase individual personal computers, networking and routing systems to sustain their growing economy.
- The Philippines is viewed as one of the best locations for semiconductor assembly and testing operations in Asia.
- Local companies engaged in electronic assembly manufacturing provide facilities, manpower, utilities and administrative services, while their customers provide process technology, and supply materials and equipment on consignment.
- A growing number of local companies can provide turnkey services, including component sourcing and software design.

THE PHILIPPINES
Shared Services Industry

Strengths

Reported strengths relate to the labor climate in the Philippines, where underemployment has encouraged the migration of highly skilled workers to the shared services industry. The Filipino workforce is considered one of the best educated in Asia, possessing well developed IT, back office (human resources, administration, accounting) and managerial skills – all critical to RHQ, shared support and call center operations. Most of the educated population is proficient in English, and although spoken as a second language, the Filipinos' light accent is easily understood worldwide.

Weaknesses

Other than English, there is a reported lack of facility in languages. The study noted other weaknesses related to fundamental infrastructure: utilities, transportation, and telecommunications. Both telecommunications and electricity are considered unreliable, and there is a need for safe public transportation for commuters who work the night shifts. The study also noted a lack of government-funded training programs specific to the shared services industry.

Opportunities

For RHQs, call centers and shared support operations, the Philippines is viewed as a much less expensive alternative to Singapore or Australia. The third-party call center business is a growing sector in the Philippines; many local companies are capitalizing on the country's high-quality communications skills for their English-speaking customers.

Threats

The study reported that the continued emigration of skilled workers to Western countries – in search of higher pay and better quality of life – is a risk to the industry's workforce. In addition, India presents a competitive threat to the Philippines in this industry through its heavy overseas marketing, which is especially targeted to FDI in technical help centers and software development. Finally, the study noted that foreign investors continue to perceive political and social instability in the Philippines.

Insights at a Glance

- The Philippines is emerging as an attractive location for back-office functions, and there is growing demand for data encoding, voice and medical transcriptions, street digitization, and accounting, as well as call center services.
- The Philippines has a competitive edge due to its low costs, excellent command of the English language, and high level of service skills.
- Telecom costs are cost-effective for foreign investors due to a declining cost structure – about 50% per year the last two years – among the telecom service providers.
- An abundance of underemployed university graduates with industrial and manufacturing skills means recruiters can easily staff white-collar call centers with well-educated, recent college graduates.
- India presents the toughest competition for the Philippines in the outsourced call center business with its low operating costs and similar educational standards, and a larger pool of IT-trained and other technically skilled graduates.
- The government fosters a favorable environment for FDI, and the deregulated telecommunications industry provides outsourcers with competitive prices and improved service.

THAILAND
Electronics Manufacturing Industry

Strengths

Thailand is very competitive in several key factors critical to the industry. Tax incentives for investors are the most favorable of those surveyed. The pool of available workers is sufficient, labor costs are competitive, and workforce productivity levels are considered high. Thailand has a good transportation and logistics infrastructure for electronics manufacturers, and the lowest electricity and sewer costs among the six surveyed countries. Finally, the study concluded that Thailand enjoys political and social stability and a welcoming culture, which is noted as particularly important to Japanese investors.

Weaknesses

Thailand's underdeveloped supply base requires the import of components, and the automation infrastructure and supporting services for higher precision operations are considered relatively weak. The study noted the shortage of engineering graduates, and concluded the higher education system is not turning out significant numbers of engineers to fuel industry growth.

In addition, the study found that Thailand's outdated export processes hinder the development of just-in-time operations among electronics manufacturers. Lacking electronic data interchange (EDI) and WTO-compliant customs administrative procedures, OEMs must maintain high inventories, which increases their overheads.

Finally, in spite of the Thailand's lead in favorable tax incentives for FDI, the study found that investment policies and incentives are not clearly defined or focused on attracting electronics investors.

Opportunities

Thailand has opportunity in its strategic location and potential to capture and dominate niches of the industry. By leveraging its location and well-developed transportation and logistics infrastructure, the study concluded Thailand could become the regional base for just-in-time electronics assembly operations. The study also determined a potential niche for Thailand in developing a base of higher value-added component manufacturing for China-based assembly operations.

Threats

Thailand faces inevitable risk from competitive countries, especially China, and the study concluded there is danger of facilities relocating from Thailand to China.

Both Malaysia and China are reported to be attracting expansion investment intended for Thailand. Finally, the study noted pressure from the WTO to limit the use of tax and other fiscal incentives for investment promotion might destabilize Thailand's competitive position for FDI.

Insights at a Glance

- The export-driven electronics industry is a major contributor to Thailand's economy, employment and technology advancement, accounting for about 4% of GDP, 12% of manufacturing output and 19% of exports.
- 80% of electronics manufacturers are located within 100km of metropolitan Bangkok.
- The industry evolved from integrated circuit packaging and low-end assembly (electrical and electronic) to a diverse base of multinational, OEM contract and electronic end-product manufacturing.
- OEM electronic manufacturing has a fairly good supporting service infrastructure, including production equipment sales and service, clean rooms, high-end assembly equipment, calibration services, and custom design/build capabilities.
- The hard disk drive segment drives and leads technology development in both the public and private sectors.
- Thailand's manufacturers import most discrete electronics components, and are starting to utilize Chinese component suppliers as distinct competitive advantages mature.
- While developed and rural industrial sites have reliable, sufficient power and water resources, manufacturers in rural areas may encounter unscheduled utility interruptions, often due to road accidents damaging the distribution grid.
- Advancement in IT and Internet usage has increased domestic demand for personal computers and electronic products.
- The government embraces countrywide IT development, in spite of considerable shortfalls in knowledge, language and hardware outside Bangkok.
- Thailand encourages investment in projects with high local value-added and/or R&D components.

THAILAND
Shared Services Industry

Strengths

Thailand's favorable geographic location at the heart of the Association of South East Asian Nations (ASEAN) is a clear advantage for investment in shared services – particularly RHQs – not easily offset by competitors. Several other competitive strengths relate to the quality of business and living conditions. Thailand is considered stable in its political and social environment, with generally high quality of life factors. The transport infrastructure is well developed for local/regional business travel and commuting.

Cost considerations also play to Thailand's advantage in three areas: the lowest office and facilities lease costs among those surveyed, the lowest telecommunications costs for high bandwidth services, and declining utilities costs, a result of increasingly open competition in the utilities sector.

Weaknesses

The study found some labor-related deficiencies and challenges in Thailand. The lack of advanced English and other foreign language skills, and relatively lower overall educational qualifications in back office trades – IT, finance, human resources, accounting – than in competing markets, were cited as negatives in attracting FDI in shared services. In addition, it is increasingly difficult to obtain long-term visas and work permits for foreign nationals, should investors need to look beyond Thailand for the required skills.

The study also concluded that the Alien Business Law, which restricts FDI in the services industry to minority shareholding, might act as a disincentive to attracting investment. Finally, the study noted a lack of clarity in Thailand's Board of Investment incentives geared to RHQs, and a bureaucracy in applying for these incentives.

Opportunities

The study found opportunity for Thailand as investors continue to reevaluate their presence in high-cost locations, such as Singapore and Australia, and become more receptive to proactive marketing on incentives for RHQs.

Threats

Thailand faces a crowded competitive market in Asia for FDI in centralized service operations, including India, Singapore, the Philippines, and to a lesser extent, Australia. The study noted a specific situation of a MNC (not among interviewed companies) moving some IT and finance services to a shared service center in Australia.

Insights at a Glance

- Thailand's location is strategic for RHQs serving Asian markets – in the Greater Mekong Sub-Region, and between India and China at the heart of the ASEAN bloc.
- Thailand has been offering internationally competitive tax incentives for RHQs for about two years.
- A wide range of non-tax incentives has been offered to international call centers to enhance potential in the sector.
- The most common call centers have been centralized service operations for domestic fast food and telecommunications companies, with few serving a broader regional or global market.
- Thailand is relatively less competitive as a regional base for call centers, given the lack of advanced English language and IT skills required to service the global market.
- Thailand has been slow to take advantage of outsourcing opportunities for back-office operations, particularly in the financial sector.
- Software Park Thailand, a government-sponsored initiative, was built to attract software developers, further technology transfer, and improve the base of IT-skilled, knowledge workers, but India has had faster growth in this sector.

VIETNAM
Electronics Manufacturing Industry

Strengths

The study noted Vietnam's strong basic work force, which is highly literate and relatively well educated, and the availability of low cost, unskilled labor. Only China and Indonesia have lower salaries for unskilled workers among the six countries surveyed. The presence of a base of major industry players – prominent Japanese and Korean manufacturers – was cited as an advantage in attracting industries to support electronics manufacturing.

Weaknesses

In labor, the study concluded Vietnam has an overall shortage of management-level employees.

The study also revealed policy-related issues, citing Vietnam's unclear government policy on the overall direction of the electronics manufacturing industry, especially in light of AFTA. There are also continuing concerns with the lack of transparency in policy making, and with too much bureaucracy and "red tape" for electronics firms trying to conduct business in Vietnam.

Several other areas for improvement were noted, particularly related to transportation and utilities infrastructure and costs. Vietnam ranks among the highest of the surveyed countries in shipping costs. The study specifically noted inefficient customs procedures and high levels of import duties on parts and components. Vietnam's transportation infrastructure – rail, road, airport and port – is considered underdeveloped. The quality of the utilities infrastructure, particularly for telecommunications and electricity, is also viewed as inadequate, and the services provided are relatively high-cost compared to others surveyed for this study.

Finally, the study concluded Vietnam lacks a sufficient base of industries supporting the manufacture of electronics.

Opportunities

Vietnam's large and growing domestic market of middle-class consumers is seen as an opportunity for FDI in electronics. In addition, the study found potential in leveraging the existing base of electronics manufacturers to help build the necessary supporting industry.

Threats

Regional and global trade policy and competition from China are risks to Vietnam's attraction of FDI in the electronics manufacturing industry. The study concluded that AFTA, and to a lesser extent WTO policy, could threaten the viability of the entire industry in Vietnam. China's emergence as a powerhouse in labor-intensive electronics makes it increasingly more difficult for Vietnam to compete for FDI in the industry.

The study also cited three areas where criminal and unfair practices may limit Vietnam's potential in this industry: continued smuggling, weak intellectual property rights protection, and continued double pricing in key utility areas. Double pricing makes overall production costs for manufacturing in Vietnam higher than they should be, and can skew per unit costs to less competitive levels relative to the other countries.

Insights at a Glance

- The Vietnamese electronics industry is largely driven by domestic demand for consumer products, including color TVs – an estimated one million-unit market.
- Much of the market for color TVs is reportedly served with smuggled products.
- The electronics industry in Vietnam is dominated by Japanese MNCs in joint ventures with local firms, and includes a number of Korean and Taiwanese firms that have entered the market in recent years.
- Most electronics firms are located around Ho Chi Minh City.
- The supplier industry is undeveloped – with the exception of cathode ray tubes and electron guns produced by a Korean joint venture – and there is no apparent government strategy to grow it.
- A number of firms export small quantities of finished products to low-quality markets, and a few are considering exports of parts and components.
- Challenges to FDI are the quality of locally supplied parts, import duties on imported materials, and shortages of higher-level managers and technicians.
- AFTA will likely critically impact the overall industry in Vietnam, yet there appears to be no public sector strategy addressing the situation.

VIETNAM
Shared Services Industry

Strengths

Vietnam has a relatively well-educated and literate workforce from which to recruit basic skilled workers, and the study found that wages for skilled, technical and management employees in the shared services industry are the lowest of those surveyed. Vietnam also has the lowest statutory corporate income tax rates. Finally, the study cited the example of a small, but dynamic software development sector that is expanding rapidly through several high-growth firms that double in size every two or three years.

Weaknesses

The study concluded that Vietnam is a relatively higher-cost location for shared services in three areas: 1) office lease costs are the second highest after those of China; 2) telecommunications costs are the most expensive of those surveyed; and 3) Internet services are both very high cost, and of questionable quality.

The study also reported some issues with regard to language skills, especially related to call centers, and concluded that Vietnam's business support service infrastructure is relatively less developed.

Finally, the study found that inefficient government services, burdened by "red tape" and lacking transparency, are a relative weakness, specifically citing customs inspections of software imports/exports for improvement.

Opportunities

Vietnam has the ability to tap into its vibrant overseas community of Vietnamese nationals skilled in key IT and service areas to help fuel growth in the shared services industry. The study also cited the relative ease with which key buildings and locations could be wired for high-speed, broadband Internet services as an opportunity to help attract FDI in this industry.

Threats

The study concluded that Vietnam faces strong competition from India, and to a lesser degree, the Philippines and Malaysia, for the development of call centers and software development operations. Vietnam's potential in this industry is also threatened by a lack of understanding among government officials of the service sector's importance and role in the new global business environment.

Insights at a Glance

- The international call center sector in Vietnam is virtually nonexistent.
- A British sport betting operation set up a call center in 2002, but high telecommunications costs and to a lesser extent, language issues, forced its closing.
- A number of small local call centers service the domestic software and finance markets.
- No international shared support centers were found in Vietnam.
- A MNC operating a sort of local shared support center was part of this study, and the interviewee expressed reservations about the Vietnamese government's understanding of the industry's needs and requirements.
- A dynamic, but small software development sector, reportedly dominated by returning Vietnamese nationals, has emerged around Ho Chi Minh City, and to a lesser degree, Hanoi.
- These firms in software development are doubling in size every 2-3 years, with little apparent public sector support.
- The government has not developed a strategy to attract shared services FDI, focusing instead on "bricks and mortar" projects.

Appendices

1. Acronyms and Abbreviations
2. Methodology Sequence and Description
3. Factors Used to Develop Operating Costs and Conditions Matrices
4. Methodology Assumptions and Resources – Phase I
5. Detailed Findings – Phase I
6. Detailed Findings – Phase II
7. Comparisons between Phase I and Phase II Findings

Appendix 1
Acronyms and Abbreviations

AFTA	ASEAN Free Trade Agreement
ASEAN	Association of South East Asian Nations
EDI	Electronic Data Interchange
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
IPI	Investment Promotion Intermediary
IT	Information Technology
MIGA	Multilateral Investment Guarantee Agency
MNC	Multinational Corporation
OEM	Original Equipment Manufacturing
OEMs	Original Equipment Manufacturers
R&D	Research and Development
RHQ	Regional Headquarters
SWOT	Strength/Weakness/Opportunity/Threat
WTO	World Trade Organization

Appendix 2
Methodology Sequence and Description

The project methodology mirrored the type of analysis corporations often conduct in deciding on a site location: first screening at the desktop level, then "due diligence" in the field. After the benchmarking was conducted in these two distinct phases, the conclusions were based on a synthesis of Phase I and Phase II results.

Regional consulting groups, Tractus Asia and Brooker Policy Research, were contracted to assist MIGA in conducting the research. Both firms have good access to IPIs in the region, and it was considered important to use in-region consulting expertise to provide insights and contacts, strengthen the capacity-building nature of the project, and ensure locally available follow-up support.

Phase I

The team performed desktop research on eight key site location factors that companies consider when locating their operations. These include:

- Market access
- Labor
- Real estate
- Taxes
- Living conditions
- Utilities
- Transportation and infrastructure
- General business conditions

Using publicly available, web-based and publication sources that a company might use, Phase I determined the best sources for comparative information, accessibility of information, and the most salient factors for each sector.

The consultants were specifically instructed to develop a pool of credible sources that could be used again in the future. Phase I attempted to compare like information from the same resources for each country. Open communication between the teams allowed for sharing of information, especially when a source was discovered that contained information on all participating countries. However, in some cases the best resource for a particular factor did not cover the entire region. In those cases, researchers used a country-specific resource to fill in the missing data. These cases – most often related to Vietnam or China – are noted in Appendix 4, Methodology Assumptions and Resources: Phase I. A few factors, mostly qualitative, could not be researched until Phase II.

Most of the data gathered is from a particular municipality in each country, specifically these major metropolitan areas:

- China – Beijing (also Shanghai)
- Indonesia – Jakarta
- Malaysia – Kuala Lumpur (also Penang)
- Philippines – Manila
- Thailand – Bangkok
- Vietnam – Hanoi (also Ho Chi Minh City)

Phase II

The second phase started with the screening of companies to deliver a representative pool in each industry for interviews. The consultants contacted each country's IPI to request lists of companies, and to begin setting up interviews. A total of 64 companies (69 operating units) were chosen for interviews on the basis of 1) amount of initial investment, 2) reinvestment amount, and 3) year of initial operations. Larger multinational corporations with investment or reinvestment after 1997 were first choices. However, other companies with good IPI relations that were accessible and interested were also considered given the tight time frame of the project. (None of the participating companies are named in this document, and individual company data is proprietary.)

Questionnaire. Using the factors researched in Phase I, a questionnaire for each of the two industries was designed for Phase II fieldwork. Questions were drawn from previous questions that have been tested in the field during other FDI projects, benchmarking studies and industry surveys. Three types of questions were included: 1) rating, 2) open-ended questions, and 3) multiple choice, with some choices requiring further elaboration from the interviewee. (See box for questionnaire topics by industry.) The consulting teams conducted detailed interviews with the 64 investing companies.

Rating scale. Answers pertaining to qualitative issues were given a rating scale of 1 to 5 (where 1=poor and 5=excellent), and interviewees were asked to rate the criteria according to this scale. Definitions of these numeric weightings were described to the interviewees, and examples were explained for criteria that would receive each rating. After all the criteria for a particular factor had been rated, the interviewer reviewed the answers and discussed those for which the interviewee had selected either a 5 or a 1. The goal was to understand the criteria considered critical, excellent or highly satisfactory, and those considered very poor, not important at all or highly unsatisfactory from the investor perspective.

Based on these interviews, the researchers were able to develop a more complete context for understanding the factors that are considered important to the location decision. Interviewees were asked to rate the most important factors for site selection, although they may not have been involved in the initial decision, and are not site selectors by trade. Their answers reflect the perspectives of operations managers who deal with the day-to-day implementation and effects of the location decision, but who may not have total information on the initial costs or considerations. Researchers concluded that this perspective is especially valuable in helping the IPIs retain and expand FDI from existing investors.

Across the region as a whole, interviewees most frequently rated political/social stability, labor availability, and infrastructure/logistics as important factors for electronics operations. In shared services, the most frequently top-rated factors were political and social stability, labor skills and labor availability. (See Table 2-1: Importance of Site Selection Factors, Rated by Interviewees.)

Questionnaire Topics

Electronics

- Company profile
- Suppliers, customers, and access issues
- Motivation behind locating in Asia
- Labor issues
- Infrastructure and the business environment
- Access to capital and finance
- Living conditions
- Future plans and other issues
- Cost benchmarks

Shared Services

- Company profile
- Investment site selection process
- Labor issues
- Infrastructure and the business environment
- Access to capital and finance
- Living conditions
- Future plans and other issues
- Cost benchmarks

Table 2-1: Importance of Site Selection Factors, Rated by Interviewees

Country	Top Site Selection Factors for **Electronics Manufacturing**
China	Utility Availability; Political/Social Stability; Market Access Globally; Market Access Domestically; Utility Costs
Indonesia	Market Access Domestically; Labor Availability; Labor Costs; Real Estate Availability; Infrastructure/Logistics
Malaysia	Utility Availability/Reliability; Labor Costs; Labor Availability; Infrastructure/Logistics; Real Estate Costs; Utility Costs; Incentives
Philippines	Labor Availability; Incentives; Labor Regulations; Infrastructure/Logistics; Political/Social Stability
Thailand	Labor Availability; Labor Costs; Political/Social Stability; Labor Skills; Infrastructure/Logistics; Market Access Globally
Vietnam	Education Level; Political/Social Stability; Market Access Domestically; Infrastructure/Logistics; Labor Availability; Labor Regulations; Labor Skills; Living Conditions for Expatriates

Country	Top Site Selection Factors for **Shared Services**
China	Political Stability; Social Stability; Utility Availability; Incentives; Labor Skills
Indonesia	Political Stability, Social Stability; Labor Regulations; Incentives; Labor Skills; Education Level
Malaysia	Labor Cost; Political Stability; Labor Skills; Labor Availability; Social Stability
Philippines	Labor Availability; Utility Reliability; Labor Cost; Utility Availability; Labor Regulations
Thailand	Infrastructure/Logistics; Labor Availability; Social Stability; Political Stability; Labor Skills; Education Level
Vietnam	Labor Cost; Labor Skills; Labor Availability; Education Level; Labor Regulations

Benchmarking Analysis. The benchmarking analysis required several steps to put the data into a model that delivered comparable, quantitative values:

1) All quantitative and qualitative information gathered from Phase II – the raw data values on costs and conditions – was compiled for the subcategories of each factor. (See Appendix 3: Factors Used to Develop Operating Costs and Conditions Matrices.)
2) Quantitative raw data was converted to a 1-6 (1=worst; 6=best) average ranking for each industry factor at the country level in order to benchmark the six countries against each other; the same was derived for qualitative factors by averaging ratings given by all respondents in interviews.
3) Factor rankings for both costs and conditions were assigned a weight, or subjective, ascribed importance in the FDI location decision, based on MIGA's Foreign Direct Investment Survey released in January 2002. (See below: Factor Weighting.)
4) An average score for costs was derived from all cost-related factors, as was an average score for all conditions, by country for each industry.
5) A final score was derived by applying the final weighting – one weight is an average reflecting the influence of all costs, the other reflects all conditions – and adding the results.
6) Weighted and unweighted scores were charted on matrices.

The benchmarking process distilled all quantitative and qualitative information from eight factors and myriad sub-category data sets into two scores – one for costs and one for conditions – to help illustrate how the factors influence each country's overall competitiveness position based on their assigned subjective importance. This exercise was not intended to determine an absolute competitiveness perspective for the six surveyed countries. When both weighted and unweighted rankings were charted on matrices that correlate costs and conditions by country, the resulting comparisons reflect the relative trade-offs between the two types of factors, and the range of possible outcomes based on how companies weight the factors. (See also: Section I, Figure 3: Operating Costs and Conditions Matrices.)

Factor Weighting. Assigning relative importance to factors that influence the site selection decision is a highly subjective determination based on individual company goals and objectives. To assign weightings to the data that reflected typical company location decision making, researchers turned to the Foreign Direct Investment Survey, a study conducted by MIGA in January 2002 that determined the most critical site selection factors among a global cross-section of large and transnational companies in both manufacturing and services. [1] (See Table 2-2: Top 20 Critical Location Factors – Percent Cited as "Very Influential".)

IPI Participation. During Phase II, two interactive activities were planned with each participating IPI: 1) a briefing session of about two hours by the consulting team on the status and methodology of the project during the main country visit in Phase II, and 2) a one-half day overview session on the outcomes of the project, jointly presented by the consulting team and a representative from MIGA to each IPI. These two activities were designed to ensure the maximum benefit to the participating IPIs.

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[1] *The survey questionnaire was initially mailed to 3,000 companies, approximately 1,500 from the United States and 1,500 from all other countries. The mailing included the top 100 transnational businesses based on foreign assets, and the largest companies in each of the industry sectors based on sales, and from proprietary company databases. The response rate was 6 percent.*

Table 2-2: Top 20 Critical Location Factors – percent cited as "very influential"

Access to customers	77
Stable social and political environment	64
Ease of doing business	54
Reliability and quality of infrastructure and utilities	50
Ability to hire technical professionals	39
Ability to hire management staff	38
Level of corruption	36
Cost of labor	33
Crime and safety	33
Ability to hire skilled laborers	32
National taxes	29
Cost of utilities	28
Roads	26
Access to raw materials	24
Availability and quality of university and technical training	24
Available land with all services in place	24
Local taxes	24
Access to suppliers	23
Labor relations and unionization	23
Air service	23

Source: *Foreign Direct Investment Survey, MIGA – January 2002.*

Note: *See also Foreign Direct Investment Survey, Appendix 2, Detailed Findings Regarding Site Selection Factors, for factor influences by manufacturing or services sector.*

Appendix 3
Factors Used to Develop Operating Costs and Conditions Matrices

Factors were selected based on a combination of the team's experience, the critical site selection factors identified by the respondents, and findings on factor influences from MIGA's Foreign Direct Investment Survey from January 2002.

Quantitative data sets used:

■ Taxes (both industries)	corporate; privilege rate; VAT
■ Labor costs (both industries)	unskilled; skilled; technical; management; benefits
■ Real estate (electronics)	land acquisition; building construction; facilities lease
■ Real estate (shared services)	office lease
■ Utility costs (both industries)	electricity; water; sewer; telecommunications; Internet

Qualitative data sets used:

■ General business conditions (both industries)	political/social stability; government transparency; ease of doing business; quality of government services; taxation rates; customs procedures; grants and incentives
■ Labor conditions (both industries)	competitive wages; labor regulations; quality/productivity of labor; government training programs; labor/management relations
■ Labor availability (both industries)	unskilled; skilled; technical; management; benefits
■ Transportation and infrastructure (electronics)	port access; rail access; highway access; quality of roads; air cargo access; cost of air transport; cost of shipping

Two sets of matrices were created:

- One using unweighted selection factors
- One using weighted selection factors based on an ascribed relative importance of the factors as influences in the selection decision. (See also Appendix 2: Methodology Sequence and Description.)

Appendix 4
Methodology Assumptions and Resources – Phase I

Labor

Costs

Labor costs were measured by the average salary or wage per month by skill level specified, and are not specific to industry. In general, the types of employment positions included in each category are:

Management:	Entry-level manager, middle-level manager, senior manager.
Technical:	Programmer, system analyst, engineer; factory manager (Indonesia), factory supervisor (Indonesia); accountant (Malaysia and Vietnam.)
Skilled:	Skilled workers; (for Vietnam – skilled labor includes entry-level manager.)
Semi-skilled:	Not specified.
Unskilled:	Receptionist, typist, clerk, driver, messenger, general worker, and janitor.

- Benefits were defined as employer contribution rate as a percentage of payroll.
- Costs were very difficult to compare between countries due to the different definitions provided as skilled, semi-skilled, and unskilled. Semi-skilled is usually not included as a definition in Asia.
- **Resources:** ASEAN Secretariat (for all costs except benefits); American Chamber of Commerce and various country resources/Social Security Programs throughout the World (benefits).

Availability

- Market availability is based upon approximate percentage of the civilian labor force or actual number of workers within the skill group (unskilled, skilled, technical, management). There was no sole resource for all this information; therefore, different sources were used. Scattered information found in separate resources was then added together to form a complete labor survey that was comparable by country. Information concerning labor availability is not concrete information and changes monthly.
- Indonesia's labor force breakdown was extremely difficult to find.
- Civilian Labor Force and Unemployment by Industry were also included as additional information.
- **Resources:** ASEAN, worldbank.org (China), ADB Key indicators 2002.

Labor Market Conditions

- Productivity is measured by GDP produced per employee per hour in US$. (Vietnam was not included in the survey, but is believed to be high.)
- **Resource**: IMD World Competitiveness Report, 2002.

- Labor Relations were determined through rankings that measured the level of cooperation between workers and employers; lower number indicates a higher level of cooperation.
- **Resource**: WEF Global Competitiveness Report, 2001-2002.

- Regulations were measured by the ease of obtaining overtime labor with minimum additional costs; lower number indicates ease in cutting back hours and obtaining overtime.
- **Resource**: WEF Global Competitiveness Report, 2001-2002.

- Technical Training is defined by ranking the quality of IT training available in the country; lower number indicates higher quality training.
- **Resource**: WEF Global Competitiveness Report, 2001-2002.

Real Estate

Availability

- Availability of land is measured by number of industrial parks or vacancy of industrial land. This factor was researched in Phase II; it is extremely difficult to measure through desktop research.
- Availability of buildings is measured by the approximate vacancy rate in the metropolitan area as well as the recent change in vacancy of office space. According to real estate professionals, office and industrial real estate availability are linked.
- **Resources**: JLL, Thailand (Change in vacancy rate), www.colliers.com(vacancy rate).

Costs

- Purchase costs and construction costs are compared between cities, not between countries (costs in US$/m^2). In China, Shanghai was used in comparing cost to build; Beijing was used in the rest of the factors.
- Some countries do not allow wholly foreign-owned entities to own land.
- Actual costs to purchase a building per square meter were not readily available.
- **Resources**: www.cbre.com.hk (China land lease); Brooker Databases (land lease other countries), CB Richard Ellis (land costs), Davis Langdon & Seah International; www.ridersyd.com.au (cost to build), SERI Penang Malaysia (building lease costs).

Market Access

Access to Customers

- Ranking: Based on qualitative rankings of market access. The lower the number, the better the access.
- Number: Access is defined by the amount of $US billions exported to other countries in the electronics industry.
- **Resources**: WEF Global Competitiveness Report, 2001-2002; www.mti.gov.sg; www.vietrade.gov.vn (Vietnam only).

Access to Suppliers

- Ranking: Access to suppliers is based upon availability of local components and parts vs. imported. The lower the number, the more components sourced locally.
- **Resources**: WEF Global Competitiveness Report, 2001-2002.

Shipping Costs

- Shipping costs were measured by the cost of shipping one container from the US West Coast to respective Southeast Asian main cities. (Minimum charge + additional one cubic meter + free insurance.)
- **Resources**: www.discount-shipping.net

Trade Agreements

- Trade Agreements were measured in Phase I by the number of bilateral trade agreements by country. Some resources report different numbers of agreements. Questions concerning barriers to entry were included in the Phase II questionnaire.
- **Resources**: U.S. Commercial Service-Country Commercial Guide.
  www.usatrade.gov; www.thaimain.org (Thailand).

Appendix 5
Detailed Findings – Phase I

The tables below reflect the compiled findings from Phase I desktop research, which relied on publicly available publication and Internet sources in five categories: labor costs, labor availability, labor conditions, real estate and market access. (For detail on the sources, see Appendix 4: Methodology Assumptions and Resources – Phase I.)

Table 5-1: Labor Costs

Division	Priority for Call Center	Priority for Manufacturing	Breakdown	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Unskilled	Critical	Critical	US$/month	100-150	60-80	139-357	244-433	185-396	58-138
Skilled Labor	Critical	Critical	US$/month	300	100-600	211-1,735	382-433	277-423	138-173
Technical	Critical	Critical	US$/month	2,000	600-1,500 (Factory Manager/ Supervisor)	578-1,837 (Accountant)	500-1,250	274	138-276 (Accountant)
Management	Critical	Critical	US$/month	1,500	1,000-2,500	1,063-3,844	1,465-6,788	497-1,057	138-359
Benefits	Critical	Critical	% of employee salary	20-25%	13%	14%	7%	3%	20%

Table 5-2: Labor Availability

Division	Priority for Call Center	Priority for Manufacturing	Breakdown	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Civilian Labor Force	Important	Important	Number	751,000,000	99,000,000	10,000,000	34,000,000	33,000,000	43,800,000
Unskilled Labor	Important	Critical	Number	428,070,000	N/A	4,999,200	10,639,000	8,192,100	N/A
Skilled Labor	Less Important	Less Important	Number	60,080,000	N/A	2,040,800	124,780,000	18,327,200	N/A
Skilled Labor	Less Important	Less Important	Percentage	8%	N/A	20%	29%	56%	4%
Technical	Important	Important	Number	15,020,000	N/A	2,110,000	801,000	1,165,100	N/A0
Technical	Important	Important	Percentage	2%	N/A	21%	1%	4%	12%
Management	Critical	Critical	Number	172,730,000	N/A	570,000	3,373,000	2,333,900	N/A
Management	Critical	Critical	Percentage	23%	N/A	6%	7%	7%	8%
Unemploy-ment	Less Important	Less Important	Percentage	10%	15%	3%	10%	4%	25%
Civilian Labor Force-% Total Population			Percentage	55%	43%	43%	58%	53%	48%

Table 5-3: Labor Conditions

Division	Priority for Call Center	Priority for Manufacturing	Breakdown	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Productivity [1]	Very Important	Very Important	US$	0.80	0.69	4.15	1.11	1.73	N/A
Relations [2]	Less Important	Very Important	Ranking	45	60	10	41	29	18
Regulations [2]	Very Important	Very Important	Ranking	17	31	7	38	14	36
Technical Training [2]	Less Important	Very Important	Ranking	63	55	38	32	36	70

1 GDP produced per employee per hour in US$.
Source: IMD World Competitiveness Report, 2002.

2 Based on qualitative rankings of labor conditions among 75 leading global economies.
Source: WEF Global Competitiveness Report, 2001-2002.

	BETTER	WORSE
RANKING	1 →	75

Table 5-4: Real Estate

Division	Priority for Call Center	Priority for Manufacturing	Breakdown	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Office Building Vacancy Rate	Critical	Important	Availability	17-25%	21%	23%	17%	29%	22%
Land Purchase Cost	Critical	Important	US$/m^2	109.00	98.00	120.00	200.00	45.00	N/A
Cost to Build	Critical	Important	US$/m^2	149.00-224.00	550.00	132.00-211.00	370.00	176.00-226.00	45.00
Building Lease Cost	Critical	Important	US$/m^2 gross/month	5.38–21.52	8.60	8.49-17.00	20.70	20.28	7.00-18.00

Table 5-5: Market Access

Division	Priority for Call Center	Priority for Manufacturing	Actual Breakdown	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Access to Customers [1]	Less Important	Critical	Ranking	33	34	26	59	28	58
Access to Customers	Less Important	Critical	US$ B	43.5	7.3	52.4	9.7	21.6	0.73
Access to Suppliers [2]	Important	Very Important	Ranking	3	42	48	65	37	61
Shipping Costs from US (US$/TEU) [3]	Important	Very Important	US$/m^3 + fixed fee	540 to Shanghai	580 to Jakarta	740 to Kuala Lumpur	500 to Manila	550 to Bangkok	660 to Ho Chi Minh
Trade Agreements	Very Important	Very Important	Number of Bilateral Agreements	>50	52	68	36	31	41

1 Based on ranking of access to international markets among 75 leading global economies.
Source: WEF Global Competitiveness Report, 2001-2002.

2 Based on ranking of availability of locally sourced components and parts among 75 leading global economies.
Source: WEF Global Competitiveness Report, 2001-2002.

3 TEU (20 ft. container equivalent unit.)

	BETTER		WORSE
RANKING	1	→	75

Appendix 6
Detailed Findings – Phase II

The tables below reflect quantitative and qualitative findings from interviews conducted during Phase II fieldwork. Interviewees were queried on twelve categories of costs and conditions: labor costs, labor availability, labor conditions; real estate costs, real estate conditions; market and transportation access (for electronics), transportation and infrastructure (for electronics); taxes; utility costs, utility conditions; general business conditions and living conditions.

Table 6-1: Labor Costs (Quantitative)

	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Electronics						
Salary $/month, % of salary						
Unskilled Worker	82	77	152	126	118	84
Skilled Worker	130	116	321	295	162	135
Technical Worker	200	277	612	312	315	206
Management	300	540	1,122	901	889	393
Benefits and Insurance	28%	20%	20%	30%	20%	20%
Shared Services						
Salary $/month, % of salary						
Unskilled Worker	242	84	355	226	104	100
Skilled Worker	726	238	846	496	208	166
Technical Worker	605	378	1,234	527	695	251
Management	1,250	1,007	1,027	1,527	1,391	488
Benefits and Insurance	20%	N/A	15%	27%	20%	20%

Table 6-2: Labor Availability (Qualitative)

	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Electronics						
Unskilled	5	4	4	5	4	5
Skilled	4	3	4	4	4	4
Technical	4	3	4	5	3	4
Management	4	3	2	4	3	3
Shared Services						
Unskilled	5	4	3	1	5	5
Skilled	4	2	3	4	4	4
Technical	3	3	4	5	4	4
Management	3	3	3	3	3	2

	BETTER		WORSE
RATING	5	→	1

Table 6-3: Labor Conditions (Qualitative)

	China	Indonesia	Malaysia	Philippines	Thailand	Vietna
Electronics						
Competitive Wages	4	3	4	4	3	3
Labor Regulations	4	2	3	4	3	3
Quality and Productivity of Labor	4	3	3	4	4	4
Government Training Programs	1	1	3	2	3	2
Labor/Management Relations	4	3	4	5	3	3
Shared Services						
Competitive Wages	2	5	4	4	4	4
Labor Regulations	3	3	3	3	3	4
Quality and Productivity of Labor	4	4	3	4	4	4
Government Training Programs	3	3	3	3	3	2
Labor/Management Relations	4	4	4	5	4	4

	BETTER		WORSE
RATING	5	→	1

Table 6-4: Real Estate Costs (Quantitative)

	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Electronics						
Land Acquisition (US$/m²)	35.11	66.00	60.00	61.00	52.00	N/A
Building Construction (US$/m²)	96.74	221.25	282.00	1,022.00	329.00	N/A
Facilities Lease (US$/m² – Gross/month)	N/A	6.71	N/A	4.50	1.85	3.00 [1]
Shared Services						
Office Lease (US$/m² – Gross/month)	25.00	10.50	11.57	7.00	5.39	12.25

[1] *Includes land acquisition costs and building costs in combination long-term lease.*

Table 6-5: Real Estate Conditions (Qualitative)

	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Electronics						
Availability of Land	4	4	4	4	4	3
Availability of Offices/Plants	5	4	4	4	4	3
Cost of Land/Building	4	4	4	4	3	2
Shared Services						
Availability of Land	4	N/A	5	3	4	3
Availability of Offices/Plants	4	4	4	4	4	3
Cost of Building Lease	3	4	5	4	3	3

	BETTER	WORSE
RATING	5 →	1

Table 6-6: Market and Transportation Access – Electronics (Quantitative)

	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Average % Exported of Goods Manufactured	79%	48%	82%	100%	82%	72%
Top Two Export Countries/Regions	US and Japan	Middle East and SE Asia	Japan and EU	N. America and EU	SE Asia and Japan	Middle East and Africa
% Local Suppliers Used in Manufacturing	78%	43%	53%	29%	24%	38%
Cost of 20 ft. Container to US West Coast in $ [1]	$4,200 Shanghai	$4,640 Jakarta	$4,755 Klang	$4,640 Manila	$4,640 Laemchabang	$5,075 HCMC[2]
Cost of 20 ft. Container to Japan (Yokohama) in $ [1]	$450 Shanghai	$425 Jakarta	$275 Klang	$350 Manila	$620 Laemchabang	$550 HCMC[2]

[1] Maersk full tariff rates, TEU (20 ft. equivalent unit).
[2] HCMC abbreviates Ho Chi Minh City.

Table 6-7: Transportation and Infrastructure – Electronics (Qualitative)

	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Port Access	4	4	4	4	3	3
Rail Access	4	2	4	2	2	2
Highway Access	4	3	5	2	4	2
Quality of Roads	4	3	4	1	3	2
Air Cargo Access	4	4	4	4	3	3
Cost of Air Transport	3	4	4	3	3	2
Cost of Shipping	3	4	4	3	3	2

	BETTER		WORSE
RATING	5	→	1

Table 6-8: Taxes – Both Industries (Quantitative)

	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Corporate Income Tax (Industry Dependent)	30%	30%	28%	32%	30%	25%
Maximum Privilege Rate	0%	30%	0%	0%	0%	10%
VAT/Sales Tax	17%	10%	5-10%	10%	7%	10%
Incentives (Not Applicable for Every Location within the Country)	2-year manufacturing income tax exemption followed by 6 years of 15% starting from first profitable year. Service industries pay full tax.	None reported by the companies	Multimedia Super Corridor 0% corporate tax for 5 years, Machinery and Equipment duty-free	6 years Tax Holiday at 0%	Tax Holiday up to 8 years at 0%	Income tax reduction to 10% for 4 years

Table 6-9: Utility Costs – Both Industries (Quantitative)

	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Electrical Cost (US$/KwH)	0.08	0.07	0.07	0.10	0.06	0.07
Water Cost (US$/m^3)	0.21	0.59	0.51	0.21	0.31	0.25
Sewer Cost (US$/m^3)	0.18	0.80	0.66	0.19	0.17	N/A
Telecom Cost (US$/minute to US)	0.25	1.00	0.24	0.30	0.56	1.30
Internet Cost [1] for T1 Line Equivalent [2] (US$/month)	5,452	4,863	4,388	5,452	4,283	7,497

1 This number is an estimated cost due to the range of service packages used by Phase II interviewed companies.

2 T1 Line equivalent means 2,044 Mbps. Not available in China without permission from the government.

Table 6-10: Utility Costs and Conditions – Both Industries (Qualitative)

	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Availability/Reliability of Electricity	4	3	4	4	4	3
Cost of Electricity	3	3	4	2	3	2
Availability/Reliability of Telecom	3	3	4	4	3	2
Cost of Telecom	4	3	3	4	3	2
Availability/Reliability of Water	4	3	4	3	4	4
Cost of Water	3	3	4	2	3	4

	BETTER	WORSE
RATING	5 →	1

Table 6-11: General Business Conditions – Both Industries (Qualitative)

	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Political/Social Stability	4	2	4	3	4	5
Government Transparency	3	2	3	2	3	2
Ease of Doing Business	3	2	3	4	3	3
Quality of Government Services	3	2	3	2	3	2
Taxation Rates	3	2	3	4	3	3
Customs Procedures	2	3	3	3	3	2
Grants and Incentives	3	2	4	4	4	3
Regulations on Hiring Foreign Workers	4	3	4	4	3	3
Presence and Quality of Business Support Services	3	3	4	4	3	2

	BETTER	WORSE
RATING	5 →	1

Table 6-12: Living Conditions – Both Industries (Qualitative)

	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Cost of Living	3	4	4	4	4	3
Crime and Safety	5	2	4	3	4	4
Health Care	3	3	3	4	4	3
Expatriate Housing	4	3	3	3	3	2
International Schools	4	4	4	4	4	3
Culture and Recreation	4	4	4	4	4	3

	BETTER		WORSE
RATING	5	→	1

Appendix 7
Comparisons between Phase I and Phase II Findings

Researchers compared findings between Phase I and Phase II to determine the degree of congruence, or overall alignment, between Phase I and Phase II results. The tables below show these comparisons among data sets for both industries (except as noted) in ten categories: labor costs, labor availability, labor conditions; real estate costs; market access (for electronics), transportation infrastructure (for electronics); taxes; utility costs, utility reliability; and general business conditions.

The importance of the data set to the location decision is indicated as 1) critical, 2) important, or 3) less important. In assigning the degree of congruence, it was often necessary to evaluate values from different forms of data (i.e., for Phase I, mostly rankings of countries; for Phase II, ratings from interviewees.) Thus, the degree of congruence is a non-absolute type of comparison. For cost-related factors, the degree of congruence between the phases is noted for each data set as either 1) congruent, 2) Phase II lower, or 3) Phase II higher. For condition-related factors, the degree of congruence between the phases is noted for each data set as either 1) congruent, 2) Phase II better, or 3) Phase II worse. For specifics on data sources other than those mentioned in the footnotes, see Appendix 4.

The 1-5 rating scale used for Phase II interviewee responses (see Appendix 6) was reversed to 1=Best/5=Worst in order to more easily compare the rankings used for Phase I data, which are reported on a 1-75 basis of 1=Best and 75=Worst, reflecting the 75 countries included in the report. Consequently, Phase II rating data in Appendix 7 tables, while retaining the exact quantitative meaning, will appear as the reverse of the same Phase II rating data shown in Appendix 6.

Appendix 7 does not include a table for comparison of living conditions between Phase I and Phase II data, due to the subjective quality of factors that influence living conditions and the lack of comparable published data that adequately quantifies lifestyle factors by country. (See Table 6-12 for interviewee ratings on living conditions.)

Table 7-1: Labor Costs – Electronics

	Importance	Phase	**China**	**Indonesia**	**Malaysia**	**Philippines**	**Thailand**	**Vietnam**
Unskilled Worker ($/month)								
	Critical	Phase I	100-150	60-80	139-357	244-433	185-396	58-138
		Phase II	82	77	152	126	118	84
		Congruence	Phase II Lower	Congruent	Congruent	Phase II Lower	Phase II Lower	Congruent
Skilled Worker ($/month)								
	Critical	Phase I	300	100-600	211-1,735	382-433	277-423	138-173
		Phase II	130	116	321	295	162	135
		Congruence	Phase II Lower	Congruent	Congruent	Phase II Lower	Phase II Lower	Congruent

(Continued on next page)

Table 7-1: Labor Costs – Electronics (Continued)

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Technical ($/month)								
	Critical	Phase I	2,000	600-1,500 (Factory Manager/ Supervisor)	578-1,837 (Accountant)	500-1,250	274	138-276 (Accountant)
		Phase II	200	277	612	312	315	206
		Congruence	Phase II Lower	Phase II Lower	Congruent	Phase II Lower	Phase II Higher	Congruent
Management ($/month)								
	Critical	Phase I	1,500	1,000-2,500	1,063-3,844	1,465-6,788	497-1,057	138-359
		Phase II	300	540	1,122	901	889	393
		Congruence	Phase II Lower	Phase II Lower	Congruent	Phase II Lower	Congruent	Phase II Higher
Benefits (% of Salary)								
	Important	Phase I	20-25%	13%	14%	7%	3%	20%
		Phase II	28%	20%	20%	30%	20%	20%
		Congruence	Phase II Higher	Phase II Higher	Phase II Higher	Phase II Higher	Phase II Higher	Congruent

Table 7-2: Labor Costs – Shared Services

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Unskilled Worker ($/month)								
	Critical	Phase I	100-150	60-80	139-357	244-433	185-396	58-138
		Phase II	242	84	355	226	104	100
		Congruence	Phase II Higher	Phase II Higher	Congruent	Phase II Lower	Phase II Lower	Congruent
Skilled Worker ($/month)								
	Critical	Phase I	300	100-600	211-1,735	382-433	277-423	138-173
		Phase II	726	238	846	496	208	166
		Congruence	Phase II Higher	Congruent	Congruent	Phase II Higher	Phase II Lower	Congruent
Technical ($/month)								
	Critical	Phase I	2,000	600-1,500 (Factory Manager/ Supervisor)	578-1,837 (Accountant)	500-1,250	274	138-276 (Accountant)
		Phase II	605	378	1,234	527	695	251
		Congruence	Phase II Lower	Phase II Lower	Congruent	Congruent	Phase II Higher	Congruent
Management ($/month)								
	Critical	Phase I	1,500	1,000-2,500	1,063-3,844	1,465-6,788	497-1,057	138-359
		Phase II	1,250	1,007	1,027	1,527	1,391	488
		Congruence	Phase II Lower	Congruent	Phase II Lower	Congruent	Phase II Higher	Phase II Higher
Benefits (% of Salary)								
	Important	Phase I	20-25%	13%	14%	7%	3%	20%
		Phase II	20%	N/A	15%	27%	20%	20%
		Congruence	Congruent	N/A	Phase II Higher	Phase II Higher	Phase II Higher	Congruent

Table 7-3: Labor Availability

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Civilian Labor Force (population in millions)								
	Less Important	Phase I	751	99	10	34	33	43.8
Electronics		Phase II	Not Measured					
Shared Services		Phase II	Not Measured					
		Congruence	Not Measured					
Unskilled Labor								
Total Pool Number	Critical	Phase I	428,070,000	N/A	4,999,200	10,639,000	8,192,100	N/A
Electronics Rating		Phase II	1	2	2	1	2	1
Shared Services Rating		Phase II	1	2	3	5	1	1
		Congruence [1]	Congruent	N/A	Congruent	Congruent	Congruent	N/A
Skilled Labor								
% of Labor Pool	Critical	Phase I	8	N/A	20	29	56	4
Electronics Rating		Phase II	2	3	2	2	2	2
Shared Services Rating		Phase II	2	4	3	2	2	2
		Congruence [1]	Phase II Better	N/A	Congruent	Congruent	Congruent	Phase II Better

(Continued on next page)

[1] Congruence determined using Electronics rating example only.

	BETTER		WORSE
RATING	1	→	5

Table 7-3: Labor Availability (continued)

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Technical								
% Labor Pool	Critical	Phase I	2	N/A	21	1	4	12
Electronics Rating		Phase II	2	3	2	1	3	2
Shared Services Rating		Phase II	3	3	2	1	2	2
		Congruence [1]	Phase II Better	N/A	Congruent	Phase II Better	Phase II Better	Congruent
Management								
% Labor Pool	Important	Phase I	23	N/A	6	7	7	8
Electronics Rating		Phase II	2	3	4	2	3	3
Shared Services Rating		Phase II	3	3	3	3	3	4
		Congruence [1]	Phase II Worse	N/A	Congruent	Congruent	Congruent	Phase II Worse
Unemployment								
% Labor Pool	Less Important	Phase I	10	15	3	10	4	25
Electronics		Phase II	Not Measured					
Shared Services		Phase II	Not Measured					
		Congruence	Not Measured					

	BETTER	WORSE
RATING	1 →	5

[1] Congruence determined based on Shared Services example only.

Table 7-4: Labor Conditions

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Productivity								
Index [1]	Less Important	Phase I	0.80	0.69	4.15	1.11	1.73	N/A
Electronics Rating		Phase II	2	3	3	2	2	2
Shared Services Rating		Phase II	2	2	3	2	2	2
		Congruence	Phase II Better	Phase II Better	Phase II Worse	Congruent	Congruent	N/A
Labor Relations								
Ranking [2]	Important	Phase I	45	60	10	41	29	18
Electronics Rating		Phase II	2	3	2	1	3	3
Shared Services Rating		Phase II	2	2	2	1	2	2
		Congruence	Phase II Better	Phase II Better	Phase II Worse	Phase II Better	Congruent	Congruent
Labor Regulations								
Ranking [2]	Important	Phase I	17	31	7	38	14	36
Electronics Rating		Phase II	2	4	3	2	3	3
Shared Services Rating		Phase II	3	3	3	3	3	2
		Congruence	Congruent	Congruent	Phase II Worse	Congruent	Phase II Worse	Congruent
Technical Training								
Ranking [2]	Less Important	Phase I	63	55	38	32	36	70
Electronics Rating		Phase II	5	5	3	4	3	4
Shared Services Rating		Phase II	3	3	3	3	3	2
		Congruence	Congruent	Congruent	Congruent	Congruent	Congruent	Phase II Better

[1] GDP produced per employee per hour in US$.
Source: IMD World Competitiveness Report, 2002.

[2] Based on qualitative rankings of labor conditions among 75 leading global economies.
Source: WEF Global Competitiveness Report, 2001-2002.

	BETTER		WORSE
RANKING	1	→	75
RATING	1	→	5

Table 7-5: Real Estate Costs

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Land Acquisition – Electronics (US$/m^2)								
	Important for Electronics	Phase I	109	98	120	200	45	N/A
		Phase II	35	66	60	61	52	N/A
		Congruence	Phase II Lower	Phase II Lower	Phase II Lower	Phase II Lower	Phase II Higher	N/A
Building Construction – Electronics (US$/m^2)								
	Important for Electronics	Phase I	149-224	550	132-211	370	176-226	45
		Phase II	97	221	282	1,022	329	N/A
		Congruence	Phase II Lower	Phase II Lower	Phase II Higher	Phase II Higher	Phase II Higher	N/A
Facilities Lease – Electronics (US$/m^2 – gross/month)								
	Important for Electronics	Phase I	Not Measured					
		Phase II	N/A	6.71	N/A	4.50	1.85	3.00 [1]
		Congruence	Not Measured					
Office Lease – Shared Services (US$/m^2 – gross/month)								
	Important for Shared Services	Phase I	5.38-21.52	8.60	8.49-17.00	20.70	20.28	7.00-18.00
		Phase II	25.00	10.50	11.57	7.00	5.39	12.25
		Congruence	Phase II Higher	Phase II Higher	Congruent	Phase II Lower	Phase II Lower	Congruent

[1] Includes land acquisition costs and building costs in combination long-term lease.

Table 7-6: Market Access – Electronics

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Access to Customers (A)								
Access to International Markets – Ranking [1]	Critical	Phase I	33	34	26	59	28	58
% of Product Exported		Phase II	79	48	82	100	82	72
		Congruence	Phase I and Phase II Not Comparable					
Access to Customers (B)								
Value of Electronics Exports (US$ B)	Critical	Phase I	43.5	7.3	52.4	9.7	21.6	0.73
Top Countries/ Regions for Export		Phase II	US and Japan	Middle East and SE Asia	Japan and EU	North America and EU	SE Asia and Japan	Middle East and Africa
		Congruence	Phase I and Phase II Not Comparable					
Access to Suppliers								
Ranking [2]	Important	Phase I	3	42	48	65	37	61
% of Suppliers Local		Phase II	78	43	53	29	24	38
		Congruence	Congruent	Congruent	Congruent	Congruent	Phase II Worse	Congruent

1 Based on qualitative ranking of market access among 75 leading global economies.
Source: WEF Global Competitiveness Report, 2001-2002.

2 Based on ranking of availability of locally-sourced components and parts among 75 leading global economies.
Source: WEF Global Competitiveness Report, 2001-2002.

	BETTER	WORSE
RANKING	1 →	75

Table 7-7: Transportation Infrastructure – Electronics

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Port Access								
Ranking [1]	Important	Phase I	51	59	15	70	36	69
Rating		Phase II	2	2	2	2	3	3
		Congruence	Phase II Better	Phase II Better	Phase II Worse	Phase II Better	Congruent	Phase II Better
Rail Access								
Ranking [1]	Less Important	Phase I	34	45	29	63	38	54
Rating		Phase II	2	4	2	4	4	4
		Congruence	Phase II Better	Phase II Worse	Congruent	Phase II Better	Phase II Worse	Congruent
Highway Access								
	Important	Phase I	Not Measured					
Rating		Phase II	2	3	1	4	2	4
		Congruence	Not Measured					
Quality of Roads								
Ranking [1]	Important	Phase I	48	66	15	74	12	71
Rating		Phase II	2	3	2	5	3	4
		Congruence	Phase II Better	Phase II Better	Phase II Worse	Congruent	Phase II Worse	Phase II Better

(Continued on next page)

	BETTER		WORSE
RANKING	1	→	75
RATING	1	→	5

[1] Based on qualitative rankings of the quality and reliability of transportation infrastructure among 75 leading global economies.
Source: WEF Global Competitiveness Report, 2001-2002.

Table 7-7: Transportation Infrastructure – Electronics (Continued)

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Air Cargo Access								
Ranking [1]	Important	Phase I	62	58	23	61	30	69
Rating		Phase II	2	2	2	2	3	3
		Congruence	Phase II Better	Phase II Better	Congruent	Phase II Better	Phase II Worse	Phase II Better
Cost of Air Transport								
	Critical	Phase I	Not Measured					
Rating		Phase II	3	2	2	3	3	4
		Congruence	Not Measured					
Cost of Shipping (US$/TEU) [2]								
	Critical	Phase I [3]	540 US-Shanghai	580 US-Jakarta	740 US-Kuala Lumpur	500 US-Manila	550 US-Bangkok	660 US-HCMC[4]
		Phase II [5]	450 Shanghai-Japan	425 Jakarta-Japan	275 Klang-Japan	350 Manila-Japan	620 Laemchabang-Japan	550 HCMC[4]-Japan
		Phase II [5]	4,200 Shanghai-US	4,640 Jakarta-US	4,755 Klang-US	4,640 Manila-US	4,640 Laemchabang-US	5,075 HCMC[4]-US
		Congruence	Phase I and Phase II Not Comparable					

1 Based on qualitative rankings of the quality and reliability of transportation infrastructure among 75 leading global economies.
Source: WEF Global Competitiveness Report, 2001-2002.
2 TEU (20 ft. container equivalent unit).
3 US to Asian cities reflects shipping costs for component shipping from the US.
4 HCMC abbreviates Ho Chi Minh City.
5 Maersk full tariff rates.

	BETTER		WORSE
RANKING	1	→	75
RATING	1	→	5

Table 7-8: Taxes

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Corporate Income Tax (% – Range if Industry Dependent)								
	Less Important	Phase I [1]	5-35	10-30	28	32	30	25
		Phase II	30	30	28	32	30	25
		Congruence	Congruent	Congruent	Congruent	Congruent	Congruent	Congruent
Maximum Privilege Rate (%)								
	Important	Phase I	Not Measured					
		Phase II	0	30	0	0	0	10
		Congruence	Not Measured					
VAT/Sales Tax (%)								
	Less Important	Phase I [1]	17	10	5-25	10	7	0-20
		Phase II	17	10	5-10	10	7	10
		Congruence	Congruent	Congruent	Congruent	Congruent	Congruent	Congruent

[1] Phase I data based on sources of published tax rates widely available in the public domain, e.g. www.asiatradehub.com and www.rowbotham.com

Table 7-9: Utility Costs

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Electrical Cost (US$/KwH)								
	Critical	Phase I [1]	0.03	0.03	0.06	0.09	0.06	0.07
		Phase II	0.08	0.07	0.07	0.10	0.06	0.07
		Congruence	Phase II Higher	Phase II Higher	Congruent	Congruent	Congruent	Congruent
Water Cost (US$/m^3)								
	Less Important	Phase I [1]	0.02-0.12	0.39	0.47-0.50	0.16-0.34	0.22-0.37	0.42
		Phase II	0.21	0.59	0.51	0.21	0.31	0.25
		Congruence	Phase II Higher	Phase II Higher	Congruent	Congruent	Congruent	Phase II Lower
Sewer Cost (US$/m^3)								
	Less Important	Phase I	Not Measured					
		Phase II	0.18	0.80	0.66	0.19	0.17	N/A
		Congruence	Not Measured					
Telecom Cost (US$/minute to US)								
	Critical	Phase I [1]	0.01	0.01	0.02	0.01	0.07	0.02
		Phase II	0.25	1.00	0.24	0.30	0.56	1.30
		Congruence	Phase II Higher	Phase II Higher	Phase II Higher	Phase II Higher	Phase II Higher	Phase II Higher
Internet Cost (US$/month/T1 Line [3] equivalent)								
	Critical	Phase I	Not Measured					
		Phase II[2]	5,452	4,863	4,388	5,452	4,283	7,497
		Congruence	Not Measured					

1 Based on data from country IPIs and other third-party sources, e.g. ASEAN Facts and Figures, Cost of Investing and Doing Business in ASEAN, 2000.

2 This number is an estimated cost due to the range of service packages used by Phase II interviewed companies.

3 T1 Line equivalent means 2,044 Mbps. Not available in China without permission from the government.

Table 7-10: Utility Reliability

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Electrical Reliability								
	Critical	Phase I	N/A					
Rating		Phase II	2	3	2	2	2	3
		Congruence	Not Measured					
Water Reliability								
	Important	Phase I	N/A					
Rating		Phase II	2	3	2	3	2	2
		Congruence	Not Measured					
Sewer Reliability								
	Less Important	Phase I	Not Measured					
		Phase II	Not Measured					
		Congruence	Not Measured					
Telecom Reliability								
Ranking [1]	Critical	Phase I	49	59	36	60	34	64
Rating		Phase II	3	3	2	2	3	4
		Congruence	Phase II Better	Phase II Better	Phase II Better	Phase II Better	Congruent	Phase II Better

	BETTER		WORSE
RANKING	1	→	75
RATING	1	→	5

[1] Based on qualitative ranking of telecom reliability among 75 leading global economies.
Source: WEF Global Competitiveness Report, 2001-2002.

Table 7-11: General Business Conditions

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Access to Local Finance								
Ranking [1]	Less Important	Phase I	60	48	41	47	51	69
		Phase II	N/A					
		Congruence	Not Measured					
Red Tape "Ease of Doing Business"								
Ranking [1]	Important	Phase I	58	59	8	44	72	41
Rating		Phase II	3	4	3	2	3	3
		Congruence	Phase II Better	Congruent	Phase II Worse	Phase II Better	Phase II Better	Congruent
Hidden Import Trade Barriers (Customs)								
Ranking [1]	Less Important	Phase I	61	67	33	66	41	73
Rating		Phase II	4	3	3	3	3	4
		Congruence	Phase II Better	Phase II Better	Congruent	Phase II Better	Congruent	Phase II Better
Difficulty in Starting Business								
Ranking [1]	Less Important	Phase I	23	42	28	43	17	22
		Phase II	N/A					
		Congruence	Not Measured					
Political Stability								
Ranking [1]	Important	Phase I	35	47	25	43	26	N/A
Rating		Phase II	2	4	2	3	2	1
		Congruence	Phase II Better	Congruent	Congruent	Congruent	Congruent	N/A

(Continued on next page for table and ranking/rating scale.)

[1] Based on qualitative rankings of business conditions among 75 leading global economies.
Source: WEF Global Competitiveness Report, 2001-2002.

Table 7-11: General Business Conditions (Continued)

	Importance	Phase	China	Indonesia	Malaysia	Philippines	Thailand	Vietnam
Social Stability								
Ranking [1]	Important	Phase I	16	39	4	30	29	N/A
Rating		Phase II	2	4	2	3	2	1
		Congruence	Congruent	Phase II Worse	Phase II Worse	Phase II Worse	Congruent	N/A
Government Transparency								
Corruption Index [2]	Important	Phase I	3.5	1.9	4.9	2.6	3.2	2.4
Rating		Phase II	3	4	3	4	3	4
		Congruence	Phase II Better	Phase II Better	Congruent	Congruent	Phase II Better	Congruent
Costs of Corruption								
Ranking [1]	Important	Phase I	56	54	50	65	39	59
		Phase II	N/A					
		Congruence	Not Measured					
Grants and Incentives								
% of GDP	Important	Phase I	1.48	3.58	1.42	0.27	0.38	N/A
Rating		Phase II	3	4	2	2	2	3
		Congruence	Phase I and Phase II Not Comparable					

[1] Based on qualitative rankings of business conditions among 75 leading global economies.
Source: WEF Global Competitiveness Report, 2001-2002.

[2] Based on index of 102 countries where 10=Best and 1=Worst.
Source: Transparency International Corruption Perceptions Index, 2002.

	BETTER		WORSE
RANKING	1	→	75
RATING	1	→	5

About the Research Companies . . .

Tractus Asia Limited provides corporate strategy and implementation assistance to multinational manufacturing companies looking to establish a presence or improve their business in Asia's developing economies. Headquartered in Hong Kong, Tractus has offices in Shanghai and Bangkok to serve the needs of clients in Greater China and Southeast Asia. Tractus and its senior management also serve as advisors to Asian regional governments on economic development and investment attraction issues. Through the offices in China and Thailand, Tractus has worked on behalf of numerous multinational, regional and local Asian companies. The China operations also function as a business incubator.

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