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**Embedded Co-operation in the Context of Singapore's Investment Enclaves
In Indonesia and Vietnam: A Strategy Reconsidered**



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Embedded Co-operation in the Context of Singapore's Investment Enclaves in Indonesia and Vietnam: A Strategy Reconsidered¹

Abstract

Regional industrial development projects - development packages assembled, administered and promoted by consortia of sovereign national governments – are new players in the global competition for foreign investments. Singapore's flagship projects in China have received much attention. Our paper reports on Singapore's lesser-known projects in *Indonesia and Vietnam*. This regionalization initiative is intended to set in place a strategic configuration for the city-state to restructure its domestic industries, and yet retain important linkages with production centres in low-cost investment enclaves. Our study finds that the strategic intent of this policy gambit remains stymied by non-economic, socio-political complexities in the host environments.

Key words: Transborder industrialization – investment enclaves – Singapore – Indonesia – Vietnam.

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Introduction

From early days, Singapore recognised that it must be plugged into the global economy. Lack of natural resources made it an imperative for the city-state to develop the ability to leverage on global resources for economic growth. The government's aggressive approach to woo foreign MNCs to fuel the city-state's economic development is well documented (Chia, 1986; Pang, 1987; Rodan, 1989; Regnier, 1991; Huff, 1995). However, rising business costs in the 1980s made it imperative for Singapore to shift away from labor-intensive activities to higher value-added ones. Singapore's economic planners sought to expand the island's investment horizons through an overseas direct investment program launched in 1988. Most of these investments proved unsuccessful, resulting in enormous losses by the early 1990s (Balakrishnan, 1991; Kanai, 1993). A new phase in the internationalization strategy re-focused on Asia was initiated, rationalized by the liberalization of foreign investment controls occurring at the time in countries like Indonesia, China and Vietnam, and the high growth rates these economies were achieving (SEDB 1993a, 1993b; Singapore Ministry of Finance, 1993; Mahizhnan, 1994; Kwok, 1995; Pang, 1995; Perry, 1995; Tan, 1995; Zutshi & Gibbons, 1998; Okposin, 1999; Blomqvist, 2001; Sitathan, 2002). The strategic repositioning was discussed at the 1993 Regionalization Forum, and encapsulated in the policy documents, *Singapore Unlimited* and *Regionalization 2000* (SEDB 1995a; 1995b).

The regionalization program was launched in the early 1990s, with the strategic intent of creating economic space for local and Singapore-based multinationals. The cut-and-thrust of the regionalization program involved the establishment of overseas industrial townships to create 'Singapore-styled' business environments for local and Singapore-based multinational enterprises (MNEs) to expand regionally and redistribute their resource-dependent operations to these sites. The Singapore government's² role has been acknowledged (SEDB, 1993b), and government-linked companies (GLCs) were the prime investors in the infrastructure and real estate development.

To provide context to this paper, the theoretical considerations underpinning the flagship projects are sketched in the next section, followed by updates on the progress of the case-study parks in attracting investment, as well as their contributions to the strategic objectives associated with Singapore's broader regionalization initiative. The analysis is reinforced by empirical data from our on-site interviews with the Parks' tenants. The final section considers the implications of these experiences for Singapore's regionalization program, and evaluates the city-state's determined efforts to harness synergistic complementarities, in its strategic intent to restructure the Singapore economy.

Theoretical Considerations

Stoever (1985), Dunning (1988) and Porter (1986, 1990), among others, illustrate that a country's relative level and composition of outward and inward investments are systematically related to its stage of development. Dunning's investment development path model suggests that countries advance through five stages of development which relate to different levels of net outward investment. The thesis suggests that countries in the more advanced stages of development will have to increase their outward FDI in order to achieve greater economic growth. An extension of this thesis is revisited in Dunning and Narula (1996).

In turn, Dunning's eclectic paradigm (1970, 1980, 1988) seeks to offer a general framework for determining the extent and activities of MNE engaged in cross-border value-adding activities. The eclectic paradigm can be applied to explain the ability and willingness of firms to serve markets, and to look into the reasons for their choice of exploiting this advantage through foreign production rather than domestic production, exports or portfolio resource flows through the interaction of ownership-specific advantages, internalization-incentive advantages, and location-specific advantages (OLI). Firms excoogitate the O advantages through exploitation of firm-specific resources, simultaneously deriving I advantages through the diminution of transaction costs. This theory has been extended, in more recent literature, to deliberations on the role of infrastructure in the attraction of new investments (Peck, 1996); the presence of immobile clusters of complementary value-added activities (Markusen, 1996), the agglomeration economies of spatial proximity (Porter, 1994, 1996) and the business-government nexus in alliance capitalism (Dunning 1995, 1997; 2000; Evans, 1995; Dunning and Narula, 2000), and surveyed in Dunning (1998, 2001). In determining the propitious extent in which a firm strategically locates, we will examine, *inter alia*, Singapore's trans-border industrialization efforts, with particular focus on the development of Singapore-styled investment enclaves in regional sites, and if the locations of these townships are indeed that strategically advantageous.

² The raison d'etre government involvement is rationalized in the 1993 Report of the Committee to Promote Enterprise Overseas (chapter 4). For a scholarly discussion on the political economy of Singapore's regionalization program, succinctly summarized in Yeung (1998), Low (1998) and Blomqvist (2001). The Singapore government also initiated a series of platforms for strategic discussions and collaboration to market Singapore's overseas industrial parks, and introduced a range of incentives and regulatory innovations designed to assist private companies and individuals in moving overseas.

Batamindo Industrial Park (BIP), Indonesia

The late 1960s witnessed Indonesia's ambition to develop the Riau islands when Batam was identified as a potential logistics and operational base to support offshore oil and gas fields. The 1979 master plan recognized the Riau islands with its location-specific advantages such as abundant land cheap labor were well-positioned³ to address Singapore's land and labor constraints and, more importantly, to take advantage of Singapore's established business and financial services network and the city-state's efficient facilities for communication, transportation and other services. A Memorandum of Understanding⁴ on bilateral cooperation in the development of Riau Province was signed on August 29, 1990.

BIP was launched in 1992. The Park started as a joint-venture between Singapore's GLCs⁵ and the Salim Group of Indonesia. Salim was Indonesia's largest business conglomerate, and had close links to senior politicians and privileged access to the major investment projects in the Riau Islands (Sato, 1993; Hill, 1996). Roles and responsibilities were distinctively segregated, with Salim providing a guarantee of priority with respect to regulatory controls, and the Singapore contributors taking control of the design, physical development and management of the estate, where it could leverage on its reputation for service efficiency and reliability to foreign investors (Yeoh, et al, 1992)

BIP's first tenants were mainly subsidiaries of American, European, and Japanese multinationals already operating in Singapore. Cumulative investments and export value in BIP topped US\$1 billion and US\$2 billion in 2002 respectively, and the number of confirmed tenants increased from 17 in 1991 to 82 in 2003. Of these, 39 were Japanese companies with Singapore-owned companies the next largest concentration at 25. American and European investors have a limited presence. There is a concentration of electronics operations, mainly various component assembly processes, and supporting activities to the electronics sector such as plastic moulding and packaging. Out of total employment of 65,000, over 85% are female, most aged from 18-22.

Vietnam-Singapore Industrial Park (VSIP)

VSIP was first mooted in March 1994 by the then Vietnamese Prime Minister, Vo Van Kiet, and Singapore's Prime Minister, Goh Chok Tong, and launched in 1996. The 1,000-hectare Park is located in Binh Duong Province, 17 km north of Ho Chi Minh City, and is within a 40-minute drive from the international airport and seaports. A self-contained, self-sufficient industrial park with prepared land plots, and ready-built factories, bolstered by Singapore-style management expertise and infrastructure support, VSIP provides a one-stop service to its tenants. VSIP boasts an on-site customs unit, which allows the convenience of customs procedures and documentation to be done within the Park, and customs inspections within tenant's factories.

VSIP's first tenants included 3M, Sandoz, Sakata Inx, Godrej (India), Liwayway Food Industries (Philippines), and a mix of Singapore manufacturers like ST Automotive, Star Chemicals and Hwa Hup. The role of Singapore's EDB has been acknowledged. VSIP had, by November 1998, attracted US\$370 million in investments and thirty investors from ten different countries investing in a broad swathe of industries: food, electrical and electronics, pharmaceuticals and healthcare, specialty materials, consumer goods and light industries. Investment commitments in VSIP are currently valued at over US\$600 million from 124 tenants, of which 80 are already operational. 24,000 jobs have been created, with the number expected to rise to 40,000 when the remainder of the tenants start their operations. VSIP's 15 Singaporean and 10 non-Asian firms come from diverse industries, while the 13 Japanese firms are manufacturers of electronics and other parts and components. VSIP is less selective of target industries. The Park posted its first profits of US\$4 million in 2002.

³ The cataclysmic collapse of oil prices in the early 1980s impressed upon Indonesia's economic planners the need for a more broad-based development strategy. The Riau islands were an obvious choice to encourage investments not least because Singapore has shown interest in leasing these nearby islands to transcend the city-state's need for inexpensive land and labor. By the late 1980s, the perception from Jakarta was that Singapore was "bursting at the seams", and that the time was right to position Batam and the other Riau islands to take advantage of the spill-over from Singapore.

⁴ Singapore's vision on the role of Batam differed from the Indonesian ambition to create a diversified modern metropolis comparable to Singapore. Singapore's economic planners envisaged Batam as a relocation point for low value assembly activity. However, after Indonesia's own efforts to promote Batam had brought few results, there was a willingness to compromise development objectives, especially as BIP promised to leverage other investments under the larger growth triangle initiative for which it became the key flagship project.

⁵ The Singapore consortium was led by Singapore Technologies Industrial Corporation (now SembCorp Industries) and Jurong Town Corporation, Singapore's main industrial estate infrastructure developer.

Analysis & Findings

To add empirical rigor to this study, a modified version of the questionnaire developed in *Yeoh, et al* (2000), was applied to the tenants in the BIP and VSIP. A sample of our survey questionnaire is set out in appendix A. The first set of questions sought to determine the profile of the respondents: type of ownership, nature of operations and size of establishment; and the second set was structured to gauge the differential impact of various push/pull factors on firms' decision to locate in the case-study parks, along with the differential impact of different types of constraints on their operations. Other questions pertaining to the respondents' views on the facilities and services in the Parks were culled from open-ended questions. The on-site interviews were undertaken in August 2002 (VSIP) and July 2003 (BIP). This section presents our survey results.

Profile of respondents

A total of 50 responses were collected from Singapore's low-cost investment enclaves in Indonesia and Vietnam. We interviewed 27 companies out of a total of 82 companies in BIP, and 23 companies in VSIP, which represented 50% of the tenants in VSIP at the time of the interview. The interviewees were all senior managers at the facilities.

Of the 27 respondents in the BIP survey, 7 (26%) were wholly Singapore-owned, 5 (18%) were joint ventures, and 15 (56%) were wholly foreign-owned. The respondents were mainly involved in the manufacturing of intermediate products. 7 of the respondents were involved in the manufacture of consumer products, and another 5 were providers of industrial services. There were 7 (26%) respondents with a sales turnover of less than US\$5 million, 14 (52%) respondents with turnovers between US\$5 million and US\$50 million, and the remaining had turnovers exceeding US\$50 million.

Of the 23 respondents from VSIP, 6 were wholly Singapore-owned, 1 was a joint venture and 16 were wholly foreign-owned. There were 7 small firms, 8 medium-sized firms, and 8 large firms. As for the nature of operations, 8 manufactured consumer products, 3 manufactured intermediate products, and 2 were involved in industrial services. None of the companies surveyed were manufacturers of capital goods. In terms of targeted markets, 9 targeted only the domestic (Vietnam) market, 4 targeted the ASEAN (Association of South-East Asian Nations) countries (excluding Vietnam), while 7 targeted both Vietnam and surrounding ASEAN countries. The remaining are export-based manufacturing entities catering to non-ASEAN countries.

Statistical treatment of survey results

Apart from analysing the descriptive statistics and popular rankings on the responses related to factors and constraints, logit analysis was used to compare the push/pull factors influencing the tenants' decision to locate in the Parks. The logit model, estimated by the maximum likelihood, takes the following form:

$$P_i = \exp(Z_i) / [1 + \exp(Z_i)]$$

where: P_i is the probability of firm being located in BIP
exp refers to the exponentiation operator, and
 Z_i is a linear function of the push/pull factors defined as

$$Z_i = \alpha_0 + \sum_{j=1}^{i=6} \alpha_j F_j$$

where: F_1 = 1 if "Political commitment from the Singapore government" is selected, 0 otherwise

F_2 = 1 if "Political commitment from the host country government" is selected, 0 otherwise

F_3 = 1 if "Investment incentives" is selected, 0 otherwise

F_4 = 1 if "Competitive labor costs" is selected, 0 otherwise

F_5 = 1 if "Reliable infrastructure facilities" is selected, 0 otherwise

F_6 = 1 if "Access to domestic market" is selected, 0 otherwise

α_0 = constant term

α_i = coefficient of independent (explanatory) variable

Estimated coefficients in the logit model, if statistically significant (as indicated by the p-values), would suggest that the firm choosing that particular push/pull factor is more likely to be from BIP than from VSIP. For example, if the coefficient of F_1 is *positive* and *significant*, this would suggest that, after taking into account the effects of other push/pull factors, a firm choosing 'Political commitment from

the Singapore government' has a higher probability of being a firm located in BIP than VSIP compared to a firm which did not select this choice as one of their reasons for re-locating, i.e. political commitment from the Singapore government is a significant pulling factor for the BIP tenants but not for the VSIP tenants.

A similar logit model was applied to the constraints faced by the parks' tenants:

$$P_i = \exp(Z_i) / [1 + \exp(Z_i)]$$

where: P_i is the probability of firm being located in the particular park
 \exp refers to the exponentiation operator, and
 Z_i is a linear function of the constraints¹ defined as

$$Z_i = \beta_0 + \sum_{j=1}^{i=n} \beta_j C_j$$

where: C_i ($i = 1$ to n , depending on the type of constraint) = 1 if constraint i is selected, 0 otherwise
 β_0 = constant term

β_i = coefficient of independent (explanatory) variable

In this case, estimated coefficients in the logit model, if statistically significant, would suggest that the firm choosing that particular constraint is more likely to be from BIP than from VSIP. For example, if the coefficient of C_1 is *positive* and *significant*, this would suggest that, after taking into account the effects of other labor constraints, a firm choosing 'shortage of professionals and managers' has a higher probability of being a firm located in BIP than VSIP compared to a firm which did not select this choice as one of the constraints they face, i.e. shortage of semi-skilled and skilled labor is a significant constraint faced by BIP tenants but not by the VSIP tenants.

Factors influencing respondents' decisions to locate in BIP/VSIP (Tables 1A and 1B)

Singapore leverages on its infrastructure development expertise and the low-cost labor available in the host environments to market its industrial parks. Not unexpectedly, the reliable and efficient Singapore-styled infrastructure was the Parks' main draw, with 85% and 70% of the BIP and VSIP tenants surveyed citing it as a pull factor for them to locate in the Park respectively. "Competitive labor costs" is also a pull factor for both parks, with 81% and 48% of the tenants from BIP and VSIP respectively indicating so.

Political commitment from the Singapore and the Indonesian governments is a major concern for BIP tenants compared to VSIP tenants, as indicated by the positive and statistically significant α_1 (=1.817) and α_2 (=1.740). This can be explained by the instability of Indonesia's political system since Soeharto was made to step down in 1998, the presidential position has changed hands several times, from Habibie, Abdurrahman Wahid and Megawati Sukarnoputri. Key economic positions were reshuffled and economic advisors changed frequently; all these serve to complicate investors' assessment of Indonesia's political outlook, making it imperative for both countries to signal their political commitment to the progress of the Park.

Constraints faced by respondents' operations (Tables 2A and 2B)

Both BIP and VSIP are now established industrial estate developments, but our study alludes to some emerging constraints which have undermined the attractiveness of the Parks. These constraints are categorised into three broad groups, namely, those relating to labor, those relating to organization and technology, and those relating to the economic "environment", such as government policies and regulations.

Labor-related constraints

The "cheap" labor resources which drew companies to Indonesia proved to be mere perception rather than a reality in BIP, as "rising labor costs" is the main constraint faced by the majority (78%) of the BIP tenants surveyed. Low labor productivity exacerbated the difficulties faced by the tenants, which perform predominantly labor-intensive activities in BIP. This is further documented by constant lamentations of "unfair" labor laws and industrial relations problems during our interviews with the tenants. Many VSIP tenants, on the other hand, did not face such constraints, as indicated by the positive and significant β_2 (=6.041) and β_3 (=3.309). Instead, many VSIP tenants surveyed (74%) cited shortage of professionals and managers as a labor constraint.

Organizational/technology-related constraints

The Singapore-styled infrastructure, though reliable and efficient, also proved to be costly, as facilities such as the power plant, waste-treatment system and water supply are independently managed. This resulted in high overhead costs, especially in BIP where 74% of respondents cited it as a constraint they faced. The positive and highly significant β_4 (=4.849) supports our rankings analysis. Other

organizational/technological constraints faced by BIP tenants (but less so by VSIP tenants) include the lack of good supporting services ($\beta_3 = 2.754$) and difficulty in sourcing inputs ($\beta_5 = 2.803$).

'Environmental' constraints

"Impact of host government regulations" and "competition from overseas industry competitors" are constraints faced by both BIP and VSIP tenants. However, whereas 89% and 78% of BIP tenants cited the above two constraints respectively, only about half of the VSIP tenants indicated likewise. This accounts for the positive and significant $\beta_1 (=2.472)$ and $\beta_2 (=1.879)$. The government's control over the operating environment and the economic landscape shaped by overseas industry competitors has proven more stifling to the operations of the tenants in BIP than to those in VSIP.

Discussion

Our empirical data confirms the following: the political climate created by the Singapore and host governments, the factor conditions, infrastructure and the proximity to Singapore (in the case of BIP) are the main determinants that shape the competitive environment in the Parks. The tenants were able to tap into the low-cost environments of the Parks, as well as leverage on Singapore's infrastructure, management and expertise. Most significantly, Singapore's positive reputation with multinational corporations for its stable, corrupt-free investment environment lends credibility, to the extent that locating within the park would tend to enhance a company's prestige.

Nonetheless, as most openly admitted, the strategically 'engineered', inter-government endorsement of the flagship projects, and the enormous resources mobilized through the strategic partnerships, have 'failed' to shield the Parks from a gamut of problems. Issues pertaining to the scale and character of development of BIP are discussed in our earlier papers (Perry & Yeoh, 2000; Yeoh et al, *forthcoming*). The following observations update, and offer new insights, on BIP in Indonesia, and present data on recent developments in VSIP.

Heightened competition

The case-study parks are increasingly facing strong mounting competition from competing parks within their vicinity. Competitor parks, some of which are backed by prominent Indonesian politicians, have mushroomed around BIP. Panbil Industrial Park, for instance, is located directly opposite BIP, and offers similar factories at competitive rentals. The S\$360 million Latrade Industrial Park, to be developed over five years, cuts in at the small-and-medium enterprise segment. The premium placed on BIP's one-stop support service, and self-sufficient operating environment, is increasingly called into question. As well, competition is not limited to within Indonesia. Indonesia's minimum wage level works out to US\$66 per month against Myanmar's US\$16 and Bangladesh's US\$18 for labor-intensive sectors such as textile, footwear, toys and fashion accessories. Foreign investors have also taken issue over the perceived reluctance of authorities to clamp down on worksite stoppages⁶. Recent press reports on Riau's investor exodus⁷ cite sluggish bureaucracy, lack of legal certainty and security, and unclear investment policies as reasons for investors relocating their investments from the province, and Indonesia. Populist measures such as raising the minimum wages before the general elections due in 2004, further heighten the reluctance of investors to pour money into the country.

VSIP's attractiveness has been similarly eroded by competition from newer, albeit smaller, industrial parks developed by experienced and street-savvy developers from Japan, Korea and Taiwan⁸. Adverse market conditions have amplified competition from these parks, which offer investors highly competitive rates for their 'no frills' package. Not unlike BIP, the economics of heightened competition have called into question the premium attached to the 'superior infrastructure' in low-cost industrial-investment enclaves. VSIP struggles to maintain investor interest vis-à-vis Asia's new powerhouses - China and India.

Political 'commitment'

Reliance on political patronage (and personal ties) rather than transparent contracts has had advantages and disadvantages. For BIP, the reliance on the Salim Group has been necessary in the context of the Indonesian system of 'crony capitalism' fostered by then President Soeharto. The end of the Soeharto era has diminished Salim's political and commercial influence, and BIP's privileged access to senior politicians and policy-makers in Jakarta has proved more difficult. Compounding

⁶ The Straits Times, August 24, 2002.

⁷ The Straits Times, August 30, 2003; The Straits Times, December 5, 2003.

⁸ Some analysts have maintained the viability of VSIP depends more on the economic climate, and investor sentiments on growth opportunities, than on specific competitors.

these uncertainties, inter-governmental endorsements, post-Soeharto, no longer suffice to secure commitments at the lower tiers of government⁹. Anecdotal evidence, culled from our on-site interviews, points to a more complex regulatory environment for foreign companies, as they have to deal more intensively with the provincial and sub-provincial (district) governments. Ownership changes at BIP have brought about added uncertainties¹⁰. The Park's reputation as an investment enclave¹¹ has also not been left unscathed by political developments in the aftermath of the Asian financial crisis, the September 11 attacks in the United States, the Bali-Jakarta bomb blasts and negative press reports on active terrorist cells within the region.

Singapore's optimism over the VSIP project was encouraged by a series of perceived advantages secured at the onset. These included VSIP being an initiative endorsed by both the central and local governments which, it was believed, translated into added security against political risks of investing in Vietnam¹², and the project was also accorded preferential policies in part due to its inter-government ties. In reality, the 'special' support from the local authorities has proved to be less significant than initially envisaged. Improvements on infrastructural projects have translated into a plethora of miscellaneous fees, and added to operating costs. Our on-site interviews further point to negative undercurrents regarding Singapore's control and management of VSIP. Anecdotal evidence suggests that, while there is an interest in learning from Singapore, tensions have arisen over Singapore-styled management practices, and these have translated into perception differences, protracted conflicts and project delays. It is conceivable that the ownership-management structure of VSIP may, in time, be restructured to reflect a better alignment of interests. Significantly, SembCorp Industries has announced plans to divest itself of part of its stake in VSIP¹³, even as it is finally registering positive returns on its investment.

Conclusion

Official commitment to the projects remains, in the willingness of the Parks' management to cut alternative strategies to re-position these flagship projects. In our interviews with SembCorp Industries, the Parks' management reasons that competition is inevitable. And, rather than engaging in a price war, management has indicated a preference to adjust rates to 'better reflect market situations' while, at the same time, endeavour to differentiate the Parks from competitors by catering to higher value-added activities. For instance, there are plans to create new initiatives for the Parks' tenants, such as offering broadband services ahead of competitors, and providing supply-chain management solutions for its tenants. Interestingly, the Parks' management view competitors as essential components of a 'living system in which all entities within the system constantly adapt to their dynamic environment and are synergistically integrated'. In the case of BIP, it is argued, co-existence must be established to augment a positive image of the Riau Islands as an investment haven, and competitors are viewed as an imperative to the long-term attractiveness of BIP. As well, Bintan Industrial Estate, in close geographical proximity to BIP, serves as a cheaper alternative for cost-conscious companies to locate their operational activities. For VSIP, the project is perceived as a strategic thrust to capitalize upon first-mover advantages in an emerging economy with immense market potential. More subtly, it has been positioned that VSIP's apparent 'success' may leverage Singaporean companies' foray into Vietnam's infrastructure plans and commercial-residential township projects.

⁹ Law No. 22/199 allows provincial, district and municipal governments to write provincial laws, some of which contradict national laws, or test the boundaries of their power. The Megawati administration is now proposing a revision of laws on regional autonomy, but the direction remains unclear. For a discussion on the problems with regional autonomy and their impact on business, see Van Zorge, Heffernan & Associates (April 2002).

¹⁰The Indonesian Bank Restructuring Agency has reportedly offered to sell the Salim Group's stakes in all the Riau projects – estimated to be worth S\$500 million – in a packaged deal (The Business Times, August 28, 2001). Further restructuring have taken place, with the three main stakeholders now being SCI, Ascendas International and the Indonesian government.

¹¹ BIP had 88 (confirmed) tenants in early 1997, and 5 years on, the total number hovers around 80. At its peak, BIP had 94 tenants in 2001.

¹² Bureaucratic red-tape and corruption remain endemic. Transparency International, a global counter-corruption watchdog, ranks Vietnam as the second most corrupt country in South-East Asia (after Indonesia). The Vietnamese government itself recently estimated that light-fingered bureaucrats creamed off at least 20% of the infrastructure spending (The Economist, September 14, 2002).

¹³ The Straits Times, December 1, 2003.

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Table 1A Factors influencing respondents' decisions to locate in BIP/VSIP (by popular ranking)

| Variables | BIP | | VSIP | |
|--|-----------|------|-----------|------|
| | Frequency | Rank | Frequency | Rank |
| Political commitment from Singapore | 17 | 4 | 3 | 5 |
| Political commitment from host country | 21 | 3 | 7 | 4 |
| Efficient infrastructure facilities | 23 | 1 | 16 | 1 |
| Incentives from Singapore government | 16 | 5 | 12 | 2 |
| Competitive labour costs | 22 | 2 | 11 | 3 |
| Access to domestic market | 6 | 6 | 12 | 2 |

Source: Questionnaire surveys.

Table 1B Factors influencing respondents' decisions to locate in BIP/VSIP (by maximum likelihood estimates - binary logits)^{v, φ}

| Variables | α_i | p-value |
|---|------------|---------|
| Political commitment from the Singapore government | 1.817 | 0.050** |
| Political commitment from the host country government | 1.740 | 0.036** |
| Incentives from Singapore government | 1.268 | 0.190 |
| Competitive labour costs | 1.082 | 0.207 |
| Reliable infrastructure facilities | 0.309 | 0.760 |
| Access to domestic market | -1.348 | 0.134 |
| Constant (α_0) | -1.996 | 0.042** |

Note: ^v Estimated values were taken from "forced entry" regression.

^φ p-values are for 2-tailed tests.

* Significant at 1% level

** Significant at 5% level

*** Significant at 10% level

Source: Questionnaire surveys.

Table 2A Major constraints on respondents' operations in BIP/VSIP
(by popular ranking)

| Variables | BIP | | VSIP | |
|---|-----------|------|-----------|------|
| | Frequency | Rank | Frequency | Rank |
| <u>Labour-related constraints</u> | | | | |
| Shortage of professionals and managers | 10 | 3 | 17 | 1 |
| Rising labour costs | 21 | 1 | 1 | 4 |
| Low labour productivity | 11 | 2 | 5 | 2 |
| Others | 4 | 4 | 4 | 3 |
| <u>Organizational and Technological-related constraints</u> | | | | |
| Difficulty in obtaining capital equipment | 5 | 5 | 6 | 2 |
| Difficulty in introducing new technology and techniques | 11 | 4 | 5 | 3 |
| Lack of good supporting services | 13 | 3 | 5 | 3 |
| High and/or rising overhead costs | 20 | 1 | 5 | 3 |
| Difficulty in sourcing inputs | 17 | 2 | 8 | 1 |
| Others | 0 | 6 | 5 | 3 |
| <u>'Environmental' constraints</u> | | | | |
| Impact of host government regulations | 24 | 1 | 11 | 1 |
| Competition from overseas industry competitors | 21 | 2 | 11 | 1 |
| Reduced involvement from the Singapore government | 1 | 3 | 1 | 3 |
| Others | 1 | 3 | 7 | 2 |

Source: Questionnaire surveys.

Table 2B Major constraints on respondents' operations in BIP/VSIP
(by maximum likelihood estimates - binary logits)^{ψ, †}

| Variables | β_i | p-value |
|---|-----------|----------|
| <u>Labour-related constraints</u> | | |
| Shortage of professionals and managers | -1.863 | 0.129 |
| Rising labour costs | 6.041 | 0.001*** |
| Low labour productivity | 3.309 | 0.018** |
| Others | 0.342 | 0.782 |
| Constant (β_0) | -5.768 | 0.005*** |
| <u>Organizational and technological-related constraints</u> | | |
| Difficulty in obtaining capital equipment | 0.812 | 0.464 |
| Difficulty in introducing new technology and techniques | 1.302 | 0.217 |
| Lack of good supporting services | 2.754 | 0.039** |
| High and/or rising overhead costs | 4.849 | 0.002*** |
| Difficulty in sourcing inputs | 2.803 | 0.026** |
| Others | -15.153 | 0.999 |
| Constant (β_0) | 8.683 | 1.000 |
| <u>'Environmental' constraints</u> | | |
| Impact of host government regulations | 2.472 | 0.004*** |
| Competition from overseas industry competitors | 1.879 | 0.018** |
| Reduced involvement from the Singapore government | -0.832 | 0.611 |
| Others | -1.710 | 0.179 |
| Constant (β_0) | 0.771 | 0.710 |

Note: ^ψ Estimated values were taken from "forced entry" regression.

[†] p-values are for 2-tailed tests.

* Significant at 1% level

** Significant at 5% level

*** Significant at 10% level

Source: Questionnaire surveys.

QUESTIONNAIRE SURVEY

Batamindo Industrial Park (BIP)

Dear Respondents, please be assured that the information you provide will be kept strictly confidential, and this survey is strictly for academic purposes only.

Section A Company Profile

Name of company in BIP : _____
 Address of company in BIP : _____
 Year of incorporation in BIP : _____
 Person to contact : _____
 Telephone number : _____
 Email address : _____

Q1. Type of Ownership.

- A. Wholly Singapore-owned
- B. Joint-Venture: Singapore/other ASEAN
- C. Joint-Venture: Singapore/others (please specify): _____
- D. Wholly foreign owned: Japan
- E. Wholly foreign owned: others (please specify): _____

Q2. Nature of Business Operations (in BIP).

- A. Manufacture of consumer products (e.g. TV sets, computers, etc)
- B. Manufacture of intermediate products (e.g. parts & components)
- C. Manufacture of capital goods (e.g. office & industrial equipment)
- D. Provision of industrial services (e.g. packaging, distribution)
- E. Others (please specify): _____

Q3. Number of Employees (in BIP, as at June 2003).

- A. <50
- B. 50 to 100
- C. 101 to 500
- D. >500

Q4. Estimated Sales of your BIP operations for FY2002.

- A. Less than US\$5 million
- B. Between US\$5 million to US\$10 million
- C. Between US\$10 million to US\$50 million
- D. More than US\$50 million

Q5. Please indicate the 3 most important markets for your BIP operations.

- A. ASEAN countries (excluding Indonesia)
- B. OECD countries (excluding USA & Japan)
- C. USA
- D. China
- E. Japan
- F. Taiwan
- G. South Korea
- H. Hong Kong
- I. Domestic market (i.e. Indonesia)
- J. Others (please specify): _____

Section B Factors that attracted your company to invest in BIP

Q6. Please indicate the impact of the following factors on your decision to invest in BIP.

| | Not Important | Quite Important | Very Important | | |
|---|---------------|-----------------|----------------|---|---|
| A. Political climate | | | | | |
| Political commitment from Singapore | 1 | 2 | 3 | 4 | 5 |
| Political commitment from Indonesia | 1 | 2 | 3 | 4 | 5 |
| B. Stable industrial relations climate (in BIP) | 1 | 2 | 3 | 4 | 5 |
| C. Infrastructure facilities | | | | | |
| Efficient infrastructure facilities (in BIP) | 1 | 2 | 3 | 4 | 5 |
| Proximity to Singapore's infrastructure facilities | 1 | 2 | 3 | 4 | 5 |
| D. Investment incentives | | | | | |
| Incentives from Singapore government | 1 | 2 | 3 | 4 | 5 |
| Incentives from Indonesian government | 1 | 2 | 3 | 4 | 5 |
| E. Manpower resources | | | | | |
| Availability of unskilled/semi-skilled labor | 1 | 2 | 3 | 4 | 5 |
| Availability of skilled labour | 1 | 2 | 3 | 4 | 5 |
| F. Costs | | | | | |
| Competitive labour costs | 1 | 2 | 3 | 4 | 5 |
| Competitive overhead costs (e.g. factory rentals, utility charges, etc) | 1 | 2 | 3 | 4 | 5 |
| G. Market Access | | | | | |
| Preferential access to developed-country markets | 1 | 2 | 3 | 4 | 5 |
| Potential access to domestic (Indonesian) markets | 1 | 2 | 3 | 4 | 5 |
| H. Presence of major buyers | 1 | 2 | 3 | 4 | 5 |
| I. Presence of major suppliers | 1 | 2 | 3 | 4 | 5 |
| J. Presence of major competitors | 1 | 2 | 3 | 4 | 5 |

Section C Constraints

Q7. Please identify the 3 major labour-related constraints on your BIP operations.

- A. Shortage of unskilled/semi-skilled labour
- B. Shortage of skilled labour
- C. Shortage of experienced managers
- D. Rising labour costs
- E. Low labour productivity
- F. High absenteeism
- G. Industrial relations problems
- H. Others (please specify): _____

Q8. Please identify the 3 major organizational/technological constraints on your BIP operations.

- A. Difficulty in obtaining capital equipment
- B. Difficulty in sourcing inputs (e.g. raw materials, parts & components, etc) locally
- C. Difficulty in introducing new technology and/or implementing new techniques
- D. Difficulty in securing funds for expansion
- E. Difficulties in getting quality support services
- F. High and/or rising overhead costs
- G. High and/or rising material costs
- H. Others (please specify): _____

Q9. Please identify the 3 major environmental constraints on your BIP operations.

- A. Lack of support from Singapore government
- B. Lack of support from host (Indonesian) government
- C. Impact of host government regulations (e.g. regional autonomy laws)
- D. Lack of special connections within host country
- E. Lack of market information
- F. Competition from industry competitors based in ASEAN countries
- G. Competition from industry competitors based in China / Hong Kong / South Korea
- H. Competition from industry competitors based in USA / Western Europe
- I. Others (please specify: _____)

Section D Adjustments

Q10. What adjustments did you make in response to the constraints identified in Q7 to Q9? You can indicate more than 1 response.

- A. Post experienced executives from Singapore
- B. Encourage training of local personnel
- C. Encourage higher worker productivity through incentive schemes
- D. Adapt local (labour) practices
- E. Adapt new technologies/techniques to local conditions
- F. Approach Singapore government agencies (e.g. EDB, IE Singapore, etc) for assistance
- G. Approach BIP's management for assistance
- H. Approach local (Indonesian) authorities for assistance
- I. Bring in local (Indonesia) business partners
- J. Others (please specify: _____)

Section E Future Directions

Q11. What are your plans for your BIP operations over the next 3-5 years?

- A. Expand current operations
- B. Retain current scale
- C. Scale down current operations
- D. Relocate from BIP to other sites within Indonesia
Please indicate: _____
- E. Relocate from BIP to other countries
Please indicate: _____

Q12. How would you rate the facilities and support services in BIP?

| | Poor | Satisfactory | Good | Excellent |
|---|------|--------------|------|-----------|
| A. Utilities (power, water, telecommunications) | 1 | 2 | 3 | 4 |
| B. Labour (recruitment, training, management) | 1 | 2 | 3 | 4 |
| C. Amenities (commercial, residential, recreational) | 1 | 2 | 3 | 4 |
| D. Logistics (freight services, warehousing services) | 1 | 2 | 3 | 4 |

Q13. What factors would influence you to re-locate out of BIP?

- End of questionnaire -

Thank you very much for your assistance.