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Gaining a Share of China's FDI Inflow: The Case of Nanjing

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Abstract

The last twenty years have seen increasing levels of foreign direct investment (FDI) throughout the world. In the last ten years in particular, the developing economies of the world have become increasingly important sinks for that FDI, China (the PRC) in particular. In 2002, China's realised FDI reached $52.7bn, thereby exceeding the USA's FDI inflow for the first time in the modern era and making it the world's largest FDI attractor.

Within China the Yangtze Delta has been a major FDI sink. The historic city of Nanjing lies within that region. This paper examines Nanjing's comparative FDI success within China (it is not as successful as might be expected); seeks to identify the 'regional' specific advantages (rsa) of the city and its attendant neighbourhood; and hence to assess the future FDI potential for the city and map out an outline strategy for its delivery.

The analysis centres on two models, suitably modified to apply to evaluating the 'Nanjing region'. As well as secondary data, primary data to enable the evaluation were collected by means of a questionnaire administered to foreign invested enterprises in the municipality and a small number of interviews with officials and businessmen.

It was found that, while the city currently 'underperforms' as an FDI attractor, it has certain rsa's which it is suggested could be used to craft a strategy for enhanced, future performance. It is suggested that, at least initially, such a strategy should focus on three 'core' or 'pillar' industries and that the relative proximity of Shanghai should be seen and hence used as a potential asset rather than a threat. To facilitate the achievement of such a strategy it is also proposed that Nanjing: should improve its self promotion; and could gain from promoting full transparency as an attractor element.

Gaining a Share of China's FDI Inflow: the Case of Nanjing

Introduction

The last twenty years have seen increasing levels of foreign direct investment (FDI) throughout the world. In the last ten years in particular, the developing economies of the world have become increasingly important sinks for that FDI. China (the PRC) is one such developing economy.

Its performance as an 'attractor' for FDI has been, in aggregate terms, outstanding. The historic, high spot for China in its ability to attract FDI came in 2002, when it became the world's largest sink for FDI for the first time. In 2002, China's realised FDI reached $52.7bn (see eg *The Financial Times*, 2003), and thereby exceeded the USA's FDI inflow for the first time in the modern era. This was both a spectacular achievement and an event rich in symbolism. It was perhaps an important marker on the PRC's road to a key position in a world economy dominated since World War II by the triad economies, ie North America, the EU and Japan. However, the picture is not one of uniform achievement. In per capita terms, China has not been as successful as some other, developing countries, such as Brazil for example (see Table 1).

Table 1:
Relative Attraction of FDI per capita in Selected Countries (US$m)

Zone/Country	**2003** Est Pop in millions	**1995**	**1999**	**2002**
Developing Countries	4950	22.83	42.37	32.32
China	1300	27.89	31.43	40.54
Brazil	176	57.40	179.43	96.60
Vietnam	80	29.36	20.11	28.75

Foreign direct investment has flowed particularly strongly into certain regions of China, such as the Pearl River delta and the Yangtze River delta, as multi-national enterprises have been lured by the potentially huge domestic market, relatively well educated population, low-cost labour forces and so on. As Scott says: "We seem to be entering a phase of capitalist development in which the

regional concentration of production is becoming more pronounced as a mode of spatial economic organisation", (Scott, 1996: 409). This theme of regionalisation is taken up by Rugman (2000); he asserts that the great majority of multinational enterprises' manufacturing and service activity is organised regionally, not globally, and is concentrated in or near the triad economies.

Moreover, the industrial distribution of this inbound foreign direct investment within a country is often uneven, differing among and also within regions and areas (Wallace, 2000: 223). Yao (2003) states that the Yangtze River delta is beginning to realise its latent industrial and commercial potential, and is set to become China's growth centre. The Yangtze River Delta region includes several of the most productive cities and provinces in eastern China, including: Shanghai, Nanjing, Suzhou, Wuxi in Jiangsu Province; and Hangzhou and Ningbo in Zhejiang Province. According to the 2002 statistics, Shanghai remains the city (or municipality) attracting the highest level of FDI in China - it attracted a record $50.3 million in foreign direct investment in 2002, while Suzhou, Wuxi, and Nanjing utilised respectively $48.12 million, $17.4 million and $15.02 million in FDI over the same period [Municipal Government reporting (MGR) - Nanjing, Shanghai, Suzhou, Wuxi, 2002].

Among the cities mentioned Nanjing is special, in a way, because of its historical importance, both in the times of the Ming dynasty and more recently as China's capital in the immediately pre-Communist period of the 20th century. At the lower reaches of the Yangtze River, 300 km west of Shanghai, Nanjing is the largest inland river harbour in China and enjoys good rail and highway links with Shanghai. By the end of 2001, Nanjing had received foreign direct investment from 77 countries and regions, with a contracted amount of $10.8 billion and the amount now actually utilised, nearly $5.68 billion. By the end of 2002, 39 of the world's 500 largest multinational enterprises had invested in Nanjing, opening 65 companies, including Sharp of Japan, Siemens of Germany, Ericsson of Sweden, Phillips of Holland, Fiat of Italy and CocaCola of the United States (Wang, 2003).

Against this backcloth, it might be expected that Nanjing would be particularly successful but such is not the case at present, certainly against the benchmark of the dominant force in the Yangtze Delta, Shanghai, and also relative to the city's own aspirations for its future in the 21st century.

In this paper we shall seek to:

- assess the comparative FDI success of Nanjing within China
- identify the 'regional' specific advantages of the city of Nanjing that are attracting foreign investors now and/or could do in the future; and, hence,

- determine the possible potential for foreign direct investment in Nanjing in the future and to map a strategy for achieving that potential in outline.

The remainder of the paper is organised in four sections dealing respectively with: the research methods used; the background of the city and its FDI status in aggregate, economic activity terms; its current competences and FDI potential using certain defined frameworks such as Foster's (2002) FDI-screen and an adaptation of the Porter (1990) diamond; a proposed strategy for improvement of the city's FDI performance; and a brief conclusion.

Research Approach

Much of the data used in the paper is secondary data culled from a wide variety of sources from within China and beyond. However, there is also some primary data the bulk of which came from a survey of the foreign invested enterprises (FIEs) with FDI projects current in Nanjing in July 2003, whose foreign invested element derived from MNEs who rank among the world's largest 500 such enterprises. In addition, there were a limited number of interviews - both formal and informal - with city officials and staff in FIEs. The interviews, but especially the informal ones, were possible by virtue of the second author's employment in China.

According to Nanjing Municipal Government data, there were 65 such FIEs at that time. The foreign ownership was linked to 39 top 500 MNEs. A simple questionnaire was administered to senior general or HR managers to elicit the scale of enterprises, reasons for choosing Nanjing, and satisfaction with the project/s, both in overall terms and with respect to staff performance. Because of the relatively crude nature of the data, the analysis performed on it was straightforward - frequency charts, cross tabulations and x^2 contingency tests.

The two main frameworks used were, as noted earlier, adaptations of those of Foster (2002) and Porter (1990). The Foster FDI-screen was developed with the intention of providing an holistic tool, when used in conjunction with standard financial appraisal tools, to assist companies in evaluating potential FDI projects. The screen comprises six attributes, each of them multifaceted:

- F1: infrastructure adequacy
- F2: power adequacy
- F3: labour adequacy
- F4: cultural distance of host from 'home' context
- F5: market potential
- F6: country risk.

Each attribute is assigned a Likert-style, subjective scoring scale. For attributes except F4 and F6, the scales have a positive orientation; for the two noted the orientation is negative (or the scales can be made positive by considering the complements of the attributes, ie $[Fj]^c$, for j = 4, 6).

It is not hard to see that the screen can be adapted to apply to a chosen venue for potential projects generally, or better in a particular industry segment or small set of segments. This was the fashion in which the framework was used in this research. It had previously been trialled successfully for such use in the case of the Turkish auto industry (Foster and Alkan, 2003).

Porter (1990) proposed his National Diamond as a framework for evaluating the potential of a country, in respect of a given industry segment, to establish itself successfully overseas in that segment. We recall that the four corners of the diamond were:

- firm strategy/structure and rivalry (1)
- demand conditions (2)
- related and supporting industries (3)
- factor conditions/infrastructure (4)

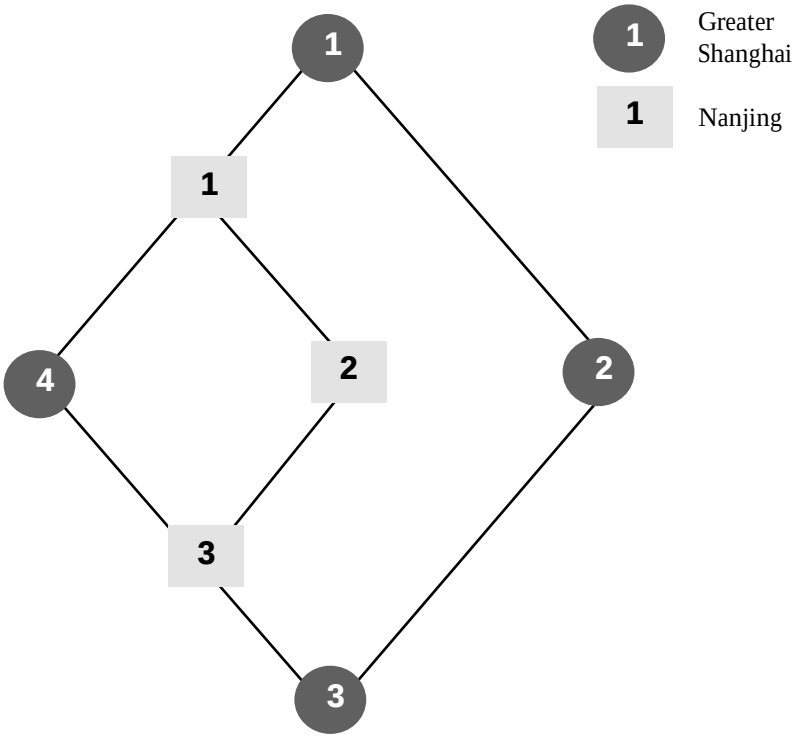
(all in relation to the home economy of the would be investor country). In this study, we use what may be thought of as an 'inverse' diamond, outlined in Foster (2002), whereby the same 'corners' are construed in terms of the potential host economy. We further modify the framework in two ways:

- we apply the inverse diamond to a region within a country (a micro-economy so to speak), namely the Greater Nanjing Municipality

- further, we adapt the double diamond thinking of Rugman and collaborators, see for example Rugman and Cruz (1993) and Rugman and Hodgetts (2003), to produce what we call a nested, inverse-diamond, ie the twin, interlinked economies here are such that one forms a subset of the other. The twin economies are Nanjing and Greater Shanghai (or the Yangtze Economic Delta as it is sometimes called).

In addition, Porter (1990) identified two other factors that are important and which apply equally well in this modified, diamond framework. Namely, the role of government, which can influence any of the four, main factors by subsidies, regulation, investment in education; and the role of chance events, and which can shift competitive advantage in unpredictable ways such as war, inventions, and oil price rises. Now, especially in Asia, some countries struggle with the effects of war (Iraq), terrorism and the new 'plague' (SARS).

Figure 1 The Nested-Double-Diamond (Nanjing and Greater Shanghai)



Nanjing: Background and its FDI Activity Status

The Background of Nanjing

Nanjing is one of the famous cities of China in historic and cultural terms. Its history can be traced some 2500 years; it is one of the six ancient capitals of China, reputed to have been the capital of ten dynasties. Nanjing is the provincial capital of Jiangsu and the second international commercial port after Shanghai in the Yangtze Delta (Shanghai lies within the geographic confines of Jiangsu but enjoys independent reporting lines to Beijing). The “golden waterway”, the Yangtze River, flows through the city of Nanjing on its way to the East China Sea. Nanjing (the ‘greater metropolis’) comprises some 6597 square kilometres, with a population of 5.53 million.

Nanjing is one of China’s important, industrial production bases with the distinctive feature of heavy and chemical industries as the mainstay and is one of the top ten trading cities. The production capacity in electronics and chemicals is second in rank after Shanghai. Automobile manufacturing lies in third place. While other industries are present on a considerable scale, the three major pillar industries may be construed to be petrochemicals, auto industry and electronics (and hence perhaps knowledge management) - a troika to which we return later.

Nanjing is arguably the key transportation and telecommunication junction in East China, with transport networks for large amounts of inbound, outbound and through traffic (see Appendix). The networks have five components: air (arguably under-utilised, see later), railway, highways, water and piping (key for the petrochems feedstock *inter alia*). It has a modern telecommunication system. It is also one of the four cities in the country which are key centres of scientific research and education, especially higher education. In 2002, its GDP value was RMB 130 billion (1$US= 8.3 RMB approx.), with a growth of 12 per cent over the previous year (MGR, Nanjing, 2002).

As noted earlier, Nanjing lies some 300 kms west of Shanghai up the Yangtze River, and Suzhou lies just 80 kms west of Shanghai on the road to Nanjing. These are important facts because of Shanghai's status as China's unofficial financial capital, as well as its huge industry base, and Suzhou's status as a key development area within the Greater Shanghai economy, a fact underpinned by explicit collaborative policies including efforts to strengthen the transport links between the two Ss. Certainly, in terms of industrial (as distinct from financial sector) development, Suzhou and Shanghai should best be regarded as a package, or Suzhou is an integral part of Greater Shanghai.

FDI-Activity Status

The data in Tables 2 and 3 give a snapshot of FDI activity in the Yangtze Delta in the early years of the 21st century. They show that this region of China is sharing in its parent's post 'Asian 'flu' recovery: first the 2000 data were modest but by 2002 figures were sharply improved. The data in Table 3 represent a strong performance on the FDI/GDP indicator by any standards (see Foster and Alkan, 2003) but most especially a spectacular performance by Suzhou. There are reasons for this, such as the positive governmental support including the joint development zone project with Singapore and their success at attracting Japanese investors (in some parts of China the unfortunate events of Japanese rule in the late 1930s and during World War II are still a psychological block). Comparing Nanjing with Suzhou and Shanghai suggests that Nanjing is performing acceptably, taking the much bigger Shanghai as the benchmark, but disappointingly relative to the municipality of Suzhou which is similar in size (population) to Nanjing. For the Nanjing municipal government, the challenge is to do ever better and the nearby success of Suzhou suggests to them that this should be possible. In crude benchmarking terms this seems clear but the task now is to explore Nanjing's current competences/regional specific advantages (rather than CSAs) and its weaknesses in order to determine what may be the way forward to meet these aspirations

Table 2: FDI Inflows Nanjing, Suzhou, Shanghai (US$m)			
City	**Pop 2002 (m)**	**FDI 2000**	**FDI 2002**
Nanjing	5.6	813	1502
Suzhou *	5.8	2883	4814
Shanghai	13.4	3160	5030

* The data for Suzhou are those recorded for the whole 'greater municipality':the population figure in particular may seem high to some readers familiar with the rather smaller 'core city', with a population well under 3m.

Table 3: FDI/GDP Ratio for Nanjing, Suzhou and Shanghai (as%)			
City	**2000**	**2001**	**2002**
Nanjing	6.62	6.49	9.62
Suzhou	15.53	14.35	19.21
Shanghai	5.84	7.35	7.72

Source: Municipal Statistics for the three cities

Nanjing Current Competences and Assessed Potential

Self Perceived Competences

According to the information of the Nanjing municipal government, MGR (2002), the main reasons for foreign multinational enterprises choosing Nanjing as an investment destination are as follows.

- **Advantageous Location**
  Nanjing is at the join of the Coastal and Yangtze Economic Belts, and functions as a hub to radiate from the developed east coastal area to the rather less developed western areas of China. As noted above, it has five-fold transport types including the modern (but under-utilised) Lukou International Airport.

- **Advanced Science and Technology Base**
  Nanjing ranks third in its comprehensive science and technology strength among the big cities in China. It has 577 independent and non-independent R&D institutions, in which Zijinshan Observatory and Nanjing Geology and Paleontology Research Institute are Class I scientific institutes with considerable international fame.

- **Strong Higher Education Provision**
  Nanjing ranks third among all the cities of China in number of institutions of higher education, next only to Beijing and Shanghai. Nanjing University ranks number three in the country's nine elite research universities, according to its Executive Vice-President (interview 15th August, 2003).

- **An Important Industrial Base**
  Nanjing is already an important industrial base in East China, accounting for about 1 per cent of the PRC's total industrial capability compared to a population share of 0.4 per cent. As well as the pillar industries already noted, it is emphasised that the hi-tech industry has been developed vigorously.

- **Construction of Development Zones**
  There are nine development zones at provincial (or higher) level, covering an aggregate area of 54.045 square km, with 3.445 billion Yuan of development funds invested. The number of projects with foreign investment and the amounts of actually utilised foreign fund respectively account for one third of the city's total. Nanjing Hi-tech Industrial Development Zone, Nanjing Economic and Technology Development Zone and Jiangning Economic and Technology Development Zone have formed the development pattern featuring 'Multiple Industrial Parks in One Zone, Concerted Action of Three Zones, Mutual Compensation of Superiorities and Each Zone with Its Own Characteristics'.

Evaluating Nanjing Using the Foster FDI-Screen

We now focus on looking at Nanjing using Foster's framework, in order to evaluate its potential attractiveness for would-be foreign investors. At the end of the consideration of each attribute, a rating is offered on a seven point Likert-scale.

F1: Infrastructure adequacy

Nanjing's municipal public utilities such as supply of electricity, tap water and gas are well developed, as well as environmental protection. At present, the gas

supply coverage comes up to 99.59% and the tap water coverage reaches 100%. The 220-kV power transmission and transformation project has been completed and put into service, realising the double-line operation of the city's power network. Tap water is also now available for people in all the 68 small towns on the outskirts of Nanjing and in its neighbouring counties. The discharge of industrial wastewater by the enterprises along the banks of the Yangtze River has come up to the standards set by the state Bureau for Environmental Protection in Beijing.

The railways of Nanjing are key sections of the most important traffic route in East China. Nanjing Yangtze River Bridge and the largest electrified and mechanised modern marshalling yard for freight trains in East China link up the networks of highways and railways on either side of the River. The four trunk railways of Tianjin-to-Pukou (via Beijing), Shanghai-to-Nanjing, Nanjing-to-Tongling and Anhui-to-Jiangxi all meet in Nanjing, connecting with major trunk railways and large and medium sized cities all over China. There is a major 'doubling up' project currently on the key Nanjing-Shanghai route.

Nanjing Harbour is the largest inland river harbour in China and is geared up for foreign trade. The harbour area extends for a total length of 98 kilometres along the river. The Yangtze River is very wide here and the water is deep enough to ensure navigation throughout the year and is available for berthing vessels with a tonnage up to 35,000 dwt. The harbour area now has eight anchorages, 180 wharves and 240 berths, of which sixteen are berths for over 10,000-ton vessels. Located in the harbour area is Xinshengwei foreign trade port, which is a key project of the state and has an annual handling capacity of nearly 10 million tons. The newly built railway that belongs to Xinshengwei port links up with Beijing-Shanghai railway line.

Nanjing not only has a number of expressways and Class 1 highways that lead to other provinces and cities, but also boasts a three-dimensional traffic frame with "urban roads in a network, roads on the outskirts in rings, and fast and convenient traffic leading to all directions". This has fundamentally changed the overall distribution of Nanjing's traffic and transportation, rendering them much faster moving and more convenient. Nanjing has four state highways, nine provincial highways and nearly 2,000 highways at county and town levels and for special purposes, with a total length of over 6,800 kilometres and a highway intensity of 96 kilometres per hundred square kilometres. A highway network has taken shape that connects trunk highways with branch ones and links up counties and towns. The fast and convenient Shanghai-Nanjing Expressway provides a prime land route for southern Jiangsu and the whole area of the Yangtze River Delta.

With the completion of Lukou International Airport in 1997, Nanjing now has a quality facility. It provides service to a domestic aviation network with 65

routes, serving 40 mainland cities There are international passenger services to Hong Kong and Macao SARs, Taipei and Kaohsiung and charter routes to Kuala Lumpur and Bangkok. There are also irregular freight routes to Nagoya, and Miyazaki in Japan, Winnipeg, Canada, and Moscow. However, the international network is limited and intra-PRC politics indicate that it is unlikely to be allowed to develop to its full potential, because of Beijing's policy to develop and 'protect' Shanghai.

The major example of pipeline transportation in Nanjing is the Shandong-to-Nanjing petroleum pipeline. It passes through the four provinces of Shandong, Hebei, Anhui and Jiangsu and ends at the oil transit depot in Nanjing. A 344-kilometre-long pipeline is laid in the territory of Jiangsu, with five relay pump stations and Yizheng and Yangtze distribution stations. The completion of this pipeline has laid a solid foundation for Nanjing's important petrochemical industry.

Nanjing is one of China's eight major long-distance telecommunication junctions. It has a communication network that is composed of multiple modes of transmission, such as wire, cable, optical cable, microwave, short-wave and satellite.

The financial market needs of Nanjing enterprises may not be fully met within the city, but its close proximity to Shanghai means that they can be readily serviced.

Overall, the infrastructure can be said to be good, although not excellent, eg the constraint on utilising the airport capacity effectively, and the perceived need to be doing upgrade work on the Nanjing-Shanghai rail line. A score of 5/6 seems to be appropriate.

F2: Power adequacy

Right now, Nanjing's power supply seems adequate but there has been a recent scare whether Shanghai's is robust. Complacency therefore has to be avoided.

A score of 6 is suggested.

F3: Labour adequacy

Comparing Nanjing with other parts of China, this factor is quite good but still not as good as might be found in the triad economies. There is a good provision for education.

The city has 48 universities and colleges, which cover a variety of specialities, have sufficient teaching staff and formally open the education information

network. Among them, Nanjing University, Southeast University, Nanjing Normal University and Hehai University, plus several others with a specialist focus are national key universities. It also has 323 middle schools, 53 technical secondary schools, 1489 primary schools. This means that the city is in a position to service the needs of FIEs for both shop-floor and managerial labour all appropriately educated, from the official view.

However, the thing which is still needed is improved capacity for independent thought and action, plus even better English. The first author interviewed an Austrian JV technician in Nanjing. He stated that, while he was surprised that shop floor workers had any English ability, it was well short of being useful to give direct rapid instructions in a safe way (interview at Lukou Airport, 22nd August, 2003).

This overall need could be summed up as: "the need to see beyond the traditional management style of the Chinese Boss to a more open, 'international' view".

Overall, a score of 5 seems appropriate.

F4: Culture distance of Nanjing from investors' home culture.

The point about labour understandings shows a cultural distance. The gap between Germany (home of BASF, who have probably the city's biggest JV in partnership with Sinopec) or Sweden (Ericsson's home) or the UK is quite big. Using the Hofstede tool, power distances in China are much bigger for example and many Chinese are unhappy with uncertainty in their job.

Overall, this factor poses a problem. But as Foster and Minkes (1999) have argued, these differences can be worked at with goodwill on both sides.
As at 2003, a score of 2 seems appropriate for $(F4)^{c}$. This only means Nanjing has the same problem as the rest of China for EU and US investment, not a bigger one.

F5: Market potential

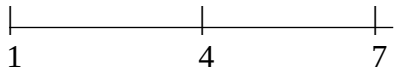
As noted in the introduction, the China market has huge potential. BASF state it is one big reason for them to invest in China (see Wang, 2003) and this is reinforced by the survey data which follows. With its good location and transport links this aggregate demand should be freely available to Nanjing-based enterprises.

This factor should score 7.

Figure 2: The Foster FDI-Evaluation Framework

Scores Profile (5/6, 6, 5, 2, 7, 4-)

(Subjective) Scoring of Nanjing as a potential FDI venue, as at 2003



F1	Infrastructure Adequacy	*
F2	Power Availability	*
F3	Labour Adequacy	*
F4	[Cultural distance of host from 'home'][c]	*
F5	Market Potential (near term)	*
F6	[Country Risk][c]	*

F6: Country risk

Using the Economist scale, as suggested by Foster (2002), it can be estimated that China's country risk is middle ranking, a score of just under four for the attribute's complement seems plausible. Some bits of that scale are not a problem (eg ethnic tension (certainly for Nanjing) islamic fundamentalism and risk of civil war). The weaker points could be: authoritarianism (China is a one party state with much power vested in Beijing, so Nanjing may not be allowed to do some things it wants to), and corruption. On the latter, the central government is officially committed to killing off corruption, but the lack of transparency in some areas (including some difficulty found in obtaining information by the authors) suggests that the opacities may conceal 'problems', or behaviours which still do not bear scrutiny.

Taking all the scores for the six factors, gives this 6-tuple: (5/6, 6, 5, 2, 7, 4-) - see also Figure 2 above for a diagrammatic representation. This is a positive profile. The big issue to deal with is culture but, as noted, this is a solvable problem if people really want to deal with it.

Nanjing Top-500 FIE Survey

During July and August 2003, the questionnaire outlined earlier was proposed to 55 companies (FIEs) invested by the world's 500 largest MNEs in Nanjing: a total of 52 usable responses were obtained, 43 from joint ventures (JV) and 9 from wholly foreign owned enterprises (WFOE). The major industries represented by these companies were electronics (18), chemicals (9), autos (7), energy (3) and steel (1). The response rate means that we obtained a fairly complete view for this particular type of venture in Nanjing, regarding the key questions asked. One reason for getting such a good response rate may be brevity of the questionnaire. The complementary downside is that we were not able to obtain follow-up explanations of some of the interesting findings.

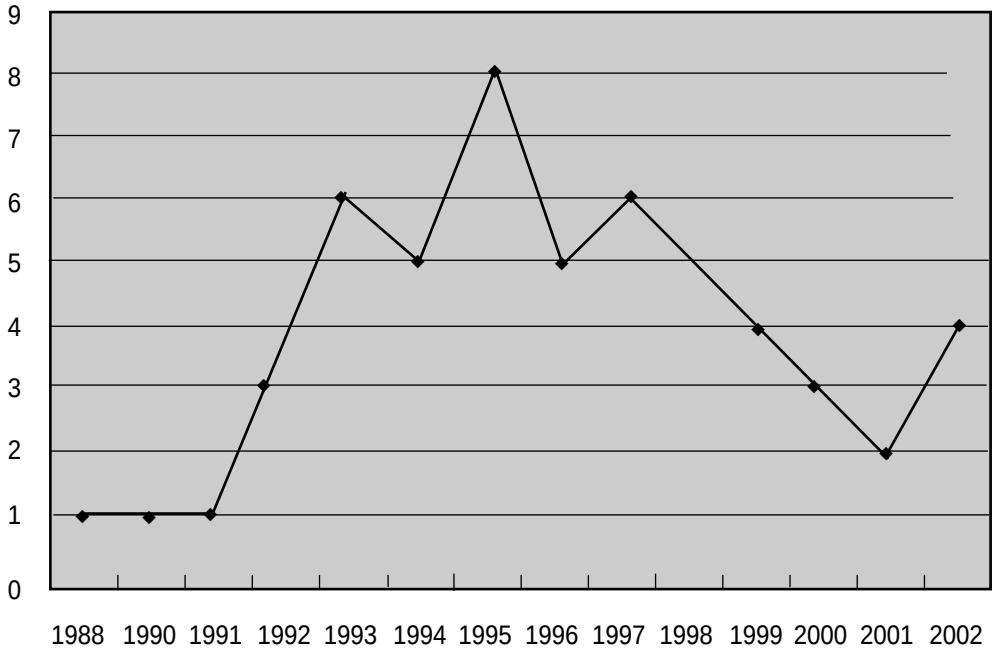
The scale of investment in the respondent companies was distributed thus: ≤ $20m, 22; $(20 - 100)m, 23; $(100 – 500)m, 5; ≥ $500m, 2. The main reasons cited for choosing Nanjing as the location for investment were:

- access to the huge PRC market
- prior activity in the sector
- convenient location and transport links.

Figure 3 below illustrates the pattern of incidence of this sample of investments over the past fifteen years. Since the sample captured 80 percent of this category of investments, it can be seen to mirror overall activity rather well.
The graph shows that Nanjing had a strong performance in the first half of the 1990s, in terms of attracting FDI, but has 'under-performed' since then. They were already slipping before the 'Asian flu' which struck in 1997/8 and their continued slide until 2000 was much more severe than the pattern observed for the PRC as a whole - the PRC essentially lost its growth (with a little absolute shrinkage) in the immediate post-1997 phase. By 2000 a modest renewal of real growth was in place and the years 2001 and 2002 saw very strong performance with the culmination coming in 2002 when China became the world's biggest FDI sink for the first time.

Hence, Nanjing did not maintain its share of the PRC pool of FDI. That of course means that other parts of the country have out-performed Nanjing. This reinforces the question already posed: why did this poor relative performance occur; and what can the city do to improve its position? In corporate strategy language, the city seemed to have lost its apparent competitive advantage (CA) of the pre-1996 period, and we could infer that underlying core competences (CC) have been eroded. The question posed may be reformulated as: "can the previous CCs be refurbished or, if not, what new CCs may be capable of development to deliver a new CA"?

Figure 3 Incidence of sample of FDIs by '500 Greatest Enterprises' in Nanjing: 1988-2002



Tables 4 and 5 show the degrees of satisfaction of the FIE's with their enterprises overall and with reference to the local labour force, showing separately the satisfaction of the JVs and WFOEs. The degrees of satisfaction were expressed on 5-point scales, with '1' showing 'not at all satisfied' and '5' indicating 'totally satisfied'.

Table 4 shows a pattern of greater satisfaction overall among the JV foreign investors than for the WFOEs, in that a higher percentage of the former group

Table 4: Overall MNE Satisfaction Level with FDI Project [freqs]

FIE Type	Score < 3	Score = 3	Score > 3	Total
JV	3	9	31	43
WFOE	0	3	6	9
Total	3	12	37	52

Main reasons for strong satisfaction (>3): market potential; labour cost/quality; good JV partner for JVs; market and industry sector presence for WFOEs.

Table 5: MNE Satisfaction with Local Employees in FDI Project [freqs]				
FIE Type	**Score < 3**	**Score = 3**	**Score > 3**	**Total**
JV	2	5	36	43
WFOE	0	2	7	9
Total	2	7	43	52
Main reasons for strong satisfaction (both firm types), in order: low cost, good supply, high quality.				

expressed strong satisfaction. Table 5, dealing with satisfaction with the local labour, shows a similar pattern to that for overall satisfaction. These tables can be viewed as contingency tables where the enterprise type may be seen to exercise influence on the satisfaction levels as noted. For both tables, we tested whether the enterprise type was a significant predictor of the assessed satisfaction, using x^2-tests [we consolidated the tables into 2x2 form to avoid the incidence of void cells]. In neither case was the visually observed trend found to be statistically significant.

However, this apparently neutral finding may have more import than at first imagined. The reason is that a number of authors, mainly from the US, have written articles recently suggesting that there are very clear benefits to establishing FDI projects on a WFOE basis (when legally allowed), see for example Vanhonacker (1997) and Deng (2001). If one starts from the premise that WFOEs would be expected to deliver higher satisfaction levels than JVs (ie this is the null hypothesis), then a statistically neutral finding (our results) can be seen as evidence against that hypothesis.

The finding about labour satisfaction is particularly intriguing given the oft repeated mantra that “our organisation is first and foremost the people who make it up”.

One possible explanation for the apparent greater satisfaction of the JVs with their labour could be that the respective labour forces are actually of similar calibre but the JVs have an advantage because the local partners are more effective at managing the local labour. Alternatively, it could be that local partners were able to ensure better hiring decisions at the outset in the JVs.

The other important data gleaned concerned key reasons why investors were very satisfied (when they were), which supplements the earlier perceived aspects

of attractiveness of Nanjing as an investment venue. These were in order of cited frequency:

- access to large market
- prior presence of activity in segment
- low cost and high quality labour
- availability of a suitable partner (for JVs)
- efficient (local) government.

Nanjing's Relation to Shanghai: the Nested-Double Diamond

This last sub-section deals with the fact that Shanghai is the driving force of the Yangtze Delta and, hence, any plan for Nanjing's development has to deal with this reality. Recognising Shanghai's status as the international economic, financial and transportation centre of the Delta, Nanjing is already trying to integrate with Shanghai in elements of the economy, culture and tourism, and to utilise its relative advantage deriving from Shanghai's disadvantages, for example, the high (by PRC standards) cost of labour and land.

We use the nested-double diamond to examine this linkage, making the analysis pairs be clusters of industries for Nanjing and Greater Shanghai.

- **Firm strategy, structure, and rivalry**:
  Greater Shanghai: more competitive but Porter would argue that you must compete to be efficient or you die.

  Nanjing: less intra-industry competition as a smaller zone but also smaller market. Need to avoid sin of laziness/complacency.

- **Demand condition**s:
  Greater Shanghai and Nanjing: PRC as a whole can be viewed as the market, all demanding wide range of goods and real growth, as it increases in GDP/capital and demand from consumers (eg this is why BASF has come to China at all).

- **Related and supporting industries**:
  Greater Shanghai and Nanjing: Across a wide range of possible industries not all supporting industries may be up to standard in short term - some Chinese suppliers have to learn what quality supplier behaviour means the hard way!

- **Factor conditions /infrastructure**:
  This is where it seems there may be some more divergence between Greater Shanghai and Nanjing: most factors are pretty good, but:
  (i) Nanjing is relatively weak in air transport;
  (ii) Shanghai now seems to be having its mini-power-supply crisis - can they meet demand day by day?;
  (iii) Nanjing is stronger than the Shanghai element of Greater Shanghai on availability of land at a good price, so this is where Nanjing can play its key role as a new collaborative driving element of Greater Shanghai;
  (iv) Greater Shanghai by virtue of Shanghai has good financial sector developing; in that respect, Nanjing must depend on Shanghai.

Hence, because Nanjing and Shanghai can complement each other in the 'big' diamond, we could say that, provided the municipal authorities co-operate within Greater Shanghai, the possible links can be seen as a strength rather than the threat that head-to-head analysis might suggest.

Development of an FDI Strategy for Nanjing

In the light of the analysis thus far, we can now try to formulate an FDI development strategy for Nanjing.

The way in which Suzhou has prospered suggests that Nanjing may be advised to include an element of integration with Shanghai; seek to complement Shanghai's economy.

Nanjing government policy as at 2003 is to develop 'Greater Nanjing' using a classic hub-and-spoke, radial development pattern. The city has also pondered an emphasis on five key or pillar industries (see paper/speech by the Mayor, Jiang, 2003)

The analysis of Nanjing's situation thus far appears to offer at least four possible advantages for the city of Nanjing:

- access for the whole of 'Greater Nanjing' (that is the other smaller towns and cities, such as Yangzhou and Zhenjiang in addition to the city itself) to the key transport major trunk routes

- ample space by radiating outwards plus the possibility of 'zoning' for specific industrial sub-clusters

- acceptance, where appropriate, of Nanjing's 'subordinate role' to Shanghai, where Shanghai has a clear and obvious primary advantage - the most obvious example which can never change is Shanghai's role as the premier financial centre, not only for the Yangtze delta region but also for the whole of the PRC

- another key advantage could be the IT/Knowledge industry base already present in Nanjing. This is linked in part to the strong university base and the presence of a High Tech Development Zone on the north bank of the Yangtze river.

With regard to the above-mentioned situation, the following measures could be taken in Nanjing to improve its competitiveness:

- **Transportation**: especially expressways leading to Shanghai, should be vigorously developed, and a high speed rail link, so that the travel time between Shanghai and Nanjing can be reduced to one-and-a-half hours, as well as further developing links to other major centres. As noted before, although it would be beneficial to Nanjing to develop the international network from Lukou airport, there are pressures from Beijing against this at present.

- **An advantageous environment for investment** should be created to upgrade the overall functions for opening up. A superior environment for investment is the key to attracting investors and developing an open economy. On the basis of a good existing foundation, the framework of a modern metropolis should be extended on a large scale; centres for scientific research, business interflow, financial information (in conjunction with Shanghai), with easy to use promotion and registration systems.

  For example, the municipality's Development Zones do have a 'one-stop shop' facility to ease foreign investors' official dealings, but outside the zones life is trickier. Also, the zones may 'compete for signatures' which adds a new set of (avoidable) complexities.

In relative terms, Nanjing is now 'cheaper' than Shanghai (or it should be so), both in terms of land/property rentals and the fact that the whole place is more compact than Shanghai - this means investors should have lower, local transport costs.

We say ‘should be’ because this will only be definitely true if there is fair and transparent pricing of these key factors of production. The authors tried to gain detailed information on these sorts of input data but found it hard to gain access to clear answers. One possible explanation for this difficulty could be that the officials asked feared giving a full and open answer. If that was true it would suggest a less than transparent market place.
It is proposed that it may be better to focus on just three pillar industries rather than five; in the light of the evidence, the suggested ones are: electronic information, petrochemical industry and vehicle production. The proposal to limit to three is to try to develop real competences (CCs) genuinely, which will indeed create overall competitive advantage and not run the risk of dissipating energy.

Relying on co-operation with research institutes, Nanjing could become a base for R&D and software in the ‘Yangtze Delta’ economic zone, by constantly enlarging the investment in the development funds in scientific research. This would be a knowledge industry to complement the other two manufacturing sectors. Among software research institutes in Nanjing, there are national institutes, enterprises backed by research sectors of universities, such as Soft of Nanjing University and Kejian of Southeast University. If this can be achieved it could turn Nanjing into nationally important base for the software industry, and possibly even an international base. As the Indians have shown, international borders are not a barrier in the IT industry provided the key feedstock of adequate personnel is available (although it has to be said that one big extra plus for India to the prevalence of good English amongst the educated).

The notion of ‘sectoral zoning’ is attractive. To make a plan for this would be a big task in its own and is beyond the scope of the space available here. It requires detailed mapping (literally detailing on maps), linked to clustering of related businesses, to smooth their respective supply chains and hence make modern production techniques such as JIT possible. As one example, development of the segment which BASF belongs to, petrochems, should clearly be based round their new mega-project.

Another thing to do here is to try to give the Nanjing-satellite cities a clear focus and sense of identity within the overall plan.

Transparency and visibility are two extra factors the municipality can work on for the benefit of ‘Greater Nanjing’. We focus on these because the first is an issue still in China generally, and the latter because the city ‘suspects’ it has problems here.

Since it is not universally true that there is transparency in China, if Nanjing can make it true there, this will be a genuine source of competitive advantage for the city - in the eyes of western investors anyway. This is supported by a recent

report by OECD (2003) on China's FDI potential and what it needs to do to realise it. This suggests that historic advantages such as market potential and low cost base are not likely to be sufficient for much longer. It proposes that China needs to develop a more transparent environment with a clear legal and regulatory framework. Even more key, we would argue, is honest and transparent dealing relative to these frameworks, if and when established.
On visibility, the city has been disappointed by the external response to some recent promotional fairs and direct scrutiny showed that some of its written promotional materials were not of high quality. Thus there are two things to do:

- the city's profile as an industrial hub with certain specialisations has to be communicated to the wider world

- the quality of the promotional material has to be improved; some of the English in the sections for foreigners is not as good as it should be. Hiring quality designers and translators (or maybe native speakers with direct knowledge of the subject matter, eg engineers for text about engineering) could readily solve this problem.

Conclusion

The conclusions to be drawn from the foregoing sections can be looked at in two groups. First there are the findings from the assessment of Nanjing as a potential FDI-sink within the PRC. These may be summed up thus:

- Nanjing has underperformed recently in terms of attracting its share of the PRC's inbound FDI

- Nanjing does have certain obvious regional specific advantages, including: location within PRC, transport infrastructure and potential for further development of that system, space (land etc), and a cluster of higher education provision

- there are a set of existing pillar industries which offer the potential for further development: within that it is suggested that the city may prudently focus on three in particular - petrochemicals, autos and electronics/ knowledge management

- the FDI-development strategy must recognise Nanjing's position within Greater Shanghai and leverage the structural assets available in the link where possible (eg the capital market facilities), while stressing its comparative advantages within the wider region

- the city needs to promote itself and its attributes more extensively and professionally in order to reach out to potential foreign investors

- it is suggested that Nanjing could gain an advantage over other PRC cities by promoting genuine transparency in businesses located within the city, both in business-to-business dealings but, more crucially, in their dealings with municipal, provincial and state governmental bodies.

From the perspective of the inward investor, the findings of the survey conducted are interesting. In particular, the greater satisfaction perceived by MNEs whose investment is via JV rather than WFOE should be noted, especially given recent writings suggesting the inverse emphasis. Further investigation of the reasons for the reported perceptions would be helpful.

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Appendix 1

Nanjing's Transport Links