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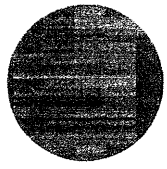

DOES JAPANESE MANAGEMENT TRAVEL IN ASIA?

MANAGERIAL TECHNOLOGY TRANSFER AT JAPANESE MULTINATIONALS IN THAILAND

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MITJP 96-04

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Introduction

We know from the many thorough studies of the domestic Japanese firm that Japanese corporate "know-how" is more than technological innovation riding on financial clout.[1] Japanese corporations's organizational forms and managerial practices have been shown to be particular, powerful, and profitable. Expansion offshore, however, has naturally required substantial organizational and managerial modifications at Japanese firms as they move beyond their familiar -- and apparently extremely consequential -- domestic economic, political, and social environment. Host countries have gained important economic stimulus as a result of Japanese investment, but questions have arisen concerning the accomplishments of Japanese multinational corporations (MNCs) in implanting their powerful management technologies abroad. This issue may be especially relevant in Asia where, compared with Europe and North America, the impact of Japanese foreign direct investment (FDI) on both national economies and the structure of industrialization has been far more pronounced.

Among Japanese MNCs the urgency to change and adapt has been most acute at large, world class manufacturing firms. Structural adjustments of the Japanese economy and intense competition between manufacturers have led to a

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[1] The classic literature on the organization and management of large scale private enterprises in modern Japan is: Robert E. Cole, Japanese Blue Collar (Berkeley and Los Angeles: University of California Press, 1971); Ronald Dore, British Factory, Japanese Factory (Los Angeles: University of California Press, 1973); Thomas P. Rohlen, For Harmony and Strength: Japanese White-Collar Organization in Anthropological Perspective (Berkeley: University of California Press, 1974); Rodney Clark, The Japanese Company (New Haven and London: Yale University Press, 1979); and James C. Abegglen and George Stalk, Jr., Kaisha: The Japanese Corporation (Tokyo: Charles E. Tuttle, 1985).

rapid increase in the proportion and geographic diversity of their offshore production, especially since the revaluation of the yen in 1985. Thus the combination of domestic economic pressures to move production offshore and generic characteristics of manufacturing, such as high density and breadth of interactions with the local environment, make Japanese manufacturers abroad ideal subjects for the study of managerial adaptations. In addition, the proliferation of manufacturing by both Japanese and Western MNCs in Asia provides us with an extremely rich data set for comparing patterns of adaptation of firms with different home countries.[2]

Where one stands on the question, "Does the ownership of MNCs matter?", may depend on where one collects information. Data in this paper is grounded, first, on an examination of the broad set of linkages between Japanese headquarters and Thai subsidiaries -- from the home office perspective -- based on data collection and interviews with managers in Japan who oversee operations in Thailand and, second, on the overseas subsidiary perspective based on an extensive period of anthropology-style participant-observation inside subsidiaries of MNCs in Thailand. This paper thus analyses adaptations at the firm level to the pressures of operating in foreign environments, and specifically treats the means taken by Japanese manufacturers to move their local Thai staff toward standardized production. The paper will also contrast managerial style at

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[2] In this paper I am defining multinationals based in North America and Europe as "Western MNCs." For the purposes of this paper, with its explicit focus on Japanese MNCs, it would be a distraction to overly qualify the alternative management model I will propose for Western MNCs. I do however recognize that there are important variations between "Western MNCs," though those variations are less pronounced in management than in other areas.

subsidiaries of Japanese and Western MNCs in Thailand. How might we proceed in understanding how MNCs manage know-how in foreign environments, why they do it differently, and the implications of those differences?

Multinational corporations attempt to fulfill their goal of profit seeking based on similar sets of external constraints and opportunities in each particular foreign environment. At a high level in the corporation strategic decisions on foreign direct investment are taken which may allow MNCs to, for example, benefit from lower labor costs, avoid restrictions on foreign trade, capture local expertise and information, gain tax relief through transfer pricing, sell their locally-produced goods in local or regional markets, reverse import products to their home markets, etc. And once foreign investments are made all MNCs manufacturing abroad are faced with a generic problem: how to overlay the varied environments in which they manufacture with a grid of training and tools that develops and maintains local skills so that goods are produced at "standards" acceptable to their sales market. Thus, for example, Japanese and Western chip manufacturers face similar local constraints at an industrial park in Malaysia where they compete to produce micro-chips with similar specifications for personal computer manufacturers. Or, from a different perspective but demonstrating the same underlying principle, at Japanese-owned color picture tube subsidiaries in Mexico and Thailand, assuming machinery is similar, the same basic skills must be developed so that standardized product can be assembled and sold in the United States. The core problem in manufacturing abroad, then, is how to produce standardized output in unfamiliar local environments. Engineers may switch or

alter machines to more easily cope with local worker capabilities, but over the long run this provides relatively marginal flexibility. MNCs must successfully make "managerial technology transfers" so that machines are used efficiently.

While the terminology suggests mechanical precision, managerial technology transfer concerns the processes of learning about the interplay of technical information and the social arrangements surrounding industrial production. Whether planned or not, managerial technology transfer will in practice reflect the local environment, such as the skills background of local staff, local organizational culture, locally available hardware, etc., as local conditions interact with know-how carried to the overseas subsidiary. All MNCs operating in the same foreign environment face broadly similar constraints then. However, at the point where managerial technology transfer enters in there appears to be considerable divergence in their practices. And these divergences tend to divide according to home country origin of the multinational. This paper thus supports the view that ownership matters to managerial technology transfer.

The paper is organized as follows: I begin by explaining why I chose to conduct fieldwork in Thailand (including the relevance of the Thai case to analysis of FDI throughout Asia), and briefly describe my study sites and the methodology employed for field research. I will then present a brief model of "Japanese manufacturing" as I believe it is understood by Japanese managers who are sent out to Japanese subsidiaries abroad. In order to provide one kind of gauge on the success of managerial technology transfers, I report on the placement of well-known Japanese shopfloor techniques in Thai subsidiaries. A measure of

transfers at a particular factory at a particular moment in time, however, tells us little about the processes through which these transfers occur. The paper therefore shifts emphasis from activity on the shopfloor to an examination of managerial aspects of the technology transfer process. Here I underscore the interactions between expatriate and Thai engineers, which I argue is the most critical point in the technology transfer process in its overseas setting, and I will contrast these interactions at Japanese and Western MNCs operating in Thailand. I will argue that distinctive practices of managerial technology transfer at MNCs are specific to the home country of the MNC, and that these practices are based on the internal dynamics, or the organizational cultures, of the firms themselves in their home country setting. In order to yield insight into how Japanese managers think and act on the problems of production abroad, I propose some brief explanations of Japanese MNC behavior in Thailand within the conceptual logic of Japanese managers. I close with suggestions regarding the implications of variations in managerial technology transfer to both the development of MNCs and to patterns of industrialization among host countries in Asia.

Thai Study Sites and Methodology

I focussed my study on subsidiaries of multinational corporations in Thailand for five reasons:

1) Compared with some of its South East Asian neighbors the Thai government has prepared the ground for substantial FDI through a relative preponderance of incentives and lack of formal restrictions. The combination of

liberal economic policy and general flexibility in technocratic intervention on the ground makes the investment and operational environment comparatively laissez-faire. In terms of the research this investment climate suggests that firm level motivations, rather than responses to host government pressures, tend to guide changes in management practice of MNC subsidiaries in Thailand. Since I am essentially interested in generating conclusions about the behavior of multinationals abroad, Thailand is ideally positioned for the study.

2) Subsidiaries of MNCs in Thailand vary considerably as to product, size, and length of presence in the country. The research design captured many of these variations, and thus analysis addresses the relevance of these factors. In addition I have a longitudinal data set on the firms I studied in detail.

3) The scale and impact of FDI on the Thai economy and society is extreme; so analyzing the Thai case is important in its own right.

4) Industrialization in Thailand speaks to several important issues in the general analysis of regional development in Asia. The Thai case has already been treated as a challenge to the "Asian developmental state" and "flying geese" explanations, by political scientists and economists respectively, of economic success in the Asian newly industrialized economies (NIEs).[3] The former model

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[3] The "Asian developmental state" model was first articulated in Chalmers Johnson, MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925-1975 (Stanford:Stanford University Press, 1982). Bernard and Ravenhill cite the original notion of "flying geese" from Akamatsu Kaname, "Shinkoku Kogyokoku no Sangyo Hatten" [Report on Industrial Development in Industrialized Countries], Ueda Tejiro Hakushi Kinen Nonbunsho [sic] 4 (July 1937). They also trace very clearly the intellectual history of the concept and its latter day interchangeability with the "product cycle theory." See pp. 172-179 in Mitchell Bernard and John Ravenhill, "Beyond Product Cycles and Flying Geese: Regionalization, Hierarchy,

proposes a pan-Asian pattern of industrialization modelled on the Japanese government's strong interventions in domestic economic affairs; the latter the development of an Asian "product cycle" in which waves of industrial technologies developed and exploited by Japanese industry are later captured by the NIEs, and in turn captured by the next set of industrializing countries in Southeast Asia. Although refined by the addition of the notion of "Asian industrial networks,"[4] the product cycle theory largely fits the Thai case. I agree, however, with critics of the Asian developmental state model that Thailand's dramatic economic growth in the 1980s evolved without, or in spite of, government intervention.[5] This discussion must, in any case, be considered on-going as Thailand, undermined by close neighbors with much lower labor costs, attempts to make its way up the technology ladder: Unlike its NIE predecessors, Thailand has a weak educational base and a tendency for the state to avoid serious intervention in economic affairs. At present its moves toward higher technology manufacturing is strongly assisted, if not driven, by foreign direct investment. Some questions of relevance are, then: Will the potency of FDI continue to be sufficient in terms of capital and, critically, skills development to sustain Thai industrial growth? If sufficient capital were available does Thailand have the know-how to own and manage firms, such as

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and the Industrialization of Asia," World Politics (Vol. 47, January 1995). For an early application and response to these theories in the context of Thailand see Daniel H. Unger, "Japan, the Overseas Chinese, and Industrialization in Thailand," Ph.D. Dissertation, Department of Political Science, University of California, Berkeley, 1989.

[4] This is the thrust of Bernard and Ravenhill's article, ibid.

[5] See, for example, Unger, op. cit.

those found in the Asian NIEs which dynamically participate in world markets?[6] What lessons does Thailand provide in the strong state-weak state debate concerning economic growth?

5) And what are the implications of the Thai experience for other parts of Asia that are now turning to industrialization? The evolution of investment in Thailand may represent a pattern we can anticipate of new investment in other countries in Asia, especially those characterized by lower cost/lower skilled labor and rapidly expanding local markets. Here I am thinking of the "next wave" of Japanese investment in China, Indochina (especially Vietnam), and South Asia, all of which are recent recipients of, or are targeted by, multinational investors, especially the Japanese. -- Only a few of these issues will be covered in this paper. Nonetheless, they point to the relevance of the Thai case for generating analyses of the impact of multinational investment.

After fieldwork at the headquarters of several multinationals in Japan, I gathered data on the management of 15 wholly-owned MNC subsidiary manufacturers, predominately Japanese companies, in Thailand. I conducted detailed fieldwork at a consumer electronics plant, which assembled audio and video cassettes, and an automobile manufacturer, for 10 and 7 months respectively. (Thai staff outnumbered Japanese managers 400:7 and 600:12 in

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[6] A sense of this dynamism among the NIEs, especially as it concerns "Chinese" firms, can be found in a draft paper by Michael Borrus, "Left for Dead: Asian Production Networks and the Revival of U.S. Electronics" in Barry Naughton, ed., The China Circle: Economics and Electronics in the PRC, Taiwan and Hong Kong (working title, forthcoming 1996).

these factories, though temporary Japanese "advisors" were also often present. Both plants had been manufacturing in Thailand for around five years at the time of the study.) Data was gathered at 13 other plants, for periods ranging from several days to six weeks, which had different dominant features (same product but earlier establishment in Thailand, manufacture of a different product by same parent multinational, same product but Western parent, etc.).[7]

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[7] Viewed from the perspectives of other disciplines, it may seem an anachronism of anthropology that field sites, in this case the names of the companies and their subsidiaries, are disguised. The downside is that there is already a literature which I cannot cite on many of these companies, all of which are first tier manufacturers and conglomerates; indeed "household names." Overall, however, the advantages far outweighed this disadvantage. I could not have enjoyed the degree of access required for the detailed study I made at the two multinationals that were the focus of in-depth work without this foundation of anonymity. Negotiating access to these companies was a difficult process and their final acceptance of my day-to-day participant-observation came to be based on their belief that I could be trusted in this matter. Once this occurred I was no longer "handled." Indeed, I was often surprised that no effort was made to shield sensitive matters from me. To date, critics of this anonymity have been academics, while businessmen, familiar with logic of screening information, have appreciated the value and intent of this aspect of my methodology. The ethics of the matter, of course, stand for the study of modern enterprises as they do for more mainstream subjects of anthropological inquiry: At the level of intimacy required for sound ethnographic work, it would simply present too great a risk to individuals within companies if even the company were named, to say nothing of the potential damage to the firms vis-a-vis their competitors. This is not a study of the past, but of firms and careers in progress.

Having approached the field with these considerations in mind, I was required to see it through at the 13 other firms where I collected data for shorter periods of time, even though the work was much less revealing and these companies would probably have allowed me to take their names public.

Apart from matters of ethics and methodological taste, there are other advantages in disguising the names of the companies: These companies are so well known that mentioning them inevitably pushes forward images of products and, among specialists, notions as to specific corporate styles. These conventional wisdoms are extremely difficult to dislodge, in spite of claims that we are willing to start fresh with new data. While I am at times sorely tempted to debunk notions of how particular corporations are run, this is not the goal of this research project. I will continue to simply tip my hat at the successes of these

The research was, thus, designed to produce the generalizable findings expected of standard social science practice while in-depth, case specific anthropological methods characterized day-to-day fieldwork. In order to generate a background for the study, I collected data and conducted structured and open interviews with academics, government officials, and other specialists. At the companies themselves, in addition to interviewing, surveying, and collecting an array of primary documents, I was intensively involved in participant-observation of activities in and outside the workplace, collected case studies in real time, conducted content and other analyses of meetings, training sessions, and shopfloor activities, etc.

The "Japanese" Model

In brief, the strength of Japanese manufacturing in the postwar period has been characterized by its avoidance of "Fordism" -- the model associated with industrial production in the West -- or the "atomization" of the work force. In its most exaggerated form the Fordism image is of a worker defined as a commodity (like a machine or a raw material) in the mass production equation repetitively performing a simple and specified task with no knowledge either of the relationship of his work to the product produced nor, perhaps, the overall organization itself. In contrast, organizational style in "Japanese manufacturing" stresses task flexibility and dependency between organizational components of the manufacturing

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firms' public relations departments.

process. The system is based on strong information flows throughout the organizational hierarchy generated by a work force capable of communicating efficiently and accurately. Ideally the system devolves authority -- over a limited sphere of activities -- down to lower levels than would be the case in a traditional Western manufacturing model. Thus, workers, who are generally highly trained, appear to have a high degree of autonomy over their specific tasks while at the same time pushing a great deal of information about those tasks into the system.

The Japanese model is relevant to this study because it fairly accurately represents the experience of Japanese managers when they are transferred to overseas operations. The model is, of course, most powerfully articulated within the general systems and history of the firms to which each manager is attached. However, many of the so-called "Japanese" management techniques -- often renamed in non-Japanese contexts -- have now become normative among manufacturers worldwide.[8] This broad acknowledgement of the strengths of Japanese management has reinforced the confidence of Japanese managers in their models, especially at firms with strong manufacturing traditions such as the ones I studied. This process has, in turn, been encouraged by the Japanese media, where a vast array of publications target an avid audience of business managers and engineers. Japanese managers, then, carry to their overseas assignments a model of management that sits in a strong position within the public

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[8] In U.S. manufacturing we should note, for example, that while in the 1970s and early 1980s the recalcitrance of the U.S. automotive industry to new techniques was well-publicized, the computer industry has never lagged in taking on board, or re-inventing, techniques that might improve productivity. Many of these closely correspond with "Japanese" models.

culture of Japan and the private cultures of their firms. This has generated a rather understandable expectation that the management of company subsidiaries abroad should remain consistent with it. So, how successful is Japanese management on the ground at Japanese subsidiaries in Thailand?

The Shopfloor

One way of gauging success may be to look at Japanese shopfloor activities. Often cited by industrial specialists and academics as "representative" activities, they are a shorthand to measure the progress of a factory toward an ideal state of "Japanese manufacturing."[9] Starting with such "findings" as the use of similar uniforms implying that firm members are unaware of hierarchical divisions, I would be the first to suggest that the categories "Japanese manufacturing" and "Japanese shopfloor techniques" have yet to be appropriately problematized. (This is, indeed, one of the goals of a larger work also using the field data from which this paper is drawn.) Nonetheless, for the purposes of this paper, they are convenient markers to ground our discussion.[10] Here I will briefly give an explanation of some common shopfloor techniques in Japan and contrast

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[9] This literature is long in the public domain and longer in management consultant reports. The spate of interest in Japanese techniques in U.K. manufacturing from the 1980s onward is representative. A relatively sophisticated example along this line is Nicholas Oliver and Barry Wilkinson, The Japanization of British Industry (Oxford:Blackwell, 1992).

[10] We should recognize that in Japan the use of these techniques varies considerably. In the firms I studied they see heavy use on the shopfloor in Japan and are taken very seriously in the lore of their corporate cultures.

them with conditions observed in Thailand:

Quality control circles (QCC) are small group activities in which, typically, assembly line workers share ideas about how to solve minor problems on their lines. Ideas are tested by gathering data from the line that can be analyzed using simple statistical techniques. "Circles" are based on the intuitive logic that a worker who is thinking could probably make valuable suggestions regarding how to work more productively. In the process of participating in "circles" workers are meant to become more interested in their jobs and more committed to their colleagues and the company.[11] While there are, of course, variations in Japan, QC circles meet once or twice a week near the shop floor, after work, for 30-40 minutes. Workers are not paid for their participation. -- In Thai plants, QC circles were conducted under overtime pay conditions. In many plants they were dropped altogether because of heavy production deadlines. In all plants rudimentary analytical tools were utilized to identify the sources of production difficulties.

Muda-dori (time and resource management) is highly valued among Japanese manufacturers as a general paradigm under which waste, defined both in physical terms and in terms of time, is cut out of the production process. It includes **just-in-time** (JIT) delivery of parts by both external and "internal" suppliers. -- In Thailand, plant lay-out reflected the scheme, eg. every tool, machine, and supply bin was in its designated place. However more complex measures were avoided. For example, the application of calculations to straight

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[11] "Circle" imagery has an explicitly industrial connotation and has perhaps replaced sports analogies, such as "teamwork," prevalent in the organizational images of manufacturing in earlier eras.

measurements in order to identify waste or "noise" on productions lines -- a common Muda-dori activity within quality control circles in Japan -- was avoided. (Waste reduction on the lines in Thailand was the responsibility of production engineers; as is associated with traditional Western systems.) The notion of different segments of the production process as "customers" was poorly developed. Just-in-time delivery by outside suppliers, even Japanese owned suppliers, was not attempted. Indeed, the Japanese joked among themselves that one Japanese automobile assembler had a year's worth of supplies stockpiled on its huge lot.

Through **job rotation** a typical worker at a large firm, who is likely to spend his entire working career in that firm, will change tasks and learn new skills such that he will eventually have worked or managed the work of a number of lines or task areas. Over the course of his career his broad, hands-on knowledge of the factory will make him a more competent manager. -- I observed almost no cases of job rotation among workers in the factories I studied. Thai workers were extremely reticent to change tasks, because they interpreted it as an indication that they were judged incompetent in their current jobs, and they did not want to separate themselves from the social relationships they had established with their co-workers. Japanese managers were satisfied with the arrangement as it generated stability on the production line and did not require that they design training for new tasks. The calculation by Japanese managers on how intensively to rotate Thai engineers was based essentially on discussion concerning whether it was best to spread out limited engineering resources by frequent rotation or

keep good engineers focussed on tasks they could manage consistently. The latter formula overwhelmingly prevailed.

On the job training (OJT) may be considered characteristic of Japanese manufacturing as part of a system in which workers in Japan are given the responsibility for quickly learning new tasks on a functioning line -- where mistakes immediately affect output -- under the tutelage of an experienced co-worker. A new line member is motivated, by design, by awareness of the effect on all the line members of his or her failure to quickly learn new tasks. It should be recognized that in Japan the basic skills that even new recruits bring to the factory generally surpasses other industrialized countries. -- On the job training overwhelmingly predominated in Thai factories. However, this was explained in interviews as a response to high demand for output. Japanese managers felt that Thai workers had plenty of generic potential but were inexperienced and poorly trained. As a result, in addition to OJT, limited classroom work on assembly in the automobile plant was conducted by Japanese foremen flown in from Japan with a Thai manager translating. With materials in Japanese or English, the experience was frustrating for all involved. In the consumer electronics plant, manuals had been translated into Thai and Thai mid-level managers conducted some training. However, they were insecure in their knowledge of Japanese systems, a topic I will explore below.

Japanese managers in Thailand were forced, or chose, to limit the use of Japanese shopfloor methods in practice. Perhaps this is normal and explainable

by the fact that the plants I studied in-depth were start-ups, in operation for around five years, with a largely inexperienced labor force. In these plants many Japanese managers told me that they fully expected that within 10-15 years shopfloor and production systems in their Thai factories would match those in place at "sister plants" in Japan. Naturally, therefore, the inclusion of a Japanese subsidiary that had been manufacturing locally for over 30 years was significant among my case studies. Whereas the average age of workers in the start-ups was 24 years, in the older plant the majority of workers "grew up with the company;" they had joined young and stayed, averaging 37 years of age. The observation of serious limits on the extensiveness of "Japanese management techniques" was consistent in this older plant (and others) with an experienced labor force. The President of this company told me that try as he had, he simply could not get these systems in place in Thailand to any degree that approached their use in Japan.

Since no product may be released from the factory below standard, intense output pressures and the human and physical resources on the ground have combined in Thai subsidiaries to produce a set of manufacturing methods very much at odds with the Japanese ideal. The production system in Thailand reflects a top-down flow of information, with decisions controlled tightly by a centralized cadre of managers and engineers. It appears that Japanese multinationals in Thailand have reproduced the atomization of labor and strong centralization of decision-making authority -- the "Fordism" -- that they managed to avoid in postwar Japan.

What Is Happening, or What Is Not Happening, at Japanese Subsidiaries in Thailand?

While there is a literature, largely focussed on North American and European cases, addressing shopfloor activities in Japanese multinationals abroad, very little is written on local management and their interactions with Japanese supervisors.[12] The more I studied it the more confident I became that exploring local management and their interactions with Japanese supervisors would ultimately yield the most accurate explanations of my specific observations concerning the shopfloor and my general analysis of how Japanese organizations go through the process of adjusting to cross-cultural conditions.

Expatriates in manufacturing MNCs abroad are proportionately few in number and may occupy "advisor" positions on the edges of factory organizational charts, but they are in the highest positions of authority in these firms. They ordinarily spend little time on the shop floor itself, relying on their high ranking local colleagues to carry managerial decisions forward and keep them consistent down through the organizational structure. Information about what is to be transferred down the hierarchy is, thus, making its most critical cross-cultural leap in the decision-making and communication patterns between expatriate and top local managers. The capacity of local and expatriate personnel, typically at an upper level, to share information strongly affects the development of capabilities

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[12] On the U.K. see Oliver and Wilkinson, op. cit, as well as P. Garrahan and P. Stewart, The Nissan Enigma: Flexibility at Work in a Local Economy, (Mansell, 1992); and Williams, et al. Cars: Analysis, History, Cases, (Berghan Books, 1994). Work on the U.S. has been less consistent and driven far more by negative opinion than by analysis within factories.

among lower level, local staff to successfully handle technology closer to the production line.

Thus, I judged what I would call "insecurity" or "under-confidence" over technical matters among Thai managers and engineers in Japanese firms as extremely significant. It contrasted with the situation in Japan and my understanding, based on interviews with Thai managers and the statements of Japanese managers, that Thai engineers in the plants I studied were generally competent.

How would these "insecurities" be explained? My findings suggest that Japanese engineers controlled decisions that their Thai colleagues were -- technically speaking -- capable of making, thus preventing them from gaining experience and confidence in specific tasks. Supporting evidence comes in the form of a simple arithmetic of ex-patriot personnel, in this case from chip manufacturers: Japanese manufacturers in Thailand typically have three to four times the number of ex-patriot engineers as their Western counterparts using similar technologies in similar scale plants. Japanese engineers are deeply involved in controlling engineering tasks in Thailand.

And How Does It Compare?

Western firms face the same conditions generic to manufacturing in Thailand as their Japanese counterparts. They are, for example, also operating in an investment regime that is relatively laissez-faire, using a labor force with a

rudimentary education, hiring "overpaid" engineers, and conducting business with high production output pressures for a rapidly expanding local and/or regional economy, or, although comparatively rarely, for re-export to their home country. What is interesting, of course, is how firms cope differently with these conditions.

Similar to Japanese firms, expatriate managers in Western firms control finance and investment, and determine output and product design at their plants in Thailand. These tasks are managed, however, with far fewer expatriates than is the case at Japanese plants. Typically, at a Western plant that is running normally, two or three expatriates will cover the tasks of president/chief financial officer and chief engineer/conduit for product design from headquarters. (If there is a third expatriate, he tends to be an engineer.) The generic expatriate structure of a Japanese plant would have a president, a financial controller, parts and procurement officer, (possibly a planning officer) and, on the production side, a highly experienced plant manager, and engineers as production control manager and quality control manager. Two or three additional Japanese engineers are likely to operate under these production side managers. And there tends to be a steady stream of advisors, also predominately engineers, on temporary visits from Japan.

In this paper I have chosen to stress the organizational and social control of the production engineering because, 1) this is the area where the most important distinctions appear, and 2) we should consider these activities as the core activity of manufacturing and, thus, at the center of managerial technology transfers at MNCs. Process technologies in Japanese plants were based on information from

Japanese "sister plants", often the earlier homes of equipment used in Thailand. This is not at all surprising, though a somewhat stronger finding than at the Western plants. Of greater interest is the observation that a key aspect of holding back managerial technology transfers was the in-house control of decisions concerning production tasks. This was generally conducted in impressive daily consultations via telephone and fax between Japanese engineers at the subsidiaries in Thailand and at "sister plants" in Japan. Thai engineers were generally informed of the outcomes of these discussions.

The fewer number of expatriate engineers in Western firms is an indicator of the finding that much greater responsibilities are shouldered by Thai engineers in Western plants. My overall sense based both on observation and on the statements of Thai and expatriate managers is that in Western firms expatriate engineers made themselves available to assist their local (Thai) colleagues who were in the end responsible for their production lines. Obviously conditions vary depending on particular conditions and the skills of local engineers in particular plants. However the management model employed by expatriate engineers -- who were by no means always Westerners but included Singaporeans, Indians, and Koreans -- at Western firms in Thailand was quite at variance to that observed in Japanese plants. In its idealized form the model here is of a local engineer given production targets and told to get on with it as he sees fit. Engineers have the opportunity to learn shopfloor techniques often much like those practiced by the Japanese in Japan, but are made responsible for their use and, critically, their alteration to fit local conditions on the production line. As a Thai a local engineer

may know what best will work and what will not. Gauges on this engineer's success and capacity are taken at close enough intervals that significant harm to the company is largely avoided should he fail. As the president of a large, American-owned hard drive manufacturer put it, "If after a couple of weeks production meets or exceeds targets we simply give him another, perhaps slightly increased, target for the next period. If he's below target, we talk. If he's below two or three times, he's demoted or out the door."

I do not want to overstate a cowboy mentality, or rugged individualism for managers at Western plants, nor lose sight of the variations in management styles at Western firms in Thailand.[13] I do want to stress the distinction from Japanese plants in the attitude concerning skills exhibited toward local managers, the intensity of interactions between local and expatriate engineers, and the responsibilities that local managers and engineers are expected to bear. All manufacturing multinationals provide training, skills, and standards which they overlay on local environments to produce goods. In comparing Western and Japanese MNCs my data suggests that in Thailand Japanese managers are far more aggressive in forwarding their solutions to problems at all levels of overseas operations than are expatriate managers at Western MNCs. Thus, where Japanese advisors will keep hold of decisions that their Thai counterparts are capable of making, in Western firms, with their hands-off style, local engineers are allowed to learn through the risks of failure or success. Engineers were experiencing real on-the-job-training. Technological know-how would appear to be

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[13] See footnote 2 on this point.

more successfully transferred through this latter process.

A possible test, of course, of the comparative strengths of these two styles of managerial technology transfer might come in a study of productivity at similar plants. Unfortunately, productivity is notoriously difficult to pin down where machines are not identical, so I cannot provide a finding here. For plants that have been established in the last decade my impression is that both Japanese and Western firms are producing, and currently making profits, at about the same rate. The more interesting problem for our purposes is why have they organized manufacturing differently and what difference it may make over the long run?

Explaining Differences

In these concluding sections I am further from my data and closer to conjecture and generalization. Nonetheless, I would like to briefly provide an explanation for the findings above, and briefly comment on their effect on the development of MNCs with different parents and the implications of Japanese versus Western MNC investment on host countries in Asia.

I have suggested that in managerial style Western MNCs are more successful in providing managerial technology transfers to local employees of their operations in Asia than are Japanese MNCs. To a significant degree this is explained by the effects of home country organizational culture demonstrated by these firms, which overlay all other sets of decisions taken by MNCs. Home country, or headquarters, organizational culture influences both the implicit expectations of working practices and the policies of multinationals. At risk of

oversimplification, in its home environment Western firms will allow managers to take a high degree of responsibility over tasks with ex-post oversight of results. Importantly, and not by design but rather as a residual effect of home organizational culture, in the foreign context this hands-off style of management is in practice less likely to conflict with local ways of organizing work. If our theory of learning contains the notion that we build new information into the structures of knowledge already familiar to us, arms-length management may strongly encourage the development of local know-how as long as technical guidance is made readily available.

By contrast, let us think about the social characteristics observed in Japanese manufacturing at home in Japan: Important among these are long term commitment by employees to the firm as much more than a workplace, overlapping responsibilities, and dependence on extremely dense informational networks which facilitate a remarkable flow of information both up and down vertical organizational hierarchies and across horizontal organizational functions. These characteristics have worked extremely well in domestic Japanese manufacturing and they thereby encourage an expectation of similarly dense information flows by Japanese managers in subsidiaries abroad. But such flows appear to be arduous to recreate abroad because they may rely on similar experience and assumptions about social interaction which may explain the common observation that penetration of Japanese organizations by non-Japanese is difficult. Inconsistencies with expectations, then, may increase the desire of Japanese managers abroad to keep decision-making under their control and fine

tune the work of their foreign colleagues. In practice this encourages the presence of large numbers of Japanese engineers.[14] Because of their breadth of marketing and production throughout the globe, we might expect Japanese multinational manufacturers to be among the most "internationalized" of Japanese organizations. Arguably however, as suggested above, in the cross-cultural context flexibility problems may be exaggerated at Japanese MNC manufacturers because of the considerable worldwide attention they have received for their domestic production and managerial methods.

It was not part of my field research methodology to press every Japanese manager I knew on my observations, which in any case were essentially consolidated only after leaving the field. Nonetheless, through interviews and participation in the successes and frustrations of months of on duty and off duty activities, a good deal of opinion makes its way to the surface. What follows, then, as a composite of many conversations, are five explanations for difficulties in placing Japanese shopfloor methods in the Thai workplace. Although I add some comment parenthetically, I am not here arguing the validity or internal consistency of these explanations. The far more interesting point is that although these explanations are distilled and therefore uncharacteristically pointed in tone, I think

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[14] In this paper I have focussed on the pull factor in explaining the presence of large numbers of Japanese engineers in overseas subsidiaries. I continue to consider this the key explanation. However, the phenomenon is certainly not discouraged by an important push factor: Most large, Japanese manufacturing MNCs are now challenged by a flattening in domestic production while a high proportion of skilled Japanese managers and engineers, who expect "lifetime employment," remain on their payrolls. Sending them abroad as "advisors" helps to justify the situation, though it is enormously expensive.

they are representative of the Japanese perspective, and they are explainable within the framework of Japanese organizational expectations suggested in the above paragraph. They may, therefore, begin to untangle the motivations for actions taken at subsidiaries of Japanese MNCs in Thailand: (1) High production pressure: Demand for goods produced in Thailand is high and requires the expansion of production. Therefore there is little time for training or rotation. Keeping workers on the same line assists in maintaining quality. (2) Low wages: No motivation to put a large effort and expense into training because cost of labor is low and will, therefore, only marginally affect productivity. Productivity will increase in any case through the introduction of more efficient machinery. Low wages also mean that post-production inspection is a readily available option for quality assurance. (3) Education: Thai workers are difficult to train because they have a much lower basic education compared with Japanese workers. Training materials must be completely redesigned and simplified to cope with this; an expensive and time-consuming task. Again, avoiding rotation means workers are trained once for one job, and usually on the job itself. (4) High turnover of personnel: Expending money on rotation and training is counter-productive because employees leave once they have acquired valuable skills. (According to data widely circulated among Japanese managers, turnover among workers is fairly low, while among engineers it is high. Turnover is high among engineers not only because they seek higher wages but because, as suggested above, many Thai engineers feel irrelevant to Japanese decision-making about production. (This is an obvious vicious cycle, but nonetheless difficult to correct.) With some

outstanding and highly paid exceptions, Thai engineers who stay at Japanese plants tend to be relatively passive and willing to sacrifice self-expression in the workplace for job security.) (5) No industrial tradition: Thailand is a largely agrarian economy that has not evolved through the industrial stage of development. Unlike conditions at subsidiaries in the US or Europe, there is no need to work with or against industrial organizational systems already in place. Thai organizational culture as it stands need not be scrutinized since it has not yet been rationalized appropriately to fit modern industrial standards. Since many of those standards are Japanese it is appropriate that much of the rationalization process should follow a familiar Japanese path.

Among these five explanations, the fifth is the most fundamental, abstract, and "loaded" in terms of its effect on the previous four explanations and, therefore, its implications on managerial technology transfers at overseas subsidiaries of Japanese manufacturers generally. It may also stimulate rich discussion, and, for me, further research. In any case, since our project here is implicitly comparative let us consider the matter from the Western perspective. I have characterized Western multinationals as technically exacting, like their Japanese counterparts, but on a managerially level cross-culturally flexible through the habits of arms-length management. It is not that Western managers may not have opinions about the quality of local industrial culture in the many environments in which they manufacture, it is rather that such considerations are less relevant to operations on the ground. This is unlike Japanese managers who are keen to forward their own solutions to the management of production and may experience frustrations

with the pace at which Japanese methods can be operationalized in the foreign setting.

The Implications of Differences

There is a substantial literature on MNCs which posits their evolution along a scale of decreasing dependence on central control and the development of a truly international pool of managers operating in diverse environments producing a wide variety of "products" from manufactured goods to consulting advice. Japanese MNCs have generally been perceived at a relatively early stage along this developmental scale. The data I have presented from Thailand leads me to believe that the evolutionary path of the management of Japanese MNCs at both the subsidiary level and the worldwide level is likely to be rather different from that of Western MNCs.

First, as the start-up era of joint ownership and control of overseas operations wanes and MNCs are increasingly moving toward explicit control, and 100% ownership where host government policies allow it, differences between the subsidiary operations of MNCs with different parents are likely to become more pronounced. This is especially so on the managerial level.[15] This paper has

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[15] Of course, the growth of majority ownership and the use of FDI to secure access to foreign markets are widely noted examples of increasing similarities between MNCs. It is at other levels of MNC activity that differences are expanding. My analysis focusses on managerial dynamics. Encarnation and Mason, for example, find differences at the level of industrial organization. For Japanese MNCs they note the substantial growth in the scale of intra-company trade and the development of overseas keiretsu relations mirroring those in Japan. See pp. 442-446 in D. Encarnation and M. Mason, "Does Ownership Matter? Answers and Implications for Europe and America," in M. Mason and D. Encarnation, Does Ownership Matter?: Japanese Multinationals in Europe, (New York: Oxford University Press, 1994).

argued strongly for the relevance of local organizational culture and knowledge to operations within subsidiaries and, thus, to managerial technology transfers, no matter who owns the firm. Nonetheless, this argument must be seated within the logic of structural control of resources. Under joint ventures expatriate managers are required at the very least to consider the reactions of local shareholders, and in Thailand there are many cases where expatriates and Thais at the top of the firm are deadlocked in conflicts over a range of management directions. Firms in my study were predominately wholly-owned. Office and factory layout and formal organizational structures more closely resembled plants in Duluth or Kawasaki than they did Thai plants down the street. Increasingly Thai engineers and managers at MNC subsidiaries must contend with a cross-cultural event in their discussions with top management over how to best organize the subsidiary's business activity. Further to this point, the experience of Thais in handling the foreign cultures of MNCs has become part of their skill base: Thai engineers in Japanese firms who "job hop" tend to move within a circle of Japanese firms. Japanese managers at competing Japanese firms feel that Thais are likely to have picked up some notion of Japanese ways even if they otherwise disapprove of job hopping for career advancement.

Second, in this paper I have discussed in some detail the strict centralization of decision-making authority in Japanese hands within subsidiaries. Turning briefly beyond the plant, we should note that this centralization is also reflected in the position of subsidiaries vis-a-vis headquarters. Subsidiaries in Thailand are part of a tightly controlled and rigorously hierarchical organizational

structure extending down from Japan. This lack of autonomy is suggestive: Rather than "at an earlier stage of development compared with their Western counterparts," in the Southeast Asian context, at least, Japanese multinationals may be operating with an altogether different view of the value of autonomy. Although some of the Japanese MNCs that I studied had regional Southeast Asian headquarters "above them," these operated far more as trading clearinghouses than they did reference points for control of subsidiaries. This inconsistency between design and practice was a point of organizational tension within these MNCs. Japanese managers referenced headquarters or plants in Japan for the core of their work: technical information and individual career paths. It also matters that the Japanese archipelago is at most only two time zones and a six hour flight away from the vast majority of Asian subsidiaries. In Asia I expect Japanese MNCs to remain comparatively centralized both at the subsidiary and the international level.

Opinion varies on whether or not these differences constitute advantages or disadvantages for MNCs. I think that continuous pressures to move production abroad and the high cost of supplying overseas operations with expatriate Japanese personnel will eventually disadvantage Japanese firms, other considerations being equal. These high costs are likely to force Japanese MNCs to expand the numerical proportions and responsibilities of local staff in spite of a surplus of personnel in Japan and an organizational tendency to tightly control subsidiaries. It matters that experience abroad by Japanese personnel is thin. Although it is perfectly clear that large numbers of Japanese managers are now

going overseas, the experience of this new cadre of international managers, especially in managing non-Japanese, still lags well behind its counterparts at Western firms.

Manufacturing in Asia is increasingly expensive and know-how driven. In addition, the competition is far more complex than portrayed by the Japanese-Western dichotomization constructed in this paper for analysis of managerial technology transfer. A diverse set of "Chinese" firms are now major players,[16] as are South Korean investors. In addition to capital, both technical and managerial flexibility would appear to be key sources of strength. While Japanese companies are feeling the effects of Japan's recession in the mid-1990s, they will remain comparatively rich in capital for overseas investment. The Thai data suggests, however, that while weaving the complex fabric of managerial technology transfers Japanese firms may experience operational difficulties.

Meanwhile, we should not lose sight of the impact on Asian host countries of MNC operations and the implications of the Thai case to our theories of Asian development. From the perspective of Asian host country governments, there has been a decline in the availability of import substitution or protecting domestic markets as a growth strategy. Industrial policies point in the relatively passive direction of providing an attractive investment environment to harness regional economic dynamism in Asia. In this context the heart of the matter in terms of active host government policy may lie in the level of education and skills that local staff can bring to industrial firms. The accomplishments of the Asian NIEs in

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[16] See Borrus, op. cit.

providing a well-educated labor pool are not matched in Thailand, Indonesia, and the Philippines. Nor are they matched in the diverse "next" Asian gaggle of flying geese: the relatively tightly controlled economies of China, Vietnam, Burma, India and Bangla Desh. Here industrialization is starting to play a significant role; much of it multinational-driven, and Japanese. Realistically, if moves up the product cycle technology ladder are to have any dynamism in these under-educationally-endowed states, these moves will largely be the result of activity within private corporations. In this context the notion of managerial technology transfers takes on significance beyond the firm itself.

If my analysis is correct it would seem at present that local managers and engineers are likely to gain more know-how from employment at Western multinationals. In no way, however, is this to suggest preferential policies on the sources of MNC investment. On the contrary, it appears that investment by MNCs in Asia from diverse sources establishes positive industrial models as well as organizational and trading options for domestic firms, it has huge economic cascading effects, and provides much needed employment. In any case, a projection of my analysis of essentially micro level phenomena within subsidiaries of MNCs onto national economic growth scenarios is beyond the parameters of this paper. Rather, the work here presents a new perspective for analysis of the interactions of investment, government policy, and economic growth in Asia and suggests that debate over both the Asian developmental state and the flying geese models should still be considered wide open.

But, at the level of the firm, we are on more solid ground. Even in the

fundamentally standardized world of production of consumer goods, the argument that the interplay of world markets and on-going technological innovation drives MNCs toward similar internal organizational structures and processes does not fit the facts. At the very least this research shows that the social milieu of multinationals or, for the purposes of this discussion, who owns the company, matters to the organization of production and the quality of managerial technology transfers. We know that Japanese management travels to Asia, but the Thai data suggests that it may less often arrive there.