Japanese Multinationals in CEE Transitional Economies

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Abstract

The expansion of EU to the east is making positive contributions to the development of the world economy and facilitating the movement of goods, capital and labor. In particular, the capitals from industrialized countries are pouring into Central and Eastern Europe (CEE), an emerging market. Meanwhile, Japanese direct investment to CEE is also increasing rapidly.

This article is to clarify the following questions concerning the transplant of Japanese production system (JPS) towards CEE. Is it possible for Japanese multinationals to introduce JPS into transitional economies in CEE? How viable is the JPS being beleaguered by the European multinationals? In what way would the Japanese firms operating in the countries influence the formation of the local systems? The author will make full use of the data collected through a field work in 2003, to verify the above questions.

I. Introduction

In January 1990, immediately after the political and social transformation was enforced upon the former socialist countries in Central and Eastern

Europe (CEE), a summit meeting of the Conference on Security and Co-operation in Europe (CSCE) was held in Paris. At this meeting, Francois Mitterand, then the President of France, raised an alarm in addressing to the European leaders as follows:

"If the political division is replaced by an economic division, a new crisis shall emerge. A 'curtain of economic disparity' taking over the 'iron curtain' shall divide Europe into 'the rich' and 'the poor', creating a new tension in this part of the world."[1]

Fourteen years later, we witnessed cataclysms in Europe. On May 1, the European Union (EU) received ten countries in CEE as new members of the organization and EU25 system was thus born.

The expansion of the EU to the east has made positive contributions to the development of the world economy and is facilitating the movement of goods, capital and labor. In particular, the capitals of developed countries are pouring into CEE gearing towards the potential growth of the newly affiliated member countries in this region. During the six years until their participation in the EU, five major countries in CEE (Czech, Slovakia, Poland, Hungary and Slovenia) attracted approximately 80 billion Euro (about 11 trillion yen) of foreign direct investment (FDI). Direct investment by Japanese firms, whose presence used to be only minor in this region, rapidly increased during this period. According to the statistics of Japan External Trade Organization (JETRO), the number of the Japanese manufacturing companies already conducting local production in CEE reached 137 as of the end of 2003, doubling from the number three years earlier. Auto-related industries account for nearly half of the direct investment of Japanese firms, reaching a comparable level with that of Germany, a major investor in the region. With sales companies and other

non-manufacturing sector included, 300 or more Japanese firms are operating in this region.[2]

This article is to clarify the current situation, characteristics and significance of the transfer of the Japanese production system (JPS) in this region with a focus on the Japanese manufacturing firms rapidly developing local production in CEE. The following three questions shall be the basis of the approach in challenging the afore-mentioned task:

First is the question of transferability of JPS into transitional economies. The CEE transitional economies are, as described earlier, in the stage of rapid transition from the socialist planned economy to market economy, and they still retain legacies that are not in line with market economy. Most typically, they include human behaviors and labor practices from the socialist time. As stated later, we observed in the testimonies obtained through our field study such legacies in the area of employees' commitment to the management and loyalty to their firms. We also observed a few remnants of the practice of a state meddling in labor issues. Can Japanese firms in such an environment possibly transfer their human resource management system and production control practices, which constituent their competitive advantage in this region? And if transferable, how can they live together with those remnants of the former system in the region (using our key terminology, an issue of "adaptation")?

Secondly, how viable is the Japanese production system being beleaguered by the European multinationals? As is well known, CEE transitional economies, while placed under the powerful influence of the former Soviet Union during the Cold War period, also drew strong influence, both historically and culturally, from Western Europe, particularly from Germany. After the transition began, massive capital infusion came from the EU countries together with the transplant of their corporate and

production systems. As the result, it is likely that the production system of the EU countries by and by became the standard of the CEE countries. In this perspective, what kind of production system the Japanese multinationals would build in the region as they ventured into these transitional economies?

Thirdly, transitional economy is characteristically in the phase of consolidating a pattern for more rational systems amid the process of a new system replacing the old through trial and errors. In what way would the Japanese firms, operating in the countries at such a phase, influence the formation of the local systems?

II. Japanese FDI, Their Characteristics and the Local Managerial Environment

First, let us have an overview of the investment made by Japanese companies in CEE transitional economies. The cumulative amount of direct investment by Japanese firms in the region until 1994 remained at an extremely low level of 370 million US dollars, whereas in the latter half of the 1990s, the investment began increasing at such a pace of over 100 million dollars per annum owing to the following reasons:[3]

(1) Prompted by the economic growth and the progress of the economic reform in CEE transitional economies, by the development of a single currency for the EU, and by the increased production cost of the Japanese subsidiaries in the UK due to stronger British sterling, Japanese companies operating in Europe undertook reviews of their production sites in view of enlarged Europe that includes CEE transitional economies. As a matter of fact, when the author surveyed Japanese subsidiaries in Germany in 1998, a Japanese manager involved in a Japanese subsidiary said that "the Japanese local

production operations in Europe will shift from the west to the east and from the north to the south", and through the field study in 2003, the author came to realize that this prediction is becoming a reality.

(2) Japanese parts manufacturers became active in moving into the region as suppliers to Japanese firms in automobile and electronics industries, which were already operating in Western and other parts of Europe. The most typical case is the construction by Toyota Motor Corporation of their factories in Poland (a factory to manufacture transmissions and another for diesel engines) and in Czech (a joint venture with PCA for passenger cars; producing 300,000 units per annum starting in 2005). Following the suit of Toyota, Toyota-affiliated parts manufacturers arrived in the region one after another and built their plants in CEE. In fact, several Toyota-affiliated parts manufacturers were included in the survey this time.

(3) The most important factor was after all the participation of the CEE transitional economies in the EU. To auto and consumer electronics manufacturers, those transitional economies not only provide cheap labor but also serve as a foothold for the gigantic market including the EU as well as the neighboring former Soviet Union and its influence area.

Against this backdrop, at the end of the 1990s, the cumulative amount of the Japanese investment into CEE transitional economies increased to one billion US dollars. The number of FDI by Japanese manufacturing companies, which counted only 70 in 2000, doubled in the following three years till 2003 (137 companies as of our survey). In the following paragraphs, we shall look into the characteristics of site locations, triggers of the investment and industrial characteristics of the Japanese FDI in the region.

First of all, the site locations of the Japanese FDI in CEE are character-

Table 1 Japanese FDI in 4 CEE Countries in 2003 (100 million Yen)

	All Industries	Manufacturing	Pulp	Chemical	Iron	Machinery	Electronics	Transportation	Others
World total	44,175	17,757	161	2,336	771	1,570	4,773	5,992	1,651
EU25	18,108	6,007	13	439	35	798	492	3,567	642
Original EU15	17,864	5,771	10	438	27	787	459	3,407	622
New EU10	244	236	3	1	8	11	33	160	20
Czech	166	160	3	0	2	3	4	129	20
Hungary	58	56	—	1	1	—	28	26	—
Poland	20	20	—	—	5	8	2	6	—
Slovakia	—	—	—	—	—	—	—	—	—
U. S. A	9,913	5,991	14	1,361	163	456	2,999	798	85
China	2,152	1,712	26	175	138	191	381	236	383

Source) Institute for International Trade and Investment, "International Trade and Investment" May, 2004.

istically concentrated in a few countries rather than spreading throughout the region. Specifically, the amount directly invested in three countries, Czech, Poland and Hungary has an overwhelming share in the total amount invested in CEE transitional economies. This is shown in Table 1 that summarizes the Japanese FDI in 2002. In 2002, Japanese investment in CEE transitional economies (EU10) accounted for only 0.5% of the entire Japanese FDI in the amount of 24.4 billion yen, which was heavily concentrated in the aforementioned three countries. Table 2 shows the result of the questionnaire survey conducted by *Nihon Keizai Shimbun*, and this also indicates that these three countries are considered to be the most attractive factory site locations by Japanese manufacturing enterprises.

Secondly, let us consider the triggers of the Japanese FDI towards CEE. Why did the Japanese investment concentrate in a few countries, that is, Czech, Poland and Hungary, as we have seen?

(1) The biggest reason we were given was "labor cost and easy procure-

Table 2 The Most Competitive Countries for Attracting FDI in EU

Manufacturing (replied by 101 Japanese firms)			Non-manufacturing (replied by 56 Japanese firms)		
No. 1	Czech	27.70%	No. 1	U. K	44.60%
No. 2	Hungary	20.80%	No. 2	Germany	42.90%
No. 3	Poland	16.80%	No. 3	France	33.90%

Source) Nihon Keizai Shinbun, Nov 29, 2001.

Table 3 The Competitive Advantages in CEE

1. Emerging manufacturing market.
2. Highly educated labor.
3. Stable employment (low leave rate)
4. Highly potential technological ability
5. advanced logistics
6. cheap production cost

Source) Based on the data obtained from a Japanese subsidiary in Czech.

ment of human resource."[4] In our field study, we obtained the same information from a Japanese firm already operating in the region. Table 3 portrays the merits of investment for Japanese firms and it seems that the competitive advantages as a manufacturing market and a production base are found in these three countries.

(2) Prospective currency unification (the introduction of Euro) is another driving force of the increasing investment of Japanese enterprises. Namely, when the distribution of Euro currency begins, the consumers within the Euro area are likely to be more price-sensitive. It may well be the case that these three countries were chosen as a supply base in order to capture the Euro-using market.

(3) CEE transitional economies have an advantage of being located literally in the center of continental Europe. Former Soviet Union and its neighboring countries form a market indispensable for the Japanese industries as a prospective market of tremendous potential.

Table 4 The Numer of Japanese Multinationals in 4 CEE countries

	Manufacturing		Sales company & Others	Total
	Firms	Automobile-related		
Poland	26	18	48	74
Czech	56	29	62	118
Slovakia	8	5	4	12
Hungary	33	19	54	87
Total	123	71	168	291

Source) Nihon Keizai Shinbun, Aug 19, 2003.

Also attractive is their proximity to the advanced region of Western Europe.

(4) Potential market demand of this region is attractive all the same. A manager involved in a Japanese subsidiary stated, "The population accounts for 15% of the enlarged EU, whereas the market share in sales does not yet correspond to this ratio. Their purchasing power, however, is growing, making it a very promising market." As this statement demonstrates, Japanese enterprises are also going after the market potential of this region.

Thirdly, the industry-wide characteristics of the Japanese FDI is simple and clear. They are concentrated on the two industries, "automobiles" and "electronics." Table 4 shows the industries in which Japanese firms invested in the four targeted countries as of our field survey. According to this data, as of August 2003, there were 123 Japanese local subsidiaries that were already established or the decision had been made to establish, out of which 71 (equivalent to 57%) were auto-related industries. In Czech, for example, in August 2003, when the field study was carried out, 50 Japanese manufacturers were either under operation or had decided for local production. Of the 50, auto-related firms were 32, electronics 9 and the others 9.[5] Obviously, there are rationales for the focused investment in

auto industries. Although the economic size of the newly affiliated EU member countries is only five per cent of the enlarged EU, their potential is greater, as compared with that of Western Europe, which has already reached maturity. According to a source of a Japanese auto subsidiary, "as a stricter environmental standard of the EU is introduced, great replacement demand shall be created. Also promising is the demand for the second cars among the wealthy class."[6] For instance, 54 per cent of the passenger cars in Poland are 11 years or older after manufacturing. The old models sold immediately after the collapse of the socialist system, have to be renewed and the car ownership ratio is less than half of that of Western Europe and this makes a great potential demand. The same source also commented, "Unlike China, CEE shall not be a world factory due to the limitation in size. However, only CEE can serve as a production base geared toward the European market, which accounts for a quarter of the world's consumer electronics market."[7] This rightly reveals the investment trigger on the part of Japanese multinationals.

And what exactly is the managerial environment of CEE transitional economies where Japanese firms are heavily investing?

First of all, the environment in macro-economic perspective is characterized as a "small economy" plus the "Less developed country's income level". As Table 5 portrays, of the four countries, the size of the GDP of each of the three countries apart from Poland is only equivalent with the annual turnover of a Japanese major firm. In fact, the total economic size of the ten countries newly participated in the EU is less than that of the Netherlands. However, their per-capita GDP is at the level of a less developed country.

Secondly, as shown by Table 6, the economic growth rates of the countries where Japanese companies invested are considerably higher than that in Western Europe. Obviously, two-three per cent level of growth

Table 5 The Overview of 4 CEE Countries (by 2002)

	Czech	Hungary	Poland	Slovakia
Population (10 thousand)	1,024.60	992.3	3,862.20	539.82
GDP (million US$)	73,565.70	64,926.50	188,996.90	24,188.40
Per Capita GDP (US$)	7,180.20	6,543.20	4,893.50	4,480.80
Inward FDI (million US$)	39,395.10	28,717.20	47,900.00	8,529.80

Source) Institute for International Trade and Investment, "International Trade and Investment" May, 2004.

Table 6 The Economic Growth Rate in 4 CEE countries (%)

	2001	2002	2003	2004
Poland	1.0	1.4	2.5	3.0
Czech	3.1	2.0	2.3	2.7
Slovakia	3.3	2.3	4.0	5.0
Hungary	3.8	4.4	3.2	3.5

Source) Nihon Keizai Shinbun, July 18, 2003.

cannot be comparable with that of East Asia, but in view of fairly low growth of EU economy, CEE transitional economy is a promising region that enhances the potential growth of the EU as a whole and attracts foreign investment.

Thirdly, high unemployment rate is an awkward problem to these countries, but to foreign investors, it is an element that facilitates easy hiring of highly skilled workers. The region has so far posted two-digit unemployment rate. In fact, the Japanese subsidiaries we surveyed unanimously replied that "there is no problem" in hiring quality personnel.

Fourthly, cheap labor cost of this region as compared with the West European countries, is the most lucrative element to Japanese manufacturers. The current wage level of the CEE transitional economies, which varies depending on the type of jobs and from country to country, is

generally 10-50 per cent of the West European level. On the other hand, those countries enjoy a high level of education. Allegedly it would take at least ten years for their living standard and the wage level to catch up with the West European levels, and the Japanese firms operating in the region can take advantage of the cheap labor cost as is.

Fifthly, highly skilled workers provide Japanese firms with a favorable environment. Taking an example of the same industry in Germany and in Czech, although the wage difference of the two countries is approximately 6 to 1, "there is no difference between Germany and Czech in the skill level of workers."[8] Though different from the "meister system" that has supported the high manufacturing skills in Germany, Czech, too, has a long-established infrastructure for training and educating skilled techniques, enjoying quality labor force that made the country a "manufacturing plant" of the East in the socialist time. As a matter of fact, in our field survey, we heard a similar testimony from a Japanese manager involved in a local plant of a Japanese firm.

Sixthly, low tax rate is also an enticement for foreign investment. Slovakia, which successfully solicited for the investment by Korea's Hyundai Motor Company, progressively reduced the corporate tax from 42 per cent five years ago to 19 per cent in the beginning of 2004. Czech and Hungary followed suit, triggering a domino effect in corporate tax cuts throughout the region.

III. Overview of the Field Study in Fiscal 2003

In the summer of 2003, an academic field-work research primarily of the Japanese subsidiaries as well as local companies operating in CEE transitional economies was conducted and 34 Japanese and local companies in Czech, Hungary, Poland and Slovakia were carefully surveyed. Through

the field-work research, valuable and influential information was acquired with regards to the situation of the transfer of the Japanese production system (JPS) in the Japanese factories engaged in local production in CEE transnational economies. As such, through the field study in some of the local companies, it is possible for us to figure out the present situation of the local management and production systems to a certain extent. In Japan, there has hardly been any large-scale field survey of the corporate management and production systems in CEE transitional economies.

Table 7 shows an overview of the Japanese firms surveyed in 2003.

As for the location of the surveyed firms, 9 are located in Czech (including one government-affiliated office), 12 in Hungary, 10 in Poland and 3 in Slovakia. All the major recipient countries of the Japanese investment are covered by the research.

Secondly, the industries targeted in the survey were predominantly automobile and electronics-related, as is also the case with the target industries of the earlier research. Specifically, 18 companies are in auto assembly and auto parts industries, 11 in electronics assembly and electronics parts, and five are in others. In fact, Japan's FDI in CEE is heavily focused on the two areas of automobile and electronics, and our target companies are also in line with this trend.

Thirdly, an overwhelming majority of the surveyed Japanese multinationals arrived in this region around mid-1990s. Immediately after the regime change in 1989, their economic growth plunged, which was followed by confusion and repeated trials and errors that continued until the first half of the 1990s, and after that the economy began picking up. As shown in Table 8, the recovery rates of the four countries we have surveyed rank in the top tier among the new EU member countries. Japanese multinationals thus began their direct investment in this region, which apparently was settling down, and the business in CEE finally got on the move.

Table 7 The Overview of the Surveyed Japanese Multinationals

Firms	Location	Ownership	Industry
C1	Czech	Japanese	Food
C2	Czech	Japanese	Automobile Parts
C3	Czech	Japanese	Automobile Parts
C4	Czech	Japanese	Fiber
C5	Czech	Japanese	Automobile Parts
C6	Czech	Japanese	Electronic Parts
C7	Czech	Japanese	Electronic Assembly
C8	Czech	Japanese	Electronic Parts
C9	Czech	Japanese	NA
H1	Hungary	Japanese	Automobile Parts
H2	Hungary	Japanese	Electronic Parts
H3	Hungary	Japanese	Automobile Parts
H4	Hungary	Japanese	Automobile Parts
H5	Hungary	Japanese	Automobile Parts
H6	Hungary	Japanese	Automobile Parts
H7	Hungary	Japanese	Automobile Parts
H8	Hungary	Japanese	Electronic Parts
H9	Hungary	Japanese	Electronic Parts
H10	Hungary	Japanese	Electronic Parts
H11	Hungary	Japanese	Automobile Parts
H12	Hungary	Japanese	Electronic Parts
P1	Poland	Japanese	Others
P2	Poland	French	Electronic Parts
P3	Poland	Local	Others
P4	Poland	Japanese	Automobile Parts
P5	Poland	Japanese	Automobile Parts
P6	Poland	Japanese	Electronic Parts
P7	Poland	Japanese	Automobile Parts
P8	Poland	Japanese	Automobile Assembly
P9	Poland	Japanese	Automobile Parts
P10	Poland	Japanese	Automobile Parts
S1	Slovakia	Japanese	Automobile Parts
S2	Slovakia	Japanese	Electronic Parts
S3	Slovakia	Japanese	Automobile Parts
Total	34		

Source) based on field-work data. 2003.

Table 8 Economic Recovery Rate in CEE Countries

Country	Recovery Rate	Growth Rate	The Yaer of Economic Transition
Czech	95	1.70%	1992
Hungary	99	3.10%	1993
Poland	122	5.10%	1991
Slovakia	100	4.90%	1993
Slovenia	109	3.80%	1992
Estonia	77	3.20%	1994
Latovinia	60	2.60%	1993
Lithuania	62	3.00%	1993
Bulgaria	67	3.00%	1994
Rumania	76	0.00%	1992

Source) Institute for International Trade and Investment, "An Inquirey into the Economic Structure Reform and FDI in Eastern Europe", p. 1, March, 2001.
Note) Recovery Rate: 1989's GDP=100

Fourthly, as for the form of ownership, wholly owned Japanese subsidiaries prevail. This also gave a big impact on the timing of the Japanese investment. At the early stage of the regime change, the governments of CEE transitional economies hoped foreign capital to purchase and/or consolidate their state-owned enterprises (SOE). In other words, the initial plan was to promote privatization of SOE through merger and acquisition by foreign capitals. However, contrary to their expectations, there was no take-over style FDI by foreign capitals except in certain countries (Poland, for example). In the latter half of the 1990s, taxation on investments was considerably eased and such regulations as limiting the ownership ratio and restricting cash transfer and employment were abolished, which helped foreign capitals to shift their focus on green-field FDI.[9] Against this backdrop, Japanese multinationals increasingly chose wholly owned subsidiaries for their investment.

Fifthly, in relation with the above, some of the companies we surveyed were not yet in full operation and some plants were test operating. In this respect, the result of the observation retains somewhat inadequate aspects.

Nonetheless, the author believes the information and data gathered are one the whole valuable.

IV. Transfer of the Japanese Production Systems

In this chapter, by way of the "Application-Adaptation Hybrid Model" and the "Five-scale Evaluation Method" developed by the Japanese Multinational Enterprise Study Group (JMNESG),[10] we shall evaluate how the JPS has been transferred by the Japanese firms in their local plants as they ventured into CEE region.

"Application-Adaptation Hybrid Model" and "Five-scale Evaluation Method" here in the paper show a basic analytical framework for research. This survey methodology seeks to investigate the management and production systems of major Japanese manufacturers with comparative advantage such as automobile manufacturers and electronic machinery manufacturers, compare the situation of parent factories in Japan with those of subsidiaries' factories abroad, and then, measure and evaluate the degree of overseas transfer of JPS by utilizing the "application-adaptation hybrid model" and the "Five-scale Evaluation Method". For this purpose, an ideal model for the composition of JPS has been developed based on the results of our surveys on Japanese parent factories. The introduction and transplanting of each factor item constituting the JPS into an overseas factory is referred to as "application," whereas any modification made to an original factor in accordance with the local management environment is called "adaptation." The "Five-scale Evaluation Method" is designed to quantitatively show the results of the "application-adaptation" evaluation. For instance, if an overseas factory is found to have implemented a certain factor of the JPS 100 percent, an application ratio score of "5" (meaning zero modification, and consequently, the adaptation ratio score of "1") will

be given to that factory, while an application score of "1" (meaning 100 percent modification into the local system, and consequently, an adaptation score of "5") will be given if no transfer of JPS factors has been made. Any scores referred to hereinafter represent application scores unless otherwise specified.

In accordance with "application-adaptation hybrid model", 23 elements standing for the typical ones in the manufacturing production system, are picked up for verification and comparison between the home country (Japan) and the host country (abroad). Furthermore, these 23 elements are divided into the following 6 groups.

(1) Group 1: "Work organization and administration" (job classification, wage, job rotation, training, promotion, supervisor)
(2) Group 2: "Production control" (equipment, quality control, maintenance, operation management)
(3) Group 3: "Parts procurement" (local content, suppliers, procurement methods)
(4) Group 4: "Team sense" (small group activity, information sharing, unity)
(5) Group 5: "Labor relations" (employment policy, employment security, labor union, grievance)
(6) Group 6: "Parent & subsidiary" (Japanese ratio, power delegation, local manager)

Table 9 shows the scores for the seven factories that are highly representative of the 34 Japanese companies operating in the four countries of Czech, Hungary, Poland and Slovakia. This is because we have not yet completed the analysis of the data collected during the field survey in 2003. It should, therefore, be noted that the application scores for this region are only tentative. Let us, by referring to Table 9, review and

Table 9 The Transplant of JPS in 7 Japanese Subsidiaries

Location	Poland	Poland	Slovakia	Czech	Czech	Hungary	Hungary	Average
Industry	Auto	Electronic	Auto	Auto	Auto	Electronic	Auto	
Firm	P4	P6	S3	C5	C2	H10	H3	
G I. Work organization/ administration	3.5	3.8	3.1	4.1	3.6	3.8	2.5	3.5
1. Job Classification	4	4	3	4	4	5	3	3.8
2. Wage	4	4	4	4	4	4	2	3.4
3. Job Rotation	2	3	3	4	3	4	2	3.0
4. Training	3	4	3	5	4	3	3	3.6
5. Promotion	4	4	3	4	4	4	3	3.7
6. Supervisor	4	4	3	4	3	3	2	3.3
G II. Production Control	2.0	3.5	4.0	3.0	3.8	3.0	3.5	3.2
7. Equipment	1	3	5	2	4	5	5	3.6
8. Quality Control	3	4	4	3	4	3	4	3.8
9. Maintenance	1	4	3	3	3	2	3	2.7
10. Operation Management	3	3	4	4	4	2	2	3.1
G III. Parts Procurement	3.0	2.7	3.0	2.3	2.3	3.3	2.3	2.7
11. Local Content	3	2	2	2	1	4	2	2.3
12. Suppliers	3	2	3	2	2	3	2	2.4
13. Procurement Methods	3	4	4	3	4	3	3	3.4
G IV. Team Sense	3.7	2.0	3.0	3.7	2.0	2.3	1.7	2.6

14. Small Group Activities	2	2	2	2	1	1	1	1.6
15. Information Sharing	4	2	4	4	2	3	2	3.0
16. Unity	5	2	3	5	3	3	2	3.3
G V. Labor Relations	3.8	3.0	3.5	4.0	4.0	3.0	3.5	3.5
17. Employment policy	4	4	4	5	4	4	4	4.1
18. Employment Security	2	2	2	3	2	2	2	2.1
19. Labor Union	5	3	4	4	5	3	4	4.0
20. Grievance	4	3	4	4	5	3	4	3.9
G VI. Parent/Subsidiary	1.7	1.7	1.7	4.3	3.0	2.7	2.3	2.5
21. Japanese Ratio	1	1	1	5	1	2	2	1.9
22. Power Delegation	2	2	2	3	4	3	3	2.7
23. Local Manager	2	2	2	5	4	3	2	2.9
Average Score	2.9	2.9	3.1	3.5	3.3	3.1	2.7	3.1

Source) By the author.

analyze the results of the "Six-Group, 23-Item Hybrid Evaluation" in the following:

Group I. "Work Organization and Administration"

First, the average score of "Job classification," an element, which is typically Japanese-oriented, was high at 3.8 points. We had expected that the Japanese job classification system with a high degree of flexibility would meet with much resistance in this region, where the former Soviet version of the American mass production system was influential during the socialist era, but the situation was found otherwise. Namely, a simplified job classification system of a Japanese style has been transplanted favorably in the surveyed factories with no opposition coming from local employees. Japanese job classification system is applied to most of the Japanese factories we surveyed with virtually no resistance.

The score of "Wage system," which is related to job classification, is 3.4 in the level of hybridization. In fact, six out of the seven factories we evaluated, are practicing the wage system that addresses each employee by introducing an appraisal system and placing a greater emphasis on job performance. For example, a parts manufacturer affiliated with a major Czech auto manufacturer (C5), is trying to establish a wage system that involves such an appraisal system, in which "performance evaluation is implemented twice a year," "performance is evaluated by ranks A, B, C and D for wage increase, and annual wage hike is hopefully to be introduced" and "bonus should be differentiated." Only one factory in Hungary (H3) posted a low application score because they practice "hourly wage system" irrespective of performance, but this seems to be a somewhat exceptional case. Why has the typical Japanese wage system been successfully introduced without any significant opposition? The rationale can be two-fold: (1) As described earlier, a drastic change from

the old to new systems represents the characteristics of transitional economies. Following the collapse of the systems from the socialist time, new systems to replace them are yet to be established and the wage system is one of them. (2) The governments of the CEE countries, being particularly keen to solicit foreign investments, are not practicing strict labor and wage regulations as in Western Europe. Therefore, the wage system transplanted by foreign companies did not encounter strong legal or political barriers.

The average application degree of "Job Rotation" is the lowest in this group (3.0). Only four factories out of the seven surveyed companies said that they were clearly "practicing multifunctional skill development." In addition, there is considerable variation in their levels of implementation. The aforementioned auto parts manufacturer affiliated with a major auto manufacturer in Czech and the auto parts manufacturer in Hungary have applied the system and the method of the factories in Japan exactly as it is including the "skill clearance score sheet", and earnestly promoting multifunctional skill development. On the other hand, the author had an impression that the electronics-related factories are somewhat falling behind in introducing multifunctional skill development methods, though at every plant we visited, we were told, "if feasible, the system shall be introduced." We consider the reasons for the delay in the transfer of multifunctional skill development method as follows: (1) In the former planned economy, division of labor was so strict in the factories of manufacturing industries that multifunctional skill development was not necessarily encouraged. In fact, the author, who made field studies of quite a few factories in Chine, observed similar phenomenon in local and indigenous as well as Japanese factories in China. (2) In view of the shorter history of operation, the development of multifunctional skills seems to be the managerial challenge for the future. (3) This is an issue

also relevant to the local regulation. In Slovakia, for instance, due to the presence of legal regulation that stipulates "Job is determined by the agreement between the employee and the company and no unilateral direction shall be permitted," it is difficult to introduce multifunctional skill development to the entire employees.

The score of "Education & training" is favorable for JPS (3.6). Six factories out of the seven have established OJT-type (On-the-job training) shop-floor training systems by making efforts to introduce "skill clearance score sheet" and other methods. Aforementioned Toyota-affiliated auto parts manufacturer, though yet to be fully operational, is making a strong effort for education and training at the production floor. They have introduced "mastering more than two skills" as a basic rule for operators of the assembly line, thereby establishing a "skill clearance score sheet" training system under the control of a team leader. The management introduced a provision that requires the mastering of the skills for all the eight processes in order to be promoted to the first-line supervisor. Some factories introduced training programs and some provide employees with training opportunities in a sister factory in other part of Europe or in a parent factory in Japan.

The score of "Promotion" is more favorable (3.7). This is because every factory we have surveyed is consistently practicing the policy for promotion inclined toward the JPS that emphasizes "internal promotion" as well as performance result and refrains from promoting and recruiting from the sources outside the company. It is true that there were a few cases in which management executives at a high level were recruited from outside due to the short history of operations, but the factories were predominantly adamant in appointing first-line supervisors by promoting their "production floor" workers.

The score of "Supervisor" was at a medium level (3.3). In relation with

the above "Promotion," internal promotion was by and by established, but seemingly it will take a considerable time before they reach the level of Japanese counterparts in the parent company plant in terms of experience and competence.

Group II. Production Control

The scores of "Equipment" sharply fluctuate above and below the average (3.6) from one factory to another. Some use 90 per cent or more equipment imported from Japan or exactly the same equipment with those in its parent factory (3 companies) and some use equipment either locally procured or imported from other parts of the EU. And there is no industry-specific tendency. Closer observation, however, finds some kind of rationality. For example, in the case of the auto parts manufacturer in Czech (C5), equipment was purchased mostly from Germany. German-made large equipment is almost comparable with Japanese counterpart in terms of quality and performance. And German manufacturers are willing to provide maintaining service whenever needs arise capitalizing on the geographical proximity. On the other hand, they have imported dies, the key part of the equipment, from Japan. In a nutshell, there was a big difference from factory to factory in this item.

The score of "Quality control" is fairly high, reaching 3.8 points. Probably in relation to the equipment we have seen in the above paragraph, a very clear attitude was observed that careful quality control measures are never to be compromised, no matter if locally procured equipment is used. However, it looks like that the transplant of a practice of "Building quality in the production process" as we see it in Japan will take longer than expected. In one case, non-Japanese methods such as sample inspection of half finished products and checking defects as part of "Building quality in the production process" are practiced locally, but the

reliability test that is hard to implement is "done in Japan" (H3), and in another case, harsh programs are implemented in such a manner that "every product has to go through final inspection and the photographs of the employees with many defects are openly displayed in the factory" (S3). Further, as may be related with the unfavorable implementation of small group activities for QC (Quality control), local Japanese subsidiaries are exerting their utmost using a variety of tools for the sake of quality control.

The score of "Maintenance" is 2.7, the lowest among the elements in the Group. This is because maintenance personnel and production floor workers are hired and trained separately. This is how maintenance is served in the overwhelming majority of the factories except in a few factories (P6 and others). Although only a few testimonies were obtained from the survey, we figure that this reflects the strong legacy from the former socialist systems. Namely, in former socialist countries, equipment personnel and production floor workers in manufacturing factories were trained and treated very differently. The status of equipment technicians was relatively higher. Such a practice is indeed frequently observed in factories in China, which is also a transitional economy.

The score of "Operation management" remains at a medium level of 3.1 affected by the above. However, in our field survey, we very often heard the following statements, that is, the industrial sense of the workers and technicians in CEE is superior to that of the Asian counterparts. Despite shorter period of operation, many of their working standards of the production floor have been developed locally. In many factories, Japanese managers and engineers highly commended the ability for improving and problem solving skills on the part of local technicians. This is a phenomenon not often observed in Japanese subsidiaries in East Asia.

Group III. Parts Procurement

The low application degree of "Local content" (2.3) and "Suppliers" (2.4) is partly a reflection of the unique condition in Europe. Many of the surveyed factories, asked for the reason for purchasing materials and parts from local markets or from the EU, answered that they deliberately increased the local procurement ratio to benefit from "Euro 1" (an EU regulation that stipulates that a company with less than 60 per cent local procurement ratio cannot receive the full benefit of the favorable tax duty). What is significant is the point that many of the surveyed companies are parts manufacturers and that they are contributing to increasing the local procurement ratio of their clients by raising their own. However, a closer look into the local procurement reveals that many factories purchase either general-purpose and/or low-value added goods from the local market, while importing special materials and core parts from Japan. Many factories also use Japanese factories operating in Europe as local suppliers when they purchase from the EU or local markets. This is the reason for the highest score of "Procurement method" of all the items in this Group.

Group IV. Team Sense

The average score of "Team Sense" is the lowest of all the six groups (1.6). Of the group, "Small group activities" posts the lowest of the 23 items (1.6). About half of the factories said that they were not implementing small group activities at all. Even those who say that they do, are in the initial stage of trial and error and very few have attained any substantial result. Due to the shorter period of operation, the management is probably still fully occupied by the work to start up the production, and apparently small group activities are left in the back burner. In contrast, the scores of

"Information sharing" and "Sense of unity" are somewhere in the middle at 3.0 and 3.3 respectively, slightly leaning toward JPS. This result can be interpreted that there are aspects that offset the weakness of being reluctant in practicing small group activities. The majority of the surveyed factories are trying to organize various measures and activities to enhance information sharing and the sense of unity among employees (meetings, employee house organs and social get-togethers). However, the elements of this group apparently require ingenious plans to be worked out as an important challenge for the future.

Group V. Labor Relations

"Employment policy" scored the highest point of all the 23 items (4.1). "The hiring and securing of homogeneous employees by multi-step selection process" is guaranteed by the local environment. Hundreds or even a thousand times more applications of the actual number of hires that reflect the high unemployment rate in the region, provides the Japanese subsidiaries with ample leeway to select qualified personnel. In the case of C6, located in Czech, from a large number of applicants selected candidates who are likely to fit into the company. This is followed by a thorough interview (to check the language ability, former jobs, education level, resident-place, etc.). This means that the employee hired after all this are "nice young men with good quality."

In contrast, the score of "Employment security" is fairly low (2.1). Most of the Japanese factories the author has surveyed, rather than adopting the policy of "guaranteeing long-term employment," often conclude contracts of short-term employment. According to a testimony of a manager in a Japanese subsidiary factory, "individual contracts are the local customary practice" (Czech, C6). One of the factories said that "the contract is for two years and there are cases that the contract is not renewed." (P3)

Such a situation seems to display the "extravagance" the Japanese multinationals are enjoying in CEE, which is suffering from two-digit unemployment rates.

As for "Labor union" (4.0), too, there seem to be aspects commonly observed in China. That is the notion that "good labor relation is taken for granted." Of the seven factories we have surveyed, as many as five have no labor union. In the case of the two companies that have labor unions, one said, "labor relations are extremely favorable" (H3) and the other said, "the union does not negotiate the issues like wages and promotion" (P6). The overall impression we received about the labor unions in CEE region is that they are "peaceful unions" rather than militant organizations like UAW in the United States or Germany's IG Farben. And as part of the system reform required prior to the participation in the EU, in most of the Japanese subsidiaries, "Works Council" is organized and the issues involving labor relations are discussed between the management and the Works Council to find agreeable solutions. Works Council is likely to play a bigger role in the future.

"Grievance procedure" also leans toward JPS (3.9). The result has much to do with the high score of "Labor union." Grievance is handled and solved predominantly through corporate ladders and via Works Councils.

Group VI. Parent-subsidiary Relations

The average score of this group is 2.5, the lowest of all the groups. In a nutshell, the score signifies "strong adaptation to local systems" in parent-subsidiary relations. For example, the score of "ratio of Japanese expatriates" is 1.9, indicating that a small number of Japanese expatriates are controlling the local management through a large number of local managers. Presidents of several companies testified that they would "continue to manage the factory with a small number of Japanese

expatriates" (C6, P3). As for the relationship with the parent company, many supported the practice that "the home office approves what has been proposed by the local subsidiary" and we had an impression that the operation is based on the local initiative from the very beginning. In reality, the managers of many of the surveyed factories apparently included Japanese expatriates competent and qualified for international management with much experience of working abroad in North America and the EU.

V. Conclusion: World Comparison of Hybrid Factories and the Characteristics of CEE

So far, we have analyzed the situation of the transfer of JPS in the Japanese factories operating in CEE by "Six-Group, 23-Item Hybrid Evaluation." In conclusion, based on the result of the analysis, I shall point out the regional characteristics in broader perspective in comparison with the other Japanese operations throughout the world. Table 10 summarizes the level of hybridization of the Japanese firms operating throughout the world including CEE transitional economies. By reference to this, I shall portray the characteristics of the Japanese factories in CEE transitional economies.

Firstly, as shown by the "Average score" on the table, the hybridization level of the Japanese factories in CEE transitional economies is 3.1 points, placed in the middle between the UK and continental Europe. The table demonstrates that our conclusion of the evaluation, that is, "the management in Japanese factories in any region of the world is a hybrid of slightly more than 50 per cent of Japanese elements and slightly less than 50 per cent of local elements,"[11] is also true in CEE transitional economies.

Secondly, as illustrated by the comparison of the scores of "Work

Table 10 The Comparison of the Hybrid Factories All over the World

	N. A (1989)	N. A (2001)	U. K	CEE	Cont. Euro	KRA/ TWN	ASEAN
Work organization/ administration	2.9	3.2	3.4	3.5	3.0	3.7	3.3
Production control	3.3	3.4	3.5	3.2	3.1	3.5	3.4
Parts procurement	3.0	2.6	2.5	2.7	2.8	3.2	3.2
Team sense	3.2	3.3	3.3	2.6	2.7	3.4	3.2
Labor relations	3.6	3.7	3.6	3.5	3.2	3.4	3.2
Parent/subsidiary	3.6	2.8	2.8	2.5	3.0	2.3	2.6
Total Average	3.3	3.2	3.2	3.1	3.0	3.3	3.2

Source) Central & Eastern Europe's score was assessed by the author. Other scores came from Abo, 2004.

organization and administration," Japanese factories in CEE transitional economies posted the second highest score next to Korea and Taiwan. As everyone knows, Korea and Taiwan, being extremely close to Japan both historically and culturally, may well score high points, but what exactly are the reasons for such a high score for CEE, which is considerably remote from Japan in historical, cultural and geographical terms? Following rationales might be cited: (1) Japanese firms, being a minority in CEE transitional economies unlike multinational enterprises in the EU countries, need to secure footing from the very beginning of the operation. To this end, the elements in this Group that constitute the core of the Japanese production system presumably are prioritized in transferring the system. (2) The regional environment in which labor and social regulations are looser apparently contributes to the higher score. In the case of the wage system, for example, unlike Western Europe, the region lacks a well-established wage system bound by regulations and customary practices, and this may make it easier to introduce JPS.

Thirdly, the score of "Team Sense" is the lowest of all the regions. The interpretation that emphasizes only the short history of the operation is

not fully convincing. The author wishes to point out that this probably comes from the "systemic inertia" from the former socialist time. The issues of human consciousness and the sense of incentives nurtured under the government and bureaucrat-led planned economy over half a century cannot be transformed only through the participation in the EU and the change of the system.

Fourthly, the score of "Parent-subsidiary relations" is second lowest next to Korea and Taiwan. In other words, local subsidiaries take a fairly independent position. First of all, the result of "a few Japanese expatriates controlling the local management" is largely due to the geographical position of the region. Namely, the region presents a pattern in which a few Japanese managers who are knowledgeable about the conditions of CEE transitional economies and have rich experience in working for European operations, control the local management in cooperation with local managers who are capable enough for the task. (This is a significant difference from South East Asia, where the role of local mangers is minor.) And this is something that proves the competitiveness of the Japanese multinationals that have gradually gained confidence in the international management. We were quite impressed by the high level of the international mind Japanese management demonstrated in responding to our survey.

Finally, I shall compare the hybrid pattern of the Japanese factories in the region. As shown in Table 10, the hybrid factory in CEE transitional economies has a pattern placed in the middle between the continental European type and the British type. The proximity level to the JPS is [the UK > CEE > continental Europe] in that order. However, in comparison with the "continental European type," the application degree of Japanese core elements (Group I) is higher than that of continental Europe, while that of "Parent-subsidiary relations" is lower. Explaining this phenomenon

is not necessarily easy. We may as well say that the local managerial personnel in CEE are fairly compatible with Japanese firms or their management system. At the same time, it may be the case that the JPS that has reached as far as CEE via North America, Asia and Western Europe, has now entered the phase in which they can be transferred effectively without any rigid control by the parent companies in Japan thanks to the accumulated experience of Japanese expatriate managers in international management. In view of this, the JPS may as well be entering the phase of maturity after experiencing the expansion phase in the 1980s and the period of ordeal in the 1990s.

Notes:

1. Tanaka, Tomoyoshi. 2004. Phase II of the historical transformation in European international relations: Road to one Europe, International Trade and Investment, Vol. 12, May 2004, Institute for International Trade and Investment (ITI), P. 3.
2. Nihon Keizai Shimbun, August 19, 2003.
3. Institute for International Trade and Investment (ITI) (2001), Research study concerning direct investment in Eastern Europe and the economic structure, March, 2001, Chapter
4. Nihon Keizai Shimbun, November 29, 2001.
5. Materials prepared by a local Office of JETRO at the time of our field survey.
6. Nikkei Sangyo Shimbun, April 29, 2004.
7. Nikkei Sangyo Shimbun, May 20, 2004.
8. Nikkei Sangyo Shimbun, May 28, 2004.
9. Iguchi, Yasushi. 2000. Changing needs for corporate strategy and technology transfer and human resource movement in CEE: An analysis based on the field survey of the Japanese enterprises, Kansai Gakuin University, The Kansai Gakuin Economic Review, vol. 54, No. 1.
10. For "Application-Adaptation" model, see Abo, Tetsuo et al., (1991).
11. Abo, Tetsuo, (2004), P. 47

References:

1. Abo, Tetsuo et al., (1991). ***Japanese Production System in the United States***, Toyo Keizai Inc.
2. Abo, Tetsuo, (2004). "Universality and particularity of the Japanese management and production method in view of international transfer: Analysis of Japanese hybrid management model," *Sekai Keizai Hyoron*, July 2004.
3. Iguchi, Yasushi, (2000). "Changing needs for corporate strategy and technology transfer in Central and Eastern Europe and human resources movement: An analysis based on the field survey of the Japanese subsidiaries," Kansai Gakuin University, *Kansai Gakuin Economic Review*, vol. 54, No. 1.
4. ITI (2001). *Research study concerning direct investment in Eastern Europe and the economic structure.*
5. Tanaka, Tomoyoshi (2004). "Phase II of the Historical transformation in European international relations: Road to one Europe," *International Trade and Investment*, special issue Vol. 12, May, 2004, ITI.