

Responses of South Korea, Taiwan and Japan to the Hollowing Out of Industry

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Introduction

The hollowing out of industry has been steadily under way in Asian countries since the turn of the century. After manufacturers in South Korea, Taiwan and Japan accelerated the shift of their production footholds to China in pursuit of better conditions of production, their home countries are becoming de-industrialized.

The hollowing out of industry means de-industrialization of a country after domestically located industries move out to better places that enable them to regain lost international competitiveness. Fears about de-industrialization would be unwarranted if departing industries were replaced by more sophisticated industries. However, the problem with South Korea, Taiwan and Japan is that it is such sophisticated enterprises that are moving out to exacerbate the hollowing out situation.

In this paper, we review the actual conditions of the hollowing out of industries in South Korea, Taiwan and Japan, and examine the countermeasures being taken by the governments.

.The South Korean Government's Response to the Hollowing Out of Industry

(1) Discussions on the Issue of Industrial Hollowing

At the moment, the debate over the issue of industrial hollowing does not seem to be extremely lively in South Korea. Compared to Japan or Taiwan, the South Korean media only deals with the issue of hollowing-out infrequently, and the general public do not show great interest in the issue.

Admittedly, foreign direct investment into South Korea in 1999-2000 was five to six times as large as South Korean's direct investment overseas, an indication that South Korea is a very attractive market for foreign companies. Thus, despite increasing investments abroad by South Korean firms, it is probably premature to talk about the hollowing out of industry in South Korea. In fact, according to a report by the Korea Institute for International Economic Policy (KIEP), the profit performance of South Korean companies' overseas subsidiaries with investments of at least \$10 million was less than favorable, and they depended heavily on the parent companies at home. This indicates that direct investment overseas has not yet become prevalent enough to cause a hollowing out of operations at home. Furthermore, firms in South Korea's key industries, such as electric/electronic machinery manufacturing, shipbuilding, steelmaking and auto manufacturing all maintain their principal production bases in South Korea, and deployment overseas does not represent an immediate problem. Thus, in terms of industrial hollowing, the South Korean companies that are expanding their overseas operations are mostly in the labor-intensive, low-value added sectors, and even their operations abroad are not yet stable. It seems that serious discussion in South Korea about industrial

hollowing will only take place after the emergence of domestic companies with stable overseas operations in the high-value added and high-profitability sectors, and an increase in the number of such companies.¹

However, an intensive sifting through newspaper and magazine articles as well as research reports shows that there are views and opinions, though not many in number, voicing concerns over a possible future hollowing out of industry in South Korea. Let us begin by looking at the results of a questionnaire survey conducted in May 2002 by the Korean Chamber of Commerce and Industry (KCCI).

In May 2002, the KCCI released the results of a questionnaire survey, covering a total of 220 companies. According to the survey, 44.1% of the companies polled had already moved some production sites to overseas locations, and 33.8% were planning to transfer production bases abroad. In addition, of the companies that had already shifted production sites overseas, 74.5% had plans to make additional transfers abroad. It further revealed that as many as 67.6% of all the surveyed firms were considering plans to newly or additionally move production facilities overseas. As for the destination of relocation, China accounted for 65% of total plans, by far surpassing Southeast Asia (13.9%), the United States (5.5%) and Japan (5.5%). In addition, 81% of the firms planning to move production facilities abroad and 71.3% of the companies that already had overseas plans but were proceeding with plans for additional transfers had chosen China as the destination of relocation.

On a question about the extent to which they were willing to transfer operations abroad, 48.5% of respondents said they would move the production of high value added products overseas, while 42.9% replied that they were

ready to shift abroad everything up to assembly processes and production of low value added products. A smaller 8.6% said they were willing to move even core operations such as research and development activities.

As for the purpose of moving operations overseas, 35.6% cited cost reductions and 27.1% the securing of labor, followed by the development of overseas markets (15.8%), securing of raw materials (7.6%), and moves abroad by parent companies or customer companies (4.6%), in that order.²

(2) Not Following in the Footsteps of Japan

Concerning the benefits of the relocation, 40.4% of the companies that had already transferred production facilities said they were able to lower their costs by 20-40%, and 31.9% cited cost reductions of 40-60%. On the quality of products manufactured at overseas plants, 68.1% replied that they achieved the same quality level as that for products made in South Korea, while 20.2% said products made at plants overseas were better than South Korean-made ones. Of the companies that had already moved production operations abroad, 42.6% replied they had reduced employment in South Korea, with 50.0% of them reporting a reduction rate of less than 10% and 47.5% reporting a reduction rate of between 10% and 20%. When asked about the prospect for a hollowing out of South Korean manufacturing, 49.5% said South Korea might face that possibility in the next 4 to 5 years, while 40.7% expected it to experience it within 5 to 10 years. The results of the KCCI survey clearly indicate that South Korean manufacturers are accelerating their shift to production in China.

The *JoongAng Ilbo*, a South Korean daily, in its May 17, 2002 edition, introduced the results of the KCCI survey in an article with the headline,

“Black Hole in China Raises Concern over Hollowing Out of Industry.” It cited seven conditions for business operations, for the purpose of comparison between South Korea and China. It claimed China had an edge over South Korea in all of the conditions, and concluded that there were more than sufficient reasons for South Korean companies to be attracted to China³

The similar view was voiced by Ji-Pyong Lee in his article, “Hollowing Out of Manufacturing and Corporate Responses.” Following an investigation into the actual state of industrial hollowing in South Korea, the author took note of some case examples in industrialized nations showing that the hollowing out of industry had occurred when per-capita gross domestic product (GDP) reached \$20,000. Based on this, the author said South Korea was likely to see its per capita GDP reach \$20,000 within five years, in 2007, and predicted that the hollowing out of industry in the country would come to a head around that time.⁴

The *Naeway Economic Daily*, in its July 18, 2002 editorial, entitled, “Are We Ready for the Hollowing Out of Industry?” also estimated that South Korea would likely mark the start of its era of industrial hollowing, arguing that it absolutely needed to take preventive measures so as not to fall into the footsteps of Japan.⁵

The common feature of the three opinions is the prospect that industrial hollowing in South Korea, while not noticeable at the moment, would likely come to a head in five years’ time as the level of income in the country increased.

(3) Government Policy Responses to the Hollowing Out of Industry

In November 2002, this author visited the Korea Institute for International Economic Policy (KIEP) to study the policy measures of the South Korean government in response to the hollowing out of industry. The purpose of the visit was to examine the government's policy responses and collect data and information on them. However, the author's question on how South Korea is responding to the hollowing out of industry drew only tepid responses from KIEP officials. The bottom line was that they "do not consider the hollowing out of industry as a pressing issue, though they said it could be anticipated as a future source of concern." Understandably, no information about industrial hollowing could be found on the KIEP website.

Signs of the hollowing out of industry began to emerge in the middle of 1990s. The country's trade balance switched into the black in 1986, and amid the rising value of the South Korean won, some companies in labor-intensive industries started moving production operations to overseas locations. Then, the shift of production abroad by South Korean companies started accelerating under the government's deregulation policy. In March 1990, the government formulated "guidelines to encourage foreign investment projects," and in December of the same year, adopted a drastic shift in policy from the principle of "restrictions, with some exceptions" to one of "deregulation, with some exceptions."

Following that, the South Korean government proceeded "easing of restrictions in certain industry sectors" and a "narrowing of the scope of industries subject to review and simplification of procedures," accelerating the pace of liberalization of foreign direct investment. In November 1993, it announced "measures for the revitalization of direct investment overseas" to

help stimulate foreign investment. Furthermore, in October 1995 it unveiled a “bill for the liberalization and soundness of foreign direct investment,” under which it substantially reduced the number of restricted industries from 14 to just 3, and further simplified procedures for investment approvals. In the wake of these rapid developments, concern began to emerge, beginning around 1996, over a potential hollowing out of industry. South Korean companies increasingly began to transfer manufacturing operations overseas in order to avoid the deterioration in export terms stemming from the rising won, and the government began to give its backing to such moves. This led to the emergence of some signs pointing to a potential hollowing out of industry in South Korea.

The immediate cause of the industrial hollowing was the deterioration of conditions for domestic production, which consequently helped increase overseas investment. Ironically, however, these conditions encouraging foreign investment were suspended with the outbreak of the Asian currency crisis in 1997 and its subsequent spread to South Korea. The strong won abruptly became a weak won, resulting in a sharp fall in overseas investment. Concerns over a possible hollowing out of industry, which were poised to come to the fore just before the Asian currency crisis, receded into the background and then disappeared.

In the following years, however, increased exports on the strength of the weak won, increased foreign direct investment in South Korea, and the rapid expansion of the information technology sector all combined to put the country back on the track toward economic growth. With the recovery of growth, foreign investment by South Korean companies began to increase again, with China the most favored destination of investment. In 2002, as a result, foreign direct

investment from South Korea began to rise sharply, while foreign investment in the country declined. A situation similar to that just before the Asian currency crisis began to reemerge. The aforementioned questionnaire survey by KCCI as well as the research report by the LG Economic Research Institute simply reflected the atmosphere that pervaded South Korea's business community at the time.

In November 2002, the Committee on measures concerning the hollowing out of Manufacturing was established within the Ministry of Commerce, Industry and Economy as a joint committee to discuss national responses. It collected resources from the Federation of Korean Industries, Korea Chamber of Commerce and Industry, Korea Automobile Manufacturers Association, Electronic Industries Association of Korea, LG Economic Research Institute, and Korea Institute for Industrial Economics and Trade. At the first meeting, on November 12, 2002, the committee examined the current state of hollowing in the three industries – electronics, automobiles and textiles – and concluded that while the automobile industry was not yet in a disturbing situation, the situation in the textiles sector was very serious. The committee launched plans to put together countermeasures by the end of 2002 .⁶

II. Taiwan's Response to the Hollowing Out of Industry

The problem of the hollowing out of industry has been hotly debated in Taiwan in recent years. One of the points of debate is whether or not industrial hollowing has already taken place in Taiwan. One of the opinion leaders in the camp arguing that it has already occurred is Xie Kuan Yu, who described his

views in a paper released in 1999. In his paper, “Overseas Shift of Taiwanese Firms and Verification of the Hollowing Out of Industry” (August 1999), he argued that the international balance of direct investment, the unemployment rate and the ratio of manufacturing output to gross domestic product (GDP) are the three key measures to be used to determine whether a hollowing out of industry has taken place. He then pointed out that Taiwan’s balance of direct investment had been in the red since 1993, the unemployment rate had risen and the ratio of manufacturing output to GDP has also declined, concluding that the phenomenon of industrial hollowing was evident in Taiwan. To cope with the situation, he called for a further sophistication of Taiwan’s industrial structure, promotion of inward investment, expansion of domestic demand and facilitation of measures to deal with unemployment.⁷

On the other hand, there is a school of thought that does not see any hollowing out of industry in Taiwan. One of those who subscribe to this view is Jun Akabane, who expounded on his position in an article, “Direct Investment and the Hollowing Out of Industry in Taiwan.” He began by noting that direct investment by Taiwanese companies is characterized principally by its orientation toward “intra-company reorganizations,” or independent restructuring efforts. Secondly, he pointed out that the transfer of operations overseas has been seen mainly among “trade-oriented” industries with a comparative disadvantage, and mostly among sunset industries. As a result of this, thirdly, he noted that Taiwan’s domestic industries have been upgraded with the steady development of services industries. Based on these three points, he concluded that Taiwan’s industry had not been hollowed out. However, though asserting that the hollowing out of industry had not yet taken place in

Taiwan, he withheld any conclusive judgment on the growing shift to mainland China by Taiwan's high-technology industry since 1999, and did foresee developments toward hollowing in and after 2000.⁸

Amid this debate, Wu Rong-i, president of the Taiwan Institute of Economic Research, delivered a lecture in March 2002 at the ANA Hotel in Tokyo. In his lecture, entitled "Economic Outlook for Taiwan after Accession to the WTO – Hollowing Out of Industry and Industrial Conversion," he admitted that there were emerging signs of the hollowing out but said they were not yet of serious proportions. He based his view on the observation that Taiwan remains fairly strong in science and technology given the strength of patents, as calculated on the basis of the number of patent applications and extent of the utilization of patented technologies. He concluded that the hollowing out could be prevented through the development of new industries.⁹

As mentioned earlier, however, there are some who hold the opposite point of view. Taiwan's IT industry is essentially based on OEM (original equipment manufacturer) production for foreign multinational corporations. Consequently, many Taiwanese companies in this sector, though anchored by superb management know-how, depend heavily on technologies and funding from other companies. Therefore, foraying into the international market with relatively weak technological capabilities and brand identity would effectively mean throwing themselves unarmed into a pack of hungry wolves. If Chinese companies acquire sufficient management know-how, they could instantly take over the role now being played by Taiwanese companies. Thus, even though Taiwanese authorities are trying to foster new industries, it may be hard to prevent hollowing unless private-sector companies step forward to take over

the nurtured industries. These are essentially the arguments of the opposing camp.

There is far more concern in Taiwan about industrial hollowing out than there is in South Korea. However, the approach to the problem may differ greatly depending on the view one takes regarding Taiwan's geopolitical position. This determines whether one considers the phenomenon as the hollowing out of industry or simply as a relocation of some industries to a different region. In that sense, the problem of hollowing in Taiwan, which involves both the relocation of industries that is proceeding rapidly under the principle of the separation of politics from economics, as well as the delicate political problems at home, can be described as an industrial illustration of the fundamental issue confronting Taiwan at the moment.

Responses of the Taiwanese Authorities

The shift of Taiwanese industry to China gathered momentum in 2000. Taiwan had long upheld a "go slow, be patient" investment policy toward China, prohibiting Taiwanese companies from making large-scale investments or investments in the high-technology sector on the mainland. However, with the accession to the World Trade Organization (WTO) of both Taiwan and China in late 2001, Taiwan came under pressure to review this longstanding policy. Specifically, its requirements that all exports to and imports from China be conducted via traders in third countries or regions, its ban on investment from China, and its ban on Chinese firms' entry into the communications business were considered to be in violation of WTO trade rules.¹⁰

This author visited the Taiwan Institute of Economic Research in Taipei

in October 2002, to conduct interviews with researchers on the state of the hollowing out of industry in Taiwan. In summary, they said that a hollowing out is actually taking place, but that measures are being taken to cope with the situation. Those measures appear condensed in the “Comprehensive Report by the National Economic Development Advisory Council,” which was held in 2001, and “Challenge 2008 – Program for National Development Priorities (2002-2007),” which was announced in May 2002.¹¹

The Economic Development Advisory Conference, launched in 2001, called for an easing of Taiwan’s “go slow, be patient” policy in its economic links with mainland China. Specifically, it proposed a range of products for which restrictions should be eased, more active investment via easier investment curbs and the establishment of a risk monitoring system, building of a mechanism for cross-straits fund flows, promotion of the policy of three links with China (aviation and shipping, communications and direct trade), and the aggressive promotion of tourism in Taiwan.¹²

In terms of specific industrial policies, the Conference called for the enhancement of competitiveness in the advanced technology sector in particular, strengthening of research and development, active invitation and fostering of human resources in science and technology, promotion of a shift to a knowledge-based economic and industrial structure, facilitation of corporate acquisitions and fund-raising, and the conversion and sophistication of agriculture. In the area of employment policy, it called on the government to review Taiwan’s policy on foreign workers in order to solve unemployment problems, establish an employment safety net, and promote measures to counter unemployment.¹³

In essence, while seeking to prevent the outflow of core technologies to mainland China and maintain the ban on imports of Chinese products as passive measures, the council proposed positive responses such as the promotion of research and development activities, introduction of foreign capital, and fostering of human resources. Uniting all these specific measures is a strategy to turn Taiwan into a center of distribution, financial services and research into advanced technologies, and to expand employment. The two key measures to respond to the hollowing out of industry – development of high technologies and employment measures – are key points pursued in the “Comprehensive Report by the National Economic Development Advisory Council” (2001) as well as the “Challenge 2008 – Program for National Development Priorities.” However, the measures to cope with industrial hollowing in Taiwan directly reflect the modality of cross-straits economic exchanges. Because of the correlation between the two – that increased exchanges would accelerate the hollowing while stalled exchanges would slow it – measures to deal with industrial hollowing, which are political issues anyway, tend to be more so in Taiwan. As they invariably affect the future direction of the island, the government is under pressure to steer policies in a delicate way in dealing with the hollowing out of industry.¹⁴

On the other hand, Taiwanese companies are strongly committed to finding loopholes allowing them to enter the Chinese market while paying heed to government policies, with the reasoning that if they do not go into China, companies from other countries will. In fact, in spite of the government ban, some firms have planned and launched ventures to produce notebook personal computers in China, through Hong Kong or third countries. This agility of

Taiwanese companies in doing business with China really shows their mettle.

Unemployment Problems

In November 2001, the ban was lifted on Taiwanese firms' investments in mainland China for a total of 122 products, including notebook PCs, cell phones and digital cameras. In April 2002, 8-inch wafer manufacturing, light-emitting diodes (LED), and the post process for thin film transistor (TFT)-liquid crystal displays (LCDs) were added to the deregulation list. As mentioned above, some Taiwanese companies, in anticipation of these deregulation decisions, had already established manufacturing plants for notebook PCs in the Yangtze Delta region. It is likely that the Yangtze Delta will become a major world production center of notebook PCs, accounting for one-quarter of total global production. In order to prevent an acceleration of hollowing at home, however, the Taiwanese government attached four conditions to its decision to let Taiwanese firms manufacture 8-inch wafers in China. The conditions are as follows: (1) the number of plans in China is limited to three by 2005; (2) six consecutive months must have passed since the launch of mass production at a 12-inch wafer plant in Taiwan; (3) mass production must already have started on a certain scale at a 12-inch wafer plant in Taiwan by the time a Taiwanese company relocates equipment and facilities to mainland China; and (4) investment plans must abide by the provisions of relevant laws.¹⁵

Though the government is likely to announce other regulatory measures in the future, many are questioning the effectiveness of such measures toward Taiwanese companies. Taiwanese companies are quite different from Japanese firms, which are known for their strict adherence to laws and regulations. In

the face of rising unemployment, Taiwanese authorities' policy measures to cope with the hollowing out are assuming more serious proportions. Many Taiwanese entrepreneurs say that the hollowing out is a problem that, in the end, they themselves have to address and solve. These voices of business leaders may best characterize Taiwan's responses to the growing unemployment and hollowing out of industry in Taiwan.

III. The Japanese Government's Response to the Hollowing Out of Industry

(1) Various Problems Related to Industrial Hollowing

As seen earlier, there is a great deal of ongoing discussion on the hollowing out of Japan's manufacturing industries. The views and opinions expressed in these discussions vary significantly. They range from pessimism that China's catch-up process is putting Japan's manufacturing in a precarious position and that Japan may shrivel up due to its inability to create highly sophisticated industries amid the accelerating shift to China of labor-intensive as well as information technology (IT) industries and of manufacturing as well as development operations, to optimism that Japanese industries will be able to survive as they retain a sufficiently high level of competitiveness, that what is moving out to China is technologies for producing general-purpose products while key high technologies remain in Japan, and that Japan is displaying, and will be able to display into the 21st century, tremendous strength in the world's preeminent new industry sectors, including biotechnology, nanotechnology and new materials.

If one takes the first view, measures to cope with the hollowing out are an

urgent necessity. However, if one takes the latter view, there is no need for prompt measures to deal with the hollowing, and what Japan should do is just maintain new industrial development toward the Asian markets.

This author assumes that previous discussions and studies have convinced readers that Japan industry is on the verge of a hollowing-out crisis. Measures that should be taken at the level of individual companies to avert such a crisis have also been examined in Part II.

Thus, measures to avert the hollowing out of industry are examined at the level of government policy. Such measures are examined from the following six aspects: (1) infrastructure; (2) state assistance for the development of new technologies; (3) measures to deal with and provide assistance to foreign companies; (4) educational reform; (5) measures to facilitate corporate capital spending; and (6) measures to protect and foster secondary and tertiary manufacturers.

(i) Improve the Cost of Its Relatively Expensive and Inefficient Infrastructure

The first thing the Japanese government must do is to improve the cost of its relatively expensive and inefficient infrastructure, which is a major obstacle to low-cost production in Japan. Unless new technologies emerge to more than offset the present high cost of infrastructure, reducing these costs will be a crucial task. Consider the example of bringing raw materials from Australia to a Japanese port and transporting them to an inland manufacturing plant to turn out products. This process would be unfeasible if transportation costs are the same between Australia and Japan and between the Japanese port and the manufacturing plant, and if it takes about the same length of time to transport

the materials via both routes. This phenomenon may seem odd, but the reason is fairly simple. It demonstrates the difference between the shipping industry, that has been exposed to intense international competition and been forced to cut fares and shorten transportation time, with repeated shake-outs in that process, and the port and transportation industries, which control all three sectors of ocean-going shipments, cargo handling and land transportation and are bound by administrative permits and regulations but shielded from international competition. Throughout the world, there is no country other than Japan that still requires consultations between shipping firms and cargo handlers when there is a change in the port of arrival. This is a protectionist rule in favor of harbor transportation interests.

The situation may have been different ten years ago when internationalization has not progressed as far as it has today. However, sticking to the old way now would be tantamount to suicide. Cargoes that were diverted to Pusan, South Korea, when Kobe Port stopped functioning because of the major earthquake that hit the Kobe area, never returned to Kobe even after its port went back into operation. The hub function was taken away by Pusan fundamentally because of the inefficiency of the Japanese port and transportation industries. There is a choice of whether to keep sitting idly and share a shrinking pie of business while bringing destruction on themselves, or to stake everything they have now and try to break out of the tradition of several hundred years and regain strength. This is not a problem that affects the port and transportation industries alone, but one confronting the whole of the Japanese economy because it touches on the very fundamental issue of the high cost of infrastructure in Japan.

Shipping and land transportation are not the only obstacles to business activities. Air transportation is another example of inconveniences in Japan. There is no need to repeat how inconvenient it is to use New Tokyo International Airport at Narita. An international airport with only one and a half runways, and which cannot accommodate nighttime arrivals or departures, has no place in the 21st century. There is a pressing need to expand Tokyo International Airport at Haneda and turn it into a fully international airport, along with aggressive efforts to transform the Keiyo (Tokyo – Chiba) industrial area into an agglomeration of high-technology industries.

(ii) Development of New Technologies

The Japanese government needs to actively support the development of new technologies. In doing so, there are certain issues it should pay heed to. It is universally known that IT and venture businesses rescued the United States from the hollowing out of industry. Some people do point to IT and venture businesses as a prescription for the prevention of the hollowing out of Japanese industries that have a composition and climate completely different from those of the United States. They may not be totally off the mark, but the issue must still be given careful consideration. The direction of new technology development reflects a decisive difference between American capitalism, which is willing to protect the interests of Wall Street even at the expense of manufacturing, and Japanese capitalism, which always places the interests of manufacturing before financial institutions that ostensibly play the part of modest servants. For the former, IT and venture businesses seem fitting. However, for the latter, desirable new technologies would be those that help

invigorate heavy industries such as steelmakers, electric machinery makers, shipbuilders and machinery makers. IT should be utilized as a tool to revive these heavy industries, rather than as a stand-alone technology.

The government needs to evaluate and provide adequate guidance and assistance to the development of the “three news” (new materials, new processes and new products) that Japanese enterprises are trying to develop. The development of new materials, commercialization of high-tensile steel plates, new processes to enable efficient computer-aided automobile production using 90 welding robots, biotechnology, low-emission engines, unattended operation systems, car navigation systems, next-generation industrial robots and high-speed vessels are all of great significance. The government, in combination with the principle of market mechanisms, needs to provide active protection and assistance to these development efforts.

In parallel with the above endeavors, it is also necessary to launch and promote national projects from a longer perspective. In addition to new fields such as biotechnology and nanotechnology, there is a need to revive and further develop existing heavy industries by nurturing the aerospace sector and the robot industries, upgrading them, and promoting the shift into these areas of parts and components industries that have been supporting Japan’s heavy industries. Steelmakers, auto parts makers, and shipbuilders, among others, can all divert their technologies and equipment as well as human resources to the aerospace and robot industries, which have greater potential. For that end, it is essential to launch a national project.

(iii) Utilization of the Strength of Foreign Companies

The Japanese government needs to provide information to companies operating overseas and go all out in carrying out negotiations with foreign governments, protecting intellectual property rights and resolving related disputes.

The government also needs to provide necessary and appropriate assistance when Japanese companies want to take advantage of the strength of foreign firms in developing new technologies. The government should not hesitate to give assistance and support to companies operating overseas using repatriated profits to develop high technologies in Japan. Setting up a 100% owned company overseas is a very attractive idea in terms of efficient management, but at the same time entails high risks. When a joint venture is set up with local partners, agreements on corporate strategy and corporate governance play a decisive role in determining profitability. Government agencies and organizations should provide useful information to Japanese companies and also extend a helping hand in settling disputes that can arise between companies.

For example, when a Japanese company wants to advance into the Chinese market, it may, if it has had experiences forming joint ventures in Taiwan or Southeast Asia with Chinese partners, find it safe and effective to enlist their cooperation and join hands when moving into China. In the search for high-quality joint venture partners, a task that is beyond the capabilities of an individual company, the government should provide necessary information and support the search. Further, government agencies and organizations need to aggressively address such matters as labor management, collection of accounts receivable, rampant production of copied products, and protection of

intellectual property rights.

In the midst of globalization, reductions in the cost of developing new technologies and new market development through business partnership arrangements with foreign companies are of critical importance to Japanese firms. Business partnership agreements can have a variety of purposes. If the purpose is the development of new technologies, a desirable partnership agreement should be concluded between companies holding mutually complementary technologies rather than competing ones. This type of arrangement not only enlarges the menu of new technologies at low cost, but also allows foreign partners to enjoy equal benefits. There also are cases where business partnerships with globally active foreign firms help Japanese firms venture into new markets that they previously did not cover on their own. One example is the case of a Japanese headlight maker that found an opportunity to supply parts to Renault of France through a business tie-up with a French auto parts maker. The government needs to give appropriate advice to Japanese companies on such developments.

(iv) Educational Reform

The government needs to turn the nation into an “educational power” as promptly as possible, by improving and expanding education at primary and junior high schools, high schools, universities and graduate schools as well as by providing continuing education to adults. Until recently, college life was viewed as a pre-job moratorium, or a period of rest to allay students’ fatigue from the tough entrance examination race before they received education at their employer companies. However, in the wake of the bursting of the bubble

and amid the prolonged recession, university education is taking on a more practical nature. This is happening in response to corporate requirements for students who can be of immediate service to employers without years of in-house education. Further, the expansion of graduate school education is also on the agenda, in response to a desire for lifelong education among adults who hope to reeducate themselves for career advancement. In order to respond to these social needs, reemployment training courses commissioned by the Ministry of Health, Labor and Welfare, management of technology (MOT) for corporate managers who graduated from science and engineering departments, and other similar programs, are becoming essential at a time when industrial hollowing out is destroying the institution of lifetime employment and making reemployment a serious problem. If the future of Japan with its aging population is taken into account, reemployment after retirement is not only a necessity but also an urgent problem in terms of passing the skills and experiences accumulated through retirees' long years of service at companies to younger generations. Smooth transfers of such experiences will also satisfy the need to preserve artisanship skills in Japan.

The establishment of such practical courses does not at all negate the necessity for basic research courses. In fact, it is precisely the opposite. As a result of the defects of technological education in postwar Japan, where the nation tried to excel in low-budget applied research while depending on the United States for basic research, there has been a lag in research into the advanced technologies that hold the key to preventing the hollowing out of Japanese industry. Japan must urgently shake itself free from the mistakes of the past and take the first step toward becoming a technological power in the

21st century.

We must bear in mind that free-mindedness, creativity and thoughts with great individuality are born only from a favorable environment of research backed with ample funding and tough competition. Only when we create super elite courses and generate super elites can we expect to see large flowers blossom in the name of basic research. If we examine measures to cope with industrial hollowing from the long-term perspective of national policy, the top priority is clearly to pump state funds into the expansion of both the practical and basic research aspects of science and technology.

(v) Increased Capital Spending

The Japanese government needs to implement aggressive policy measures to facilitate corporate capital spending. The revitalization of the Japanese economy is more important than anything else in order to prevent the hollowing out of industry. For the revival of the Japanese economy, the disposal of nonperforming loans is admittedly important. However, of greater urgency is the expansion of equipment investment. The above-mentioned views of corporate managers that the investment environment provides no incentive for increased investment are quite understandable. Yet, a drastic increase in capital spending is vitally important for Japan to break out of its deflationary spiral and to sever the cycle of recession. The government must also support increased investment through taxation and other measures. In order to counter cheap labor in other Asian countries and carry out measures to stop industrial hollowing, highly automated machinery and state-of-the-art equipment are indispensable. But Japan has not made much progress in this field since the

latter half of the 1990s. China, South Korea and Taiwan, on the other hand, have all installed state-of-the-art machinery that cannot be found in Japan. This investment, combined with low labor costs, has allowed these countries to show unprecedented international competitiveness.

It was reported that the employees of Sanyo Electric Co. of Japan were astonished by the rows of state-of-the-art machines they saw at a plant in Qingdao operated by Haier, China's larger consumer electronics maker and a business partner of Sanyo. This sort of incident is no longer an isolated phenomenon. Many subcontractors of Toyota Motor Corp. are reportedly trying to cope with the parent firm's cost-cutting program without making fresh investments into equipment.¹⁶ Visiting manufacturing plants in Japan, one finds that companies that are carrying out active equipment investment appear to be bursting with vitality, while those that are not are dull and flagging, as if to epitomize Japan's hollowing out. The government must implement measures, including taxation, to encourage capital spending to help spur corporate zeal for investment in equipment.

(vi) Protection and Nurturing of Secondary and Tertiary Makers

No matter how one looks at it, the state must protect and foster secondary and tertiary small and medium as well as micro enterprises, and also help them upgrade their technical prowess. Japanese industries were able to maintain their international competitiveness partly because of the strength of these secondary and tertiary manufacturers. Big corporations are well aware of this, and have been guiding and fostering these makers. However, secondary and tertiary makers in Japan are now being placed in a tough position, as big

businesses can no longer afford to protect them, Other Asian countries have acquired enhanced industrial power and Asian firms are fast catching up.

Small Japanese makers without the technological strength to counter Asian companies are being driven to bankruptcy after losing out in the race to cut costs. An increasing number of major primary manufacturers have replaced domestic secondary makers as parts suppliers with makers in China and other Asian countries. In addition, many more major Japanese primary manufacturers are planning to procure a greater number and wider range of parts from makers in other Asian countries. Generally speaking, many major primary makers prefer to procure from overseas suppliers if there are few problems with quality, cost and delivery time and if their products are at least 30% cheaper than domestically-procured competing products. Looking from the other side, secondary and tertiary makers in Japan are likely to be able to compete with Chinese and other Asian rivals if they are able to improve the quality of products, cost and dates of delivery, and are able to cut cost by 30% or more. Further, makers that use analogue technologies that cannot be digitized are also highly likely to survive competition at home and overseas, regardless of size.

There are opinions suggesting that secondary and tertiary makers should stake their survival on the transfer of operations to China and other Asian countries. However, caution is advised for overseas moves by micro enterprises that lack management know-how for overseas operations, whose technologies are not so superior to those held by the companies of countries they will move into, and whose spun-out employees can easily make copied products instantly. For secondary and tertiary makers with high profit-sales ratios in particular,

the intensity of competition in China and other Asian countries is beyond imagination. In fact, innumerable small and medium and micro enterprises have failed in overseas operations and returned to Japan.

Therefore, rather than gambling on overseas operations, many small firms will be more likely to survive if they remain in Japan and try to upgrade the level of their technologies by relying on the advantage of the terrain. It is essential for them to push ahead with rationalization in order to achieve cost reductions of 30% or more. The upgrading of management capabilities through mergers between micro enterprises or through joint management may be a desirable path to follow. It also goes without saying that they need to upgrade their technical capabilities. In particular, by taking full advantage of having operations in Japan, they must explore the possibilities of joint development efforts with automakers. Current and future chief executives of secondary and tertiary makers should also pay heed to the education of managers and the upgrading of management know-how through cooperation with universities and research institutes.

The government needs to lend a helping hand to small businesses, through the above-mentioned efforts. However, many secondary and tertiary makers are unable to give full play to their high technical capabilities because of a lack of ample funding. This is why financial assistance from administrative agencies is of great importance. In many cases, small and medium enterprises rely for funding on *shinkin* banks or credit unions, two types of regional financial institutions with relatively weak financial positions. As a result, they are in a situation where they can be easily pushed into financial hardship by financial institutions' reluctance to lend money or refusal to discount

commercial bills. Thus, administrative agencies are under pressure to map out a path through which small and medium enterprises can play out their management skills and technical capabilities by taking measures to prop up their financial weakness.

(2) Japan's Policy on Industrial Hollowing in the 21st Century

Amid the stagnation of the Japanese economy since the latter half of the 1990s and the leap forward by Asian economies, particularly China, a rapid hollowing out of Japanese industry has been underway, centering on manufacturing operations. The trend is particularly noticeable in such heavy industries as steel, shipbuilding, machinery, automobiles and electric machinery.

As discussed earlier, it goes without saying that measures in various forms must be taken to respond to this hollowing out. However, what is most crucial is to explore effective measures to cope with the hollowing by taking advantage of the situation itself. Instead of halting the hollowing out, it is important to map out measures to deal with it by making good use of the hollowing. This means for Japan to explore a path toward independent industrial development through harmonious coexistence with other Asian countries, instead of collision with Asia. In that sense, the critical point in Japan's industrial policy and strategy for overseas business expansion in the 21st century is likely to be, and must be, measures to deal with the hollowing out of industry.

(3) How Did the Hollowing Out Come About?

In considering these problems, we must bear in mind that the hollowing out phenomenon is not limited to any single country. By returning to the basics, we can examine the reasons behind the snowballing pace of transfers of operations overseas. In short, China is a place that is hard to resist for many companies. They can easily secure as many low-skilled workers as they want with wages one-30th that of wages being paid to Japanese workers. They can also recruit high-grade university graduates with salaries less than one-tenth the Japanese levels. The cost for leasing a square meter in an industrial park is also less than one-30th of Japanese prices. China's other drawing points include power and water rates about half those in Japan; transportation, telecommunications and port infrastructures under rapid development; expected improvements to the legal system following its accession to the WTO; and a huge market with a population of 1.3 billion. Any one of these factors alone would indicate that China is the most promising market in the world in the 21st century. Put simply, this is the reason why companies from many countries, and particularly Japanese firms struggling with the structural recession at home, are moving into the nearby and promising Chinese market in droves.

However, we must not believe simply that all Japanese companies that went into China found a rose petal-covered road to success. Some were forced to withdraw after finding joint venture partners unreliable, and others went bankrupt with accumulated losses after failing to collect their accounts receivable. There are also Japanese firms that decided to shut down their operations because they found it impossible to map out business plans under the constantly changing laws and regulations of the Chinese government. The

scent of a few glamorous and eye-catching successes, built upon a pile of corpses, is luring Japanese companies into China. Certainly, it is not hard to detect the habit of herd behavior among Japanese companies in their accelerated shift to the Chinese market. It resembles the past behaviors of Japanese companies establishing overseas operations, that said, “We have to follow Company A” or “We must go after Company B.” This time around, however, the shift of operations to China involves not only labor-intensive sectors but also a whole range of industry sectors, including capital-intensive fields. This clearly indicates that the move to China stems from productive conditions in China that are far more favorable than in Japan.

(4) Hollowing Out Is Not a Problem for Japan Alone

Therefore, the phenomenon of industrial hollowing is not a problem for Japan alone. Manufacturers are also moving to China from South Korea, Taiwan and Southeast Asian countries. In a sense, these countries and areas are suffering more seriously than Japan because they have many sectors that are in direct technological competition with China.

Taiwan is the clear example of this. Since after the Asian currency crisis, the IT industry, and particularly labor-intensive sectors, began to move to mainland China, and this shift accelerated in 2001. The relaxation of various regulations following the accession to the WTO by both China and Taiwan has had the effect of further tightening their links and increasing Taiwanese investment in China. The sharp rise in the jobless rate in Taiwan appears to be closely associated with the Taiwanese IT industry’s accelerating shift to China.

A similar phenomenon can be observed in South Korea, though perhaps

not with the same intensity. As shown by the fact that China has come to vie with the United States for the top destination of South Korean foreign direct investment, South Korean companies sharply increased their investment in China in the latter half of the 1990s. Unlike their Taiwanese counterparts, South Korean firms invested mainly in labor-intensive manufacturing sectors such as textile goods and general merchandise. Further, South Korean investment is flowing into regions of China that are not drawing much interest from Taiwanese companies. While Taiwan is concentrating its investment in the provinces of Fujian and Guangdong across the Strait of Taiwan, and in Shanghai, South Korean companies are more or less targeting Shandong and Tianjin on the coast of the Bo Hai Gulf as well as the three Northeastern provinces of Liaoning, Jilin and Heilongjiang. While Taiwan has cultural similarities with the Chinese regions across the strait, South Korean firms seem comfortable operating in the northern part of China, where they can count on the Korean population. At the moment, the hollowing out of industry in South Korea is much less serious than that in Taiwan. Still, the rapidly increasing pace with which IT-related companies are shifting to China is beginning to awaken South Korea to problems similar to those found in Taiwan.

In both Taiwan and South Korea, but more so in Taiwan, with its particular strength in OEM production, many IT-related companies that are moving to China are suppliers to Japanese as well as American multinational firms. Thus, the intentions of Japanese and U.S. IT multinationals are clearly behind the accelerated transfer of operations to China by Taiwanese firms, which in turn is exacerbating the hollowing out of industry in Taiwan. This phenomenon is occurring within the above-mentioned global network. The

hollowing-out phenomena taking place not only in Taiwan but also in South Korea and Southeast Asian countries are all developments in the closely-knit meshwork.

(5) The Importance of a Well-Balanced Strategy on China and Southeast Asia

Thus, in considering state-level responses to the hollowing out of Japan's industry, it is becoming necessary not to limit the responses to purely domestic measures but to present them as a well-balanced response intended for the whole region encompassing China, Taiwan and Southeast Asia. In technology transfers, as well, it is becoming crucial to carefully select target industries and the levels of technologies to be transferred, distinguish between parts to be supplied to China from Southeast Asia and those to be produced in China, and then devise a network system for their combination. It is also necessary to redesign a strategy by incorporating Taiwan and South Korea into the above-mentioned East Asian network system.

At least until the 1980s, Japan was able to build networks of international division of labor by plotting strategies in conjunction with Southeast Asia, Taiwan, Hong Kong and South Korea. However, such strategies vanished after the Asian currency crisis, and the rapid growth of China simply is prompting Japanese companies to rush into China without paying heed to Southeast Asia. This behavior is tantamount to abandoning the Southeast Asia region, which Japan has been building up for nearly half a century. If Japan's hollowing out is closely linked to similar developments in Taiwan and Southeast Asian countries through the networks of intra-company division of labor at Japanese firms, it is needless to say that the government's measures to cope

with the hollowing out of industry should also be linked with similar measures being taken in other countries and regions of Asia.

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