



Kobe Gakuin University East Asian Industry and Economy Research Center *News Letter*

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ERC

East Asia Industry and
Economic Research Center

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Hosted by East Asian Industry and Economy Research Center, Kobe Gakuin University

2004 Shanghai Seminar

The East Asian Industry and Economy Research Center (ERC) has benefited from five years of grants from the Ministry of Education, Culture, Sports, Science and Technology as an "Open Research Center Establishment Enterprise" and accordingly conducted activities with the objective of proposing industrial policies in ASEAN and China, and providing businesses with useful information. (Actual studies and research began in 2000.)

This kind of regional research was done in the past under as joint research between universities in Japan and the local area, and resultantly was heavy on academism. The ERC emphasizes contacts with businesses and governmental authorities over the cooperation between universities, in order to promote research and survey activities in the local area.

Fortunately, with the cooperation of the Ministry of Economy, Trade and Industry and the Japan External Trade Organization, the ERC has produced considerable results over these past three years. Also, as a part of those activities, important businesspeople and governmental officials have been invited to productive talks in Bangkok for four consecutive years from 2000 to 2004, and, with assistance from the Ministry of Education, Culture, Sports, Science and Technology, to talks in Kobe in each 2002 and 2003. These activities turned the focus of research at the ERC from ASEAN and Thailand to China and particularly East China in 2002 and launched research activities in the Yangtze Delta around Shanghai.

As a continuation of these activities, the ERC staged a seminar in Shanghai on September 17 (Fri.) this year. At this seminar, experts talked about the investment environment in East China and the current situation of the automotive industry in China. Moreover, given that Thailand is rated behind China as the best place for direct investment in ASEAN, top officers from automotive parts manufacturers who have successfully developed business in Thailand spoke about their successes.

Here following are synopses of those lectures. I hope that they prove useful to readers.

Takashi SEKI

Director, East Asian Industry and Economy Research Center



Kobe Gakuin University East Asian Industry and Economy Research Center

Shanghai Seminar Program

Date/Time: September 17, 2004/13:00-17:50

Place: Jasmine Room, 2F, Okura Garden Hotel

Session 1: Investment Environment of East China and China's Technological Level

"Investment Environment of East China and China's Technological Level: Current Economy of East China" ...

Toyojiro *MARUYA*, Director, JETRO Shanghai Center

"China's Automotive Industry: Past, Present and Future" ...

Kazuo *HIGASHI*, Representative Director, Shanghai Office, Toyota Motor Corporation

Session 2: Example Successes of Parts Manufacturers and ASEAN As an Alternative Production Base

"Transferring Proprietary Technology to Local Subsidiaries Overseas" ...

Toshiaki *KANEMITSU*, President, Kanemitsu Pulley Co., Ltd.

"Case Studies of Unique Technologies in Thailand" ...

Kenichi *HIDAKA*, Assistant Professor, Faculty of Business Administration, Kobe Gakuin University

Session 1

Investment Environment of East China and China's Technological Level

Toyojiro *MARUYA*, Director, JETRO Shanghai Center

Current East China Economy

A few keywords that are used of recent to describe the Chinese Economy, inclusive of East China, are "good on the macro level, but slumped on the micro level", and "driven by foreign investment, but stagnant domestic investment". I think these expressions accurately describe the economies of Greater China and East China.

One glance at the macro economic indicators of 2003 China and East China (Shanghai, Jiangsu and Zhejiang) is enough to identify the extremely high economic growth in East China around



Shanghai. The driving forces behind this are exports and investment capital. Moreover, a closer look at investment makeup shows direct investment to be a very big factor. In the background to this is the growth in exports, but the large introduction of foreign capital is also a big contributor. With regards to direct investment, both contracted amounts and actually invested amounts have grown at rates that exceed all of China.

As such, the primary driver of the East China economy is foreign capital investment. That can be understood at a glance from the high economic growth rate. From the middle of 2000, many business made inroads to target domestic sales and the injection of this foreign capital has greatly contributed to the East China economies in Jiangsu and Zhejiang.

Certainly when looking at the economy today, the Shanghai economy has within all of that registered double-digit growth for more than the past decade, but the economy has been heating up further since mid last year. Looking at China as a whole, as has been reported by the media, investment in steel, cement and other materials that reflect the demand for home appliances, cars and IT products has grown tremendously from the end of last year through the first quarter of this year; it is a situation where investment incites further investment.

Rather than claim that the economy has heated up, the situation seems to suggest that investment has heated up.

Though the Chinese economy and East China economy are one and the same, they have dual economies and, while some areas are seeing heated investment and heated economic growth, in other areas, supply still outstrips demand. On the micro level, the stagnation centered on Chinese managed businesses has not changed over the past few years.

Given the situation, China has taken a position since last year to sell their last bastion of defense: the major state-run companies. The reason for the slump in China's monster companies is believed to be a structural problem by which production has continued indifferent of profitability. Particularly, in order to survive in the highly competitive global economy as well as in China, large companies must take action to quickly establish their brands and increase market share, yet they still over-produce. In assessing business performance, Chinese investors feel that businesses with increased results and high sales are good picks; they like stocks of companies that have sales of 30% over those with profits rate of 15%. The typical Chinese investor has yet to rid himself of the supply side mentality. And, if a Chinese company attempts to procure capital through direct investment rather than just through bank loans, they merely want to increase sales amount and assets. This has brought about a predisposition for excessive supply. Demand in China is by no means low. Looking at real consumer spending, it has grown by about 8 ~ 9% annum on the average, but the fall in prices that occurred despite that until last year indicates that China today supplies more to markets than is needed.

The same can be said of small to medium size businesses as well; they continue to produce and sell regardless of costs. In fact, many small and medium size Chinese companies operate without budgeting for depreciation, reserves or losses. This is what I heard from diverse small to medium size Japanese companies that I visited over the past few years. These practices are seriously hurting Chinese business activities. It is also causing the recent sharp rise in unemployment and, at the same time, has increased the number of triangle debts and bad loans. Affront this backdrop, the Chinese economy is characterized by oversupply and the practice of production indifferent of profitability has still not been corrected. It is China's Achilles' Heel; the economy is structured in such a way that future growth will depend more and more on foreign investment. These are the problems they have.

Industrial Clustering around Foreign Investment

Let me briefly introduce the mechanism of industrial clustering and the development dynamism in East China. Industrial clustering

began in 1990 on the big opportunities presented when Deng Xiaoping put Shanghai in his T development strategy. The large market of outlying areas, the blessed investment environment, the geographic advantages and the rich supply of human resources that Shanghai has, and a history of converting the vast amount of surplus farmland in the Southern Yangtze area for industrial development are all factors that contributed to industrial clustering. In the process of developing today's industrial cluster in the foothills, there are two logical reasons why this occurred. One reason is the reduction in business costs. This is not limited to shipping costs as the reduction applies to total costs including sales costs associated with distribution and sales networks. The other is the effect of increasing returns in that "clustering invites more clustering". There are two major factors that are reducing business costs in East China and Shanghai, Jiangsu and Zhejiang in particular.

One is Shanghai has historically been a domestic sales center in China and a distribution center for a market of 1.3 billion people. And, the other is its position as a base for disseminating information. Since the end of the Qing Dynasty, information, including news of advanced cultures in the West as places to settle, has been disseminated from Shanghai. This background is extremely advantageous when considering domestic sales in China. This has caused industry to cluster in the area.

Recently, Shanghai has proven advantageous to businesses that export overseas. One major reason for this is that more and more of the world's multinational companies are setting up their main offices in Shanghai for overseeing their China operations. And, these multinational companies only assemble the boxes; the parts are outsourced. For example, since the price of a personal computer dropped below the \$1,000 mark in 1995, 11 of the 12 personal computer manufacturers from Taiwan decided, as of 1998, to move their center of operations to Shanghai on the pretext of producing products in China. The twelfth company also has plans to move to Shanghai. These kinds of manufacturers have been moving into the Shanghai area since 1998. Though many parts manufacturers have concentrated in South China, the set manufacturers are concentrated around Shanghai. This is the result of parts manufacturers concentrating in East China. The products assembled there are exported to the West. Industrial clustering comes under business costs; this is what caused clustering in East China.

The other reason for industrial clustering is the effect of increasing returns in that "clustering invites more clustering". The first to arrive in the home appliance field is the set manufacturer. But, this invites the parts manufacturers because of their backup relationship. And, the parts manufacturers draw the materials manufacturers. Therefore, clustering invites clustering on these supportive relations. The

economic development of East China can be explained as a swelling in scale of this industrial clustering. This is why the whole world is watching East China.

For what regards Japanese businesses, a strong tendency towards an East China shift has been seen. According to a status survey we conducted, 45% of the 5,500 surveyed businesses are located in Shanghai, Jiangsu or Zhejiang. In 2001 alone, 63% of the companies moving into China set up shop in the area. The fact that more than 60% of the businesses located in this area tells us that Japanese businesses are concentrating in East China.

Recently, investment has concentrated towards the south in Jiaxing, Hangzhou, Shaoxing and Ningbo in the northern end of Zhejiang Province. The problem of power shortages has become worse over this past year and the hardest hit has been Zhejiang Province. JETRO has been calling it the age of Zhejiang Province since three years ago. In particular, automotive parts manufacturers are amongst those moving into Jiaxing, Hangzhou, Shaoxing and Ningbo. Behind this are emboldened private businesses that see the big advantages of being a future outsourcer or business partner of Japanese businesses. Another big reason is that Japanese businesses are weak at marketing for domestic sales. The private businesses of Zhejiang are good for making up for this weakness. The brokers and merchants of Wenzhou and Ningbo are said to be the Jewish of China because of their craftiness with finances and sales networks that extend across all of China. They have an influence on economics. The fact is that Zhejiang Province has fewer accumulated businesses than Shanghai and Jiangsu, but lately their numbers have begun to grow considerably. The investment environment has been shaken by the power problem. Therefore, Hangzhou, Zhejiang and Ningbo are facing serious issues today and should become a primary target of businesses making inroads into China.

Inroads by Japanese Businesses into East China

Japanese businesses, too, have been making inroads into this area in recent years, but the nature of the move as of recent can be summed up in a few ways. Recently, there have been a lot of hi-tech and large investments. The investment environment behind this comes from not only the merits of the average worker but also quality higher level human resources and manpower. Compared to East China, there is not only a large pool of general workers but also many skilled workers. There are many valuable human resources, which includes college grads who will become high level engineers and managers. This has got to the greatest advantage in China. And, the businesses making inroads are not involved in mere assembly; there are businesses of various sector and scale from the hi-tech industries, and not only Japanese businesses but other foreign business are

concentrating there.

Moreover, businesses that set up international procurement operations that both procure materials from operations centers in China and overseas and supply these materials here are increasing. Other than this, businesses are locating R & D centers; since last year, Shanghai surpassed Beijing to become the Chinese city with the most R & D centers. In order to survive the harsh competition of domestic sales, products have to be developed to Chinese specifications. For that reason, R & D centers concentrate around Shanghai.

The earnings situation of Japanese businesses is also good. In our survey, 64% of the businesses polled reported to be in the black, while 37% of these businesses said they sell 70% or more of their products domestically. Just three or four years ago, you could not make money selling in China, but as of recent, domestic sales are bringing in the money. In fact, 65% of the businesses that sell domestically answered that they were in the black. Moreover, at the time of the survey, 20% of the companies had made their inroads into China in or since 2000. Many businesses remain in the red for the first one or two years after moving into China, but from the third year, they get into the black. In terms of the balance sheet situation of companies in China three or more years, 77% of the companies selling domestically replied that they were in the black. What the results from JETRO's survey show is that you can now make money selling domestically in China.

Lastly, I want to talk about our assessment of the investment environment of China (East China) from the perspective of Japanese businesses. We surveyed 1,330 businesses in March and April last year as to their satisfaction with the investment environment. We analyzed and plotted the results giving the level of satisfaction with respect to 70 locations. These results indicated that the Yangtze Delta was the best place. Taiwanese businesses formed an electronic industrial association more than four year ago and our findings concur with theirs: the Yangtze Delta rating is relatively high. Moreover, it was shown that South China in and around Canton Province is not good. This survey was done in April and May of last year, but we will be following it up by conducting the same survey in February-March of next year in Shanghai, Jiangsu and Zhejiang. Preparations for that are currently underway.

We hope that the revised version of this which will come out next year will help Japanese businesses that are interested in moving into China locate where the best place might be. I ask for everyone's cooperation to these ends.

Thank you for your attention.

China's Automotive Industry: Past, Present and Future

Kazuo HIGASHI, Representative Director, Shanghai Office, Toyota Motor Corporation

China's Policy for the Automotive Industry

In order to understand the automotive industry of China, I will first explain the history and growth of that industry. Then, based on that, I will present its features and present state. Lastly, I will explain what it will be like in the future.

In 1949, when the People's Republic of China was born and, in order to rebuild a war-torn nation, China's automotive industry began with trucks. I'd like to explain this history by following the 5-years plans peculiar to that country.

In 1953, with technical assistance from friend and ally the Soviet Union, the First Automobile Works was located in Chuangchun, Beijing. This was the start of China's automotive industry.

During the second 5-year plan, in 1960, they began producing luxury cars for high level bureaucrats. In this same year, Shanghai Qiche made a midsize car called the "Hongqi". Beijing Qiche began making a compact car called the "Jing gang shan hao". However, unfortunately in this period, the "Great Leap Forward" of MAO Tse Tung failed because of the mass of propagandistic lies and the compact car was never made after that.

During the third 5-year plan, in 1969, the Second Automobile Works (now Dongfeng Qiche) was built in the hills where it could not be attacked by foreign powers. After that, they produced a truck known as the "Dong feng hao". This was in 1975.

During the fourth 5-year plan, the Cultural Revolution started. The central government did not have a policy on automobile manufacture, so during the turmoil, various provinces started building automotive companies on their own. China's automotive industry inherited many problems seen today from the confusion of this period. The ills that followed the Cultural Revolution continue today in the form of a small scale, a distributed industry, inefficiency, uncoordinated operations and poor quality.

During the next 5-year plan, MAO Tse Tung died, the Gang of Four were arrested and Deng Xiaoping rose for the third time. Deng was smart and crafted a policy of "Socialism with Chinese Characteristics", and immediately created the legal means to attract foreign capital through the "Law on Sino-Foreign Cooperative Enterprise of PRC". His thoughts were to do something with China's automotive industry, which had fallen way behind the world, by using foreign capital. The effects were seen immediately. In 1980, they were capable of producing 200,000 vehicles a year. Passenger

cars also went from a few hundred to 5,000.

In the sixth 5-year plan, the automotive industry separated of key industries. Vehicles were pushed back as priority was given to building the country. Because the central government loosened its hold, regional areas created their own automotive companies much like what was seen during the Cultural Revolution. In five years time, there were 58 companies, which then increased to 114. Turnout was 443,000 units a year. Though passenger cars topped off at 5,000 units per year, demand for automobiles grew on the brisk pace of building around the country. As a result, imports increased reaching 354,000 units and valuing US\$3 billion in 1985. In these days, China did not have much foreign currency, so what it had disappeared in no time at all.

Then came the seventh 5-year plan and the automotive industry was positioned as a key industry of the country. China introduced a policy of "technology and trade" whereby, anyone who wanted to sell automobiles in China would have to also bring technology with the vehicle. Another thing was that there were several tens of individual companies that wanted to build passenger cars, but that presented some difficulties, so China created 8 companies via a "3-Large 3-Small 2-Compact" policy -- 3 to make large vehicles (FAW, SAW and Shanghai Qiche), 3 to make small vehicles (Beijing, Tianjin and Guangzhou) and 2 to make compact vehicles (Xian and Guizhon Airline). They would not allow other vehicles to be made. Yet, thanks to this, passenger car turnout went from 5,000 units to 40,000.

In the eighth 5-year plan, the 8-company project suddenly broke the 200,000 units mark from 40,000. In 1994, a new automotive industry policy prohibited production outside of the 8-company project, so vehicles were produced in line with this policy. China announced that they were integrating parts and, in 1995, they widely announced that they would make a "public car".



In the ninth 5-year plan, China got interesting. The automotive industry was still separate of key industries. But, then the machinery industry that was making vehicles was abolished and automotive policy was switched to the State Development Planning Commission and the Ministry of Foreign Trade and Cooperation. Nevertheless, production did increase. Then, in 2007, turnout grew sharply to 2.07 million unit, of which 610,000 were passenger cars.

In the tenth 5-year plan that followed, China promoted vehicle ownership. By this time, the number of people who felt a car was an essential part of life had grown. China joined the WTO and the vehicle market suddenly grew.

In 2002, vehicle production grew 40% and passenger car production 60%. In 2003, vehicle production grew 50%, while passenger car production grew 70%. In 2004, China announced an automotive industry development policy and started working hard towards becoming an exporting of automobiles.

Characteristics of China's Automotive Industry

As for the characteristics of China's automotive industry, the first is "that it is distributed". What is distributed? Because each the central government, the machinery industry, the weapons industry, the aerospace industry, the agricultural industry and the aerospace industry makes tractors, they can make cars. If they can make airplanes, they can make cars; because they made rockets, they formed an automotive company. Regional governments also formed companies. They made money off of cars. The creation of these automotive companies was spearheaded by cities and provinces. However, since joining the WTO, market principles have escalated the competition, so some companies have merged while others have gone under. The automotive industry is based on mass-production by nature, so they say you must make at 500,000 units to survive. The only ones that clear that mark are Shanghai Qiche and the First Automobile Works, just two. All of the others produce less than 500,000 units a year. The top 12 companies account for 90% of the market. In another five years, the "distributed" characteristic will be gone.

The second characteristic is that the automotive industry centers on commercial vehicles. People strongly believed that a passenger car was a play toy of the bourgeois, therefore it became a status system of the Communist Party. Accordingly, in 1975, only a few hundred units, or barely 1% of all vehicles produced, were made. However, after their policy of "Socialism with Chinese Characteristics", car production increased to 8%, then 23% and now 29%.

The third characteristic is that the diffusion of vehicles is low. The horizontal axis is purchase power. Even in Beijing where vehicles are much more widespread, they could sell three times more and it would still seem like it is not enough by our standards. Shanghai

could sell even ten times more. To put it other terms, there is a massive potential domestic market.

The fourth characteristic is that, unlike the rest of East Asia, China has a tremendous foundations of industrial strength. They have been making steel for more than two thousand several hundred years and not just for military swords. Capacity and the foundations of industrial strength are high. However, they have very little of the high-grade sheet metal used in automobiles. Nonetheless, in order to see the level of China's machinery industry, if we look at the rate of NC introduction with machine tools, we understand that Japan's rate is increasing but so is China's and it is growing rapidly. Aided by mergers with Fanuc of Japan, their machinery industry is said at about the level Japan was at in 1980. Like Japan, they will grow in Japan's footsteps.

The fifth characteristic is that the turnout of automobiles, trucks and buses are tracked, but there are agricultural vehicles that are not counted. These are the simple types. They cannot go faster than 50 kph. And, they cannot be ridden in urban areas. There are these two restrictions, but the 4-wheel type is a good truck. About 3.2 million of these vehicles were produced in 1999.

Many Japanese misunderstand China. Many underestimate China.

In 2002, China accounted for the fifth largest turnout of automobiles in the world. That is 6.2% of world production. The outlook for this year is 5.3 million vehicles, which is just behind third ranked Germany. How big is the Chinese market? In 2002, the market was 3.25 million vehicles. That made it the fourth largest in the world. Last year, it was 4.37 million. At this rate, they will easily pass Germany to capture the number three spot behind the USA and Japan. With this massive market being the third largest in the world, every country around the world has become blood-thirsty and is battling it out to set up camp there.

To speak of vehicles is to speak of roads. Many people believe the roads in China are in poor shape. In fact, our survey team said so, too. But, that was five years ago; now things have changed. China has a "5-Across 7-Down Project" that slices the country into squares so as to build 7 highways east-west and five north-south. The project envisions connecting 200 cities of populations of 0.5 million or more by highway. That's 600 million people. They already have 30,000 km of highway. Like Europe, their highway network links major cities.

China's Passenger Car Manufacturers

I now want to talk about the current situation of China's passenger car industry. I will talk about trucks, buses and automobiles.

China's automotive industry is grouping together. The First Automobile Works are in first place and Shanghai Qiche in second.

What I mean by grouping together is that they make passenger cars, buses and trucks, and have parts manufacturers. At present, there are 13 major groups. The passenger cars, large trucks and luxury buses are being made via technical tie-ups and mergers with overseas manufacturers. There were only eight companies making passenger cars after the "3-Large 3-Small 2-Compact" policy, but they approved a whole slew of others. What was once just 8 has become 33. At first, there were just Shanghai VW and Tianjin Qiche VW with Shanghai VW making 10% or more of all passenger cars. But, their share has slowly dwindled as others have emerged. Currently, there are only three companies with a 10% or greater share of the market, Shanghai VW, FAW VW and Shanghai GM. The other 30 companies have market shares of less than 10%. One of those is Toyota with a 2.6% share, which is about thirteenth or fifteenth.

The top share goes to VW; they have been making Santana since 1985. Without a single model change in 18 years, this museum piece of a car has sold more than 100,000 units every year. And, this streak will never be broken. How is it they sell so much? It's an old design, so there is nothing that breaks down. It's cheap. It is popular for taxis. Nowadays, VW introduces new cars like the Passato and Polo every year.

VW is making cars together with FAW in Chuangchun. Come the 21st century, they added something new with the Audi, Golf, and are today the second or third most widely driven. One that is trying hard and changing styles is the Buick by Shanghai GM. With their two box-car, they polished up a model that was discontinued in Europe and relaunched in China in 2003. GM is a company that hates to work; they like to use people wisely. They enjoy getting involved with M & A. They are not very interested in building a good car like Toyota is.

Tianjin Qiche is making the Charade with technical assistance from Daihatsu. This car, too, has been made for 18 years. They sell 100,000 a year.

The company making the greatest efforts in China is Honda. They – I believe – are targeting development of over 200,000 vehicles a year. In a tie-up between Guangzhou and Honda Dongfeng, Honda is making the CR-V SUV in Wuhan. It has not sold well, but the Accord is. The Fit is selling well, too.

Dongna Automobile has been successful selling Mitsubishi's Lancer. Ford's Fiesta is being made in Chongqing, but it is not selling well. Korean manufacturers like Hyundai are working hard. Together with Kia of the Hyundai Qiche, Hyundai is selling about 200,000 vehicles. Unless we work harder, we will lose out to Hyundai.

There is only one Chinese brand of vehicle, the Hongqi. They sell about 20,000 a year. There are four models between sedans and midsize cars, but all together they account for 20,000. They have an Audi base. After a model change, the midsize is being sold as Mazda'

s Atenza. A long time ago, the top brass rode in it, but it did not make a good impression under the Hongqi name. It might sell if they changed the name.

In 2003, turnout of just passenger cars was 3.72 million. This goes for Toyota as well: Japanese manufacturers must win the battle of survival. The world's most renowned automotive companies are all building factories in China. In 2007, there will be 8.44 million passenger cars alone made and, according to what has been announced, it will go to 10 million. The future will be a battle of physical strength. How long can one wage the war? The price for passenger cars must come down. If there is mudslinging like with home appliances, there will be no end to it because of the free competition.

As of the end of July, there had been 57 model changes. This year alone, 60 new models were launched. Japanese manufacturers are launching new models every month, too, while Chinese companies are launching them every week. But, even after a car is launched, it takes months for the consumer to remember it. In the end, they don't remember it.

Future of China's Automotive Industry

As long as there is not an oil crisis, China will catch up with Japan by 2020. If an oil crisis occurs, I don't know. By 2010, the new car market will reach 10 million, I believe. Passenger cars will grow. Buses and trucks will grow for certain. However, passenger cars will not be the 80% of Japan or 90% of Germany. It will be more like the USA where commercial vehicles and passenger cars will split the market at about 50-50. If everyone drove a car in China, we would run out of gasoline in a wink. The air pollution would become horrible, too.

With this the peak, the number of automobile manufacturers should drop down to 10. As far as grouping is concerned, it is a question of who will come under who. Automobiles are being aggressively exported. The quantity is between 100,000 and 200,000. Given the surplus production capacity, China should export 1 million cars between 2005 and 2010.

Parts manufacturers have also settled down to about 1,500 from the 2,500 peak, but this should fall further to 10 to 20 companies. Foreign investment is also increasing, but it will integrate with local companies. Parts exports total US\$4.7 billion, which is about 500 something billion yen. The government says that China will be a major exporter of automotive parts for passenger cars by 2010, on a level of 10 trillion yen. Foreign parts manufacturers are working hard. Our group is also in there, but for whoever works hard, the world's largest parts exporting country at 10 trillion yen is by no means just a dream.

Thanks you for your attention.

Session 2

Example Successes of Parts Manufacturers and ASEAN As an Alternative Production Base

Toshiaki KANEMITSU, President, Kanemitsu Pulley Co., Ltd.

I was told that they wanted to hear cases of successful business in Thailand. I was specifically asked to talk about the transfer of proprietary technology to local subsidiaries. Well, if a company fails, there is a reason why they failed. The primary reason I believe for a company failing is the words, actions and thinking of its executives. You cannot rest on your laurels. Because one does not do the obvious, he fails. Even though peoples and cultures differ, there is a lot that we all have in common.

I would like to introduce our company. The parent company has its headquarters in Akashi, Hyogo Prefecture. Kanemitsu Pulley Co., Ltd. is a small company of about 200 employees and we make and sell steel pulleys for automobiles. Kanemitsu is proudly the top manufacturer of automotive pulleys of all automotive parts manufacturers in Japan. We have more than 800 patents and utility designs in Japan and major countries around the world, including China. We develop and manufacture small parts and pride ourselves on our technology.

As for pulleys, we have several products manufactured with proprietary technology. We have many products that are tops in their markets. With bus engines and coolers, there is a technological field where we have patented a way to bend, stretch, thicken, thin and work sheet metal. This manufacturing method turns sheet metal into shapely products. About 6 or 7 pulleys are used per vehicle. Moreover, we design the processes that make the pulleys and make the molds and equipment that makes the pulleys in-house.

Now, I will speak about our Thai subsidiary. We formed a company with the objective of making our pulleys and sheet metal products. We chose Thailand because Japanese companies accounted for about 90% of the businesses there and construction was booming in nearby Malaysia, Indonesia and Southeast Asia, therefore we wanted to establish our brand in Thailand. It was also our first time to make



pulleys outside of Japan and, by starting up a company in Thailand, we could collect information from around the world and contribute to local communities in ASEAN.

The company employees 7 Japanese and 70 Thai. This is probably considered a high percentage of Japanese

employees for an overseas company. Production started in 2001, but we shipped 620,000 pulleys in 2002 and this year I believe vehicle turnout in Thailand was just shy of 600,000 at 585,000. We shipped 620,000 pulleys for those cars. There is one pulley per car. On the business side, it took only a few months since last year to get into the black.

Technology Transfer

I would like to talk now about transferring proprietary technology from Kanemitsu Pulley. In the beginning, I personally felt that our proprietary technology could not be transferred to Thailand. It is supported by many, many patents. I myself believe that our microprocessing technology is the best in the world. Technology transfer was a serious topic in the subsidiary and Kanemitsu in Japan; it cannot be transferred easily. It is just not that simple. Moreover, when we formed the company in Thailand, we were concerned about whether our words and thoughts would be understood or not, and thus the technology could not be transferred in a short period of time. We thought of stationing a Kanemitsu engineer in Thailand, but the parent company was small and had a limited number of engineers; we could not deploy large numbers on a permanent basis. How could we teach the technology to the Thai people and get them to understand it? The success of the technology transfer rested in Kanemitsu's abilities and methods of the provider side, and with the abilities and attitudes on the receiving end. The people on the receiving end would have to put down roots. Thailand is no exception; people do not stay with their jobs. Having people stay with the company was the key to our technology transfer.

In talking about technology transfer today, I will focus on people as both the bare minimum and absolute prerequisite. With people, there are four steps, I believe. You must identify the type of human resources you need. Then, you must develop, train and assess the people you hire. These are the four steps. Another important factor is communication between the Thai employees and each head office management and locally deployed Japanese managers.

As for the type of human resources we needed, since we are a manufacture who makes things, we needed people who understand technology and are interested in machinery and molds. Kanemitsu's technology is special and, on the pretext that it does not originally exist in Thailand, we assumed there were no fresh college graduates or veteran engineers that knew about it.

We went recruiting at industrial trade schools in three provinces in

Central Thailand. The best situation for hiring is to go personally to the school and interview the students. On the belief that we could understand the brightness, desire and spirit of a candidate even without knowing the language, we visited an industrial trade school in some unknown rural village. When we arrived, the teachers were surprised to see that businesspeople had come to the interview and so they gave a warm greeting. They even gave us lunch. Speaking in Thai, one teacher said he was tremendously pleased that “people from a Japanese automotive parts manufacturer would come all this way to their school out in the middle of nowhere”.

There were several merits in our hiring practices. Because of the upper-lower classman relations at the same school, work is passed down from one grade to another both at home and at school. A relationship based on trust is built between the school and society, which encourages the school to produce better-prepared students. This leads to a relationship based on trust between the newly hired employee and managers. Because the student is hired right out of a regional school, initial wages can be set low. Employees from regional schools have a strong affection for the company, they try hard at their work and, because they remit money to their parents, they work harder than ever imagined.

There are three things we thoroughly deal with in training and guidance for production: “manuals, samples and targeted center values”. We take samples from processes. All settings are based on center values. Though this is obvious, we were very thorough with these three things. There are those who have been to Japan and those who are professional engineers amongst our workforce. Like magic, they are producing day-in day-out with the technology we transferred. This cannot be done by Thai graduates on their own, so we were very thorough.

Molds and important jigs are made in-house. As for our proprietary mold technology, we made it possible to make important consumable machinery in Thailand. We support mass-production by having Thai staff make the necessary equipment when there are no orders to fill. I can recall how the young Thai engineers who had just graduated from school were so excited about doing this job. In just two years, we were able to “make all molds in-house”.

Equipment maintenance also became possible without seeking assistance from the parent company. In the beginning, engineers from Japan told me that it was “impossible for the Thai staff to understand machinery or electric equipment”. Reason being that electric circuit diagrams and structural drawings were all in Japanese, which the Thai staff would not be able to read. But, when we wrote them in English or romaji, their level of skill went up immediately. Today, the equipment maintenance groups in Japan and Thailand can converse about work on the same level.

Not only technology transfer but also the full support of the parent

company is important towards developing a local subsidiary and making it a success. One thing we do is to send young inexperienced engineers from Japan to impart technical training to Thai staff. All of the Thai staff is fresh out of school and young, so seeing that both sides are young, they can learn from each other. Anyway, we want them to. Speaking as a somewhat older person, the youth of today is full of vim and vigor. They are brave as were those of yesteryear.

We send a top class engineer from Japan every month to stay two to three days in Thailand. We began this last month. It is effective towards systematic training and adds to technical training and technical exchange. We have been in Thailand for five years. And, this is the first time such technology has ever been in Thailand. Though it is just a few days at a time, it’s twelve times a year. Also, engineers from Thailand visit the parent company in Japan for training via incentive programs offered by the Association for Overseas Technical Scholarship and the Ministry of Economy, Trade and Industry.

Another means of support from the parent company is to delegate authority to top management of the local subsidiary. There are times when the president of a local subsidiary may be looking to the parent company but he is not watching the local staff. It is necessary to think that, though they may not understand the language, the Thai staff can appraise the leaders of their company. If one thinks his work will be useless when sent to Thailand, it will show in his work, but that will be whisked away by the trust and hopes of the Thai staff.

Communication between Japanese Managers and Thai Staff

I have spoken mostly about people with regards to the technology transfer we did. I would now like to talk about what I feel is important, that being communication between the Thai staff and our top management and local Japanese managers.

I, too, eat the same food in the same place as our Thai staff. I thought that to be the norm, but that doesn’t seem the case. Lunch is a key time for communication. It is a barometer for understanding how employees feel and how’s their appetite. You know “who left their food”, so eating the same thing in the same place at the same time is important.

Greeting people is important. As a rule, it should come from superiors. Because I am the boss, I must be first to greet people. I think that is common sense. The Thai people are shy, so when you greet them with “ohayo gozaimasu” in Japanese, they do not respond in a loud voice at first. However, as you keep with it, they slowly become capable of exchanging greetings. The morning begins with announcements for all people. You can tell by the way someone moves or speaks out how they feel.

A sense of community amongst staff, workers and the Japanese managers is important in the company. I think an atmosphere where everyone thinks together is important. An effective approach is to

lead by example, which Japanese do well. Objectives are one thing, but we remained focused on problems.

It's a small company with about 70 people, so I get around to say hello to everyone. Because I am the administrator, I salute not just staff but the women as well. We place importance on the workplace, so our employees are conscious of what the president might say, what he might be looking at and when he might come around. I pay compliments to seven or eight out of every ten workers, therefore the workers are all smiles in anticipation of what I might say. At our company, we don't speak of how many people stay with the company or leave the company. Neither our factory staff nor our workers quit. Some have taken a day or half day off, but no one has been off for a week at a time.

Technological Level of Local Subsidiary

Thai Kanemitsu Pulley still is not capable of design or development. But, without these functions, training is uninteresting. For an automotive company, one is left with the feeling that something is missing. The parent company decides everything. This is not good, so we have planned it to shift some design and development work from Japan to Thailand.

Some new technologies originated at Thai Kanemitsu Pulley were brought back to Japan. Normally, oil is used when processing works to improve up time. In Thailand, they changed to a water-soluble oil and chill it to keep the temperature down. Japan has both water-

soluble oils and regular oils, but they are used sparingly. Thailand uses large quantities. A Japanese engineer was sent to see it with his own eyes. He was amazed; in Japan, it takes 10 times to fine-adjust the flow, but Thailand does it in one operation. We brought this technology back to Japan.

We are in the automotive parts industry. Since the monetary crisis of 1997, the automotive industry of Thailand has opened eyes, though not as much as in China. The quality of the cars Honda exports to Japan is the same if not better than Japan. Toyota exports cars from Thailand to 90 to 100 countries around the world. They have a big project to send parts from Thailand to seven companies around the world. In this kind of environment, both Japan and Thailand can improve one another by pursuing unique technologies. Both sides are cooperating so that the parent and subsidiary can compete in the future. We will continue working towards our goals.

We are interested in China, as well. We are carefully watching the automotive parts activities of Japanese car manufacturers in China. We are examining the possibility of inroads into China, and are seriously thinking about the capacity relationship between Thailand and China, and whether Thailand can contribute to China or not.

I focused on people in talking about our technology transfer to Thailand. Whether the way things are done in Thailand, their formula and configuration will work in China or not is a question that leave with you. With that, I would like to conclude my presentation. Thank you for your attention.

Case Studies of Unique Technologies in Thailand

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Under the subject of unique technologies in Thailand, I would like to present some cases of Japanese automotive parts manufacturers operating there.

One of the biggest reasons why Thailand's policy for the automotive industry can be considered a success at present is that they did not insist on locally owned automatic manufacturers. Another thing is that they have been somewhat successful producing parts domestically, as they have been producing diesel engines in Thailand since the late 1980s. Moreover, there is the fact that they choose the pickup truck niche. Unlike China whose domestic market is expected to grow to the size of the USA and Japan, the Thai automotive industry has a small domestic market and is competing to survive internationally, but they smartly got into the niche of 1-ton pickup trucks and diesel engines that have hardly any market in Japan. This, too, is a factor that contributed to Thai's success.

However, one potential inhibitor of future growth is the shortage of labor. To achieve the 2010 target of 1.8 million cars a year set by the Thai government, they will need 30,000 new workers or an increase of 15% per year. This includes engineers and skilled labor, therefore the labor supply is a serious bottleneck. Another necessity is to convert the weak R&D component. For Thailand to serve as an export hub, they need not only production but also R&D. The Thai government has tried to pry its way into the market with policies for both production and training, but the labor force and training problems and R&D conversion cannot be done overnight.

Therefore, the examples I want to present today show how technical strengths were built up little by little by making improvements day-in day-out.

One example is company A, which is fully utilizing existing equipment. Thailand has a small domestic market. The export monetary value is not that high. Accordingly, they cannot invest in

expensive equipment. Company A has compiled their technology for small volume production using inexpensive equipment. The opportunity to start accumulating technology in Thailand came from a recent change in materials. The need to press hard materials has emerged in Thailand itself.

However, company A did not have the technology to produce using the new materials and the equipment that existed in Thailand. Note that the technology was not available in Thailand, yet the technology and equipment were well established in Japan. For example, processing by roll-forming as opposed to pressing. Nonetheless, company A tried to develop a new method of production using the existing equipment rather than new equipment. Reason being, they did not have the volume of work that would merit the introduction of a roll-forming line. If they imported the equipment from Japan, the cost would not change that much from importing the products directly from Japan. Other than this case, I have learned about many others in Thailand who have staked a challenge at the new possibilities of this technology using existing equipment. "It is senseless to import an expensive press from Japan just to do the same thing they do in Japan. The low wages of Thailand are the incentive for doing business there, but that advantage is lost by importing the same machinery as in Japan. It no longer makes sense to produce something in Thailand at that point."

Next, I would like to introduce examples of two companies who made outsourcing work towards their acquisition of technology. Company A has an internal department for making molds, but because demand fluctuates greatly, they have not strengthened the department since it was formed. Instead, they took full advantage of outsourcing. When I asked what their outsourcing policy was, they replied that their "outsourcing policy is to train the contractor. By providing training, we remain flexible". The same with company B; they expanded their technology repertoire by using new suppliers.

As their outsourcing policies, both companies accumulate skills for training contractors and skills for managing parts and materials. They view outsourcing in a totally different way from outsourcing that portion of production that exceeds internal capacity.

Inversely, when one receives an outsourced job, it always happens that opinions don't see eye to eye with the customer, and it may seem like an insurmountable issue at first. Company A had this to say about that kind of situation. "You stick to the original and keep arguments with the contractor brief." In other words, when asked to give it a shot, they cannot just turn the offer down with the excuse "we can't". You first give it a try. You see what you can do and what you can't, and then keep arguments specific and brief based on that. Doing so, they say that a point of compromise will emerge.

To my third example, I want to give the name "a new challenge"

. The new challenge of company A was to thoroughly reduce unfinished products and materials inventories. These unfinished products inventory and materials inventory are much smaller than those of the parent plant in Japan. By the way, volume is small in Thailand and they must quickly adapt to multiple vehicle models, therefore they cannot adopt the same production system as in Japan.

To materialize what I just described, they had to introduce general-purpose robots in most processes including the production lines. What this means is that workers were making mistakes because of the stress they were under. Company A developed equipment not with the intention of reducing manpower but to cover the mistakes that workers made.

I'm going to throw you a few statements at you that I got from some companies. "In Japan, it is a big issue if the line goes down, but in Thailand, they believe it more important to enhance their troubleshooting ability." "Technologies are introduced on the floor everyday. Unless manuals are updated on the floor, you can't keep up." "In Japan, you cannot challenge what your superior teaches you. Challenging this taboo is a waste of time." "Thailand has the leeway to challenge taboo and stop the line."

So, let us think about why Thailand has been able to acquire technologies. One big reason is the understanding and support of the head office. Even if wanting to build up one's technological portfolio, it is difficult for local staff to do so on their own because of the lack of experience. Without sufficient understanding and support from the head office, technology does not grow. Company A has this to say: "Despite the fact that alternative technologies had already been established in Japan, the understanding and support of the head office were absolutely essential towards developing original methods in Thailand." If technology is already available in Japan, some may think that it would be a good idea to simply introduce it to Thailand, but instead of that, the big factors of success are when the head office shows their understanding of Thailand pursuing the possibilities of existing technologies and when engineers who resonate spend time in Japan (at the head office). Another big factor of success is the motivation of local managers. Company A claims that a "manager's job is to create an environment that tries to create new things." Also, a manager for company C said, "I myself thought of trying something new in Thailand, so I thought on not doing it by the book as they do in Japan." Without this kind of motivation from local managers, subordinates will not come up with any ideas.

The third reason



is swift problem-solving at the site. No matter what technologies have been acquired, they most likely came from how problems that occurred on the floor were dealt with. Motivating people to discover and solve problems on the spot and the efforts to make that attitude stick are the seeds of new technologies.

The fourth reason is the ability to identify problems by recognizing that something has gone wrong. Another big factor of success is getting employees in the habit of recognizing problems by training them in the basic knowledge and skills needed to solve problems.

What is meant by "Unique Technologies"?

Lastly, I want to summarize what "uniqueness" means and how one goes about acquiring technologies. I was greatly impressed by the words of one person on the production floor who said, "innovation comes only by adapting to problems." The manufacturing floors in Japan and Thailand are different, the processes are different and the conditions are different, which means that the real issues each faces are different. They pursue new possibilities from differing situations and restricted conditions. This leads us to "uniqueness".

Moreover, I think we can say that solutions to real problems can be found more quickly than solutions to general problems. Customer requests are one way to finding a direction to new technologies. By attempting to solve a real problem presented by a customer, you can discover what can be done and what cannot. By discerning what can be done, one discovers which way technological development must proceed.

Because the acquisition of technology comes from compliance to the original work, knowledge is not developed if problems are not

recognized, which implies that the development of unrecognized or unselected technologies comes to a standstill. In short, the direction of technological progress is determined by the real problems one is given. Looked at the other way, pursuing technology that gets away from that brings progress to a halt. Let me reiterate the importance of identifying problems and selecting the real problems from amongst them.

What would happen if business management thought in these terms? One of the big themes at the East Asian Industry and Economy Research Center is the "international division of labor". The international division of labor means how to deploy and coordinate different business resources and activities in places that face different sets of problems. The acquisition of technology in Thailand, China and Japan is not a question of who is advanced and who is behind; head offices would completely change the way they think about overseas management if they would consider it in terms of how the direction of development differs or how the direction of progress differs. Thailand has low wages, so some Japanese head offices have thought to capitalize on these low wages for production and, therefore, an R&D component was not necessary. I believe that position will slightly change.

Furthermore, human resource development on the side that receives the technology must be based on the direction of technological development. I do not find it effective to provide human resource development as it is done in Japan or train personnel for technologies as it is done in Japan, just because that is how it is done in Japan. It is complete nonsense to worry about what technology to transfer if we do not recognize what the biggest problems in the field are.

2004 Kobe Seminar

Date/Time: November 27, 2004/13:00 - 17:30
Place: No.11 Bldg., Conference Room, Kobe Gakuin University
518 Arise, Ikawadani-cho, Nishi-ku, Kobe

Report

1. "Status and Future Prospects of Japanese Electronics Manufacturers in Asia"
Masakazu *TOYODA*, Bureau Chief, Commerce and Information Policy Bureau, Ministry of Economy, Trade and Industry
2. "Asia Strategy of the Kyushu Business Community"
Yutaka *TAKIMOTO*, Assistant Bureau Chief, Editorial Division, Seibu Head Office, Asahi Shimbun Company
3. "Current Status and Issues of Japanese Companies in Thailand"
Takeshi *YOSHIMI*, Professor, Faculty of Economics, Kobe Gakuin University

* Details of the 2004 Kobe Seminar are planned for the next issue of ERC News Letter.

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