Japan's Economic Ties with China: A Focus on Industrial Investment and Technology Transfer Policies*

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This presentation analyzes the rapid growth of Japanese industrial investment in China over the past 25 years, and the ways it was shaped by Chinese industrial policy. It highlights the role of Japanese corporations in expanding ties with the PRC, and points out the ways they successfully expanded market share in key sectors. Significantly, the Japanese companies avoided major technology transfer in the early years of interaction. However, under Chinese government pressure, the Japanese moved to share more manufacturing knowledge by the beginning of the 21st century.

The presentation first chronicles the early years of Japanese investment following China's economic reforms of the early 1980s. It focuses on key sectors such as consumer electronics, information technologies, and automobiles. It indicates that in most of these areas Japanese companies had greater bargaining power than did the Chinese, and therefore succeeded in gaining market access while sharing little knowledge with potential competitors. By the mid-1990s, the strength of the PRC economy and Chinese political imperatives dictated Japanese companies would have to play a role transferring knowledge. Major companies such as Toyota, Toshiba, Honda, and others moved to build research and development centers, and train Chinese engineers and scientists. Japanese market share grew, but at the price of some key technology transfers.

The presentation, based on case study archival fieldwork and interviews done in both Japan and China, concludes that Japan has belatedly begun to follow the path of other nations that early on traded technology transfer for market access. However, Japanese corporate protectionism likely remains strong enough to safeguard the most vital knowledge while still expanding companies' roles in the PRC economy.

Introduction by Professor Yasuo Hoshino:

Ladies and gentlemen, thank you very much for joining this session of special lecture by Professor Harwit of University of Hawaii and Aichi University organized by Japanese Association of Administrative Science Chubu Chapter. Now, I would like to introduce Professor Eric Harwit. He received a Ph.D. and MA both from the University of California at Berkeley in 1992 and 1985 respectively.

Professor Harwit's recent work has focused on the politics on industrial development in China with his latest book "China's Telecommunications Revolution" (Oxford University Press, 2008). This book assesses the

political and social impact of China's data network, the spread of mobile and fixed line telecommunications in China. He teaches courses such as Comparative Asian Development, China's Economic Advance, Communications Technologies in the East Asian Region. With respect to Japan, he published an article "Japanese Investment in China" in *Asian Survey* in 1996. He now visits Aichi University for joint research of ICCS (International Center for Chinese Studies) for a half year till the end of March 2008.

Please start your talk.

Lecture by Professor Eric Harwit:

Thank you, Prof. Hoshino. I will speak in English today; I will try to speak slowly. My Japanese, as Prof. Hoshino said, is not so good, so I will talk to you in [English], and because we don't have translation today, then I will try to speak slowly.

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Recently, most of my research has been about the automobile industry and development in China. But I also just finished a new book about how communication is developing in China, which is called “China’s telecommunications revolution” and that is published by Oxford University Press and that just came out this month, actually. But today I am going to talk about Japan’s investment policies in China, and I will focus on two industries that I have been doing research on for the last two years – the automobile industry and also the electronics industry and actually for the last couple of weeks I’ve been visiting some companies in Tokyo, I went and visited Honda, and also Hitachi and Toshiba and then I went to Osaka and I visited the Sharp Corporation and so I’ve been looking what they’ve been doing in China recently and in the past few years.

We can see that since the last 20 years or so Japan is one of the leading foreign investors in China, that Japan started to do a bit later than other countries investing in China, but as of 2004 Japan was one of the largest foreign investors in China. If you exclude Hong Kong and Macao, which are part of China anyway, Japan was the second largest foreign investor in China after South Korea, and Japan has typically invested, has taken about 10%;10% of all the foreign investments in China has been carried by Japan. So I look at, in the paper that I am still working on, I haven’t finished writing it, but in this paper I am working on, I look at some of the trends of Japanese overseas investment, first in South-East Asia and then I look at the patterns in China. And I see that while Japan was slow at going into China at the beginning, Japan couldn’t resist the Chinese economy, China was growing very quickly by the early 1990s – the economy even today is still one of the fastest growing in the world – and so the Japanese companies couldn’t stay away.

The Chinese, however, were demanding that Japan give technology to China and many of the Japanese companies were afraid – they didn’t want to give too much technology because they were thinking that Chinese would become competitors in the future. But as I say in my paper that many Japanese companies then were forced to give at least some technology to the Chinese so that they could keep their factories running in China. The question is whether the Japanese are giving away too much technology; maybe the Chinese

would become competitors in the future against Japan.

So in the beginning of my paper I look at some of the trends of Japanese overseas investment of the last few decades, and we see that first, Japanese manufacturers in the 1970s went to South-East Asia. So countries like Thailand, Indonesia, and Malaysia – they were targets of Japanese overseas investment. The Japanese went to South-East Asia for many reasons. One of them was to use the low-wage labor in many of those countries. Also companies wanted to sell their products in some of the countries that were doing well like Malaysia and Thailand. And some of the companies also wanted to secure raw materials, energy and resources for their factories. We see that especially in the 1980s, as the Japanese yen started to become more powerful, companies had more incentives to move overseas. We see that then many of the Japanese companies in these countries were not very technology intensive, they were meant just to make the product in the country. Many of the parts were shipped from Japan to South-East Asia and just assembled in those countries using the low-wage labor. The Japanese were also very careful to protect their technology; they didn’t want to foster rival companies in South-East Asia.

In China, though, the Japanese companies were more careful and were rather slower of going into the country. In the early 1980s, for example, Japan didn’t see much legal protection for their companies. They wanted to make sure that if they went into the country, the Chinese wouldn’t just seize their companies without giving them compensation. They wanted protection for their intellectual property. They wanted to be able to repatriate their profits – if they made money they wanted to make sure they could get them out of the country. In 1979 China passed their first joint venture law; so that meant that Japanese could invest in China without worrying so much about the legal protection for the Japanese companies. Also the Japanese were worried about infrastructure in China. If there wasn’t a constant supply of electricity, then it would be difficult for Japanese to make their products in China. If the roads were not good then it would be difficult to transport raw materials to the factories or to move products away from the factories that were making things. They needed water, they needed workers who were trained. And so all these things then made the Japanese com-

panies less eager to go to China in the early 1980s. Also the Japanese were somewhat less trusting of the Chinese, some companies had a fear of communism and China was a factor to make them go more slowly. And of course still the legacy of World War II made some Japanese companies have a more difficult time to establish good relations with Chinese partners.

So we see that only a few Japanese companies went to China in the early 1980s. Hitachi, for example, was one of the first companies to set up a television factory in Fujian province. In 1981 they set up their first factory there with a relatively small investment, just about two and a half million US dollars. But most Japanese companies, especially the automobile companies stayed out of China. Toyota and Nissan, as we will see later, didn't really start establishing factories in China until the late 1990s or even later in the case of Nissan. So the Japanese companies that were going to China were rather small, they had projects typically of less than two million US dollars as compared to other countries that were more eager to go into China, like the United States. American companies typically in the 1980s had investments of more than 3 million dollars – had rendered large projects of American companies - Motorola, Chrysler, and other large American companies were more eager to go into China and manufacture their

products there.

Things started to change though in the mid-1980s and early 1990s when the Chinese economy started to grow rather quickly. So we see that in the late 1980s Chinese economic growth or GDP growth was maybe only about 5-6% a year, but around 1991 it increased to more than 10% a year. And so almost every year for the last 20 years or so, the Chinese economy has been growing more than 10% a year. So this then became irresistible for the Japanese companies, they really had to go into China if they were going to be part of this rapidly growing development in East Asia. So we can see on the two charts I have here, that in late 1980s and early 1990s Japanese investment in billions of dollars was rather small (black bar here) – was less than 1 billion dollars; although actually in terms of the total percentage of foreign investment in China it was rather high, so this line here shows the percentage of Japanese investment.

So I use this scale both for the total amount of US (billion) dollars invested and also the percentage of foreign direct investment by Japanese companies. So even though the Japanese investment as a total value was rather small, as a percentage it was actually about 15% - 15% of all foreign investment in China came from Japan. And so we can see here then that the Japanese

Japanese FDI Trends, 1990-2007

investment grew multi-fold over the 1990s and then it peaked actually here, 2 years ago, in 2005 at about 8 billion US dollars. And then in the last couple of years the Japanese investment has been falling. This is mainly because many of the largest Japanese projects had already been invested, so for example, in these years here, we saw the capital intensive companies, like Toyota, Nissan, Honda build new factories and also Toshiba, Sharp, Hitachi, Matsushita also investing. But then in the last couple of years many of these projects have already been started manufacturing, so new investment had fallen. But you can see here that basically the Japanese investment has been rather constant in terms of percentage of investment in China, so Japanese investment has typically taken about 10% of all foreign investment in China. You can see in general terms here that in 1990 there was only about 4 billion US dollars invested in China, but the last few years China has been one of the largest magnets, the largest site for foreign investment in the world. So more than 60 billion dollars a year has been going into China and Japan takes typically about 10 % of that foreign investment.

As I said, the Japanese companies in the 1980s and early 1990s couldn't resist this rapidly growing Chinese

economy. They saw that the Chinese education level was starting to improve so that they could find workers who could enter their factories and manufacture their products with good quality. They saw the Chinese building more roads, China had more power facilities - all these things then made it more welcome for Japanese companies to invest in the country. This next slide shows the total number, (I am sorry I made this up to 2004) the total number of new investment cases in China from Japan. So here in 1999 (there were) only about 80 new cases of foreign investment, but as of few years ago you had every year about 400 new cases of Japanese foreign direct investment in China. Especially in the last decade we see many more Japanese companies going into the People's Republic.

We see also another trend; another reason why many more Japanese companies felt comfortable to go into China, and it was that the Chinese political system was becoming more and more welcome for Japanese companies. The Chinese learned to be with foreign companies, they made it easier for companies to work with city officials, with central government officials. And so Japanese company officials then felt it was easier to work with the Chinese government. Again, the Japanese yen continued to be strong into the 1990s.

Annual Number of New Cases of Japanese FDI to China, 1999-2004

Source: Japanese Ministry of Finance Statistics

The Chinese currency on the other hand - up until recently - has been tied to the US dollar. So as the Chinese yuan and the US dollar became weaker, the Japanese yen became stronger and this made it even more attractive for Japanese companies to go into China. We see then, as I said before, that in the 1980s and 1990s we saw many small Japanese investments in China, but by the middle of this decade the average size of Japanese investment projects was about 15 million US dollars; so I said in the early 1990s it was only about 2 million dollars and today - until a few years ago, probably still today - it is about 15 million dollars, so rather large projects now are being invested in China.

In fact, today about half of all of the investment Japan makes in Asia goes to China, so the rest of it is scattered around the other South East Asian countries. Japan really is putting most of their foreign investment in Asia just into China, really counting on China to be an important factor. Before I look at my two specific industries - electronics and automobiles - I want to say that all of this has been happening and I will just go back to the earlier slides, all of this rapid investment of Japanese companies in China has been happening at the same time that political relations between China and Japan have been having at least in some years some serious problems. I remember for example in 2004, Chinese students were protesting against Japan about the visits to Yasukuni shrine by Japanese prime ministers and about historical problems. And even with all of those difficulties at the political level between China and Japan, you can see that investment is still carried on. So the companies both on Chinese and Japanese sides have ignored these historical problems. The Japanese companies, and the ones I had talked to, also they say of course we have political problems, but the Chinese are still buying our products. They are buying Toshiba [digital] recorders, they buy Toyota cars, and they buy products from Matsushita, and from Sharp, and Sharp television sets are selling rather well in China these days. Even with the political, cultural and historical problems between Japan and China, at the business level we still see that the relations are quite good, at least in terms of FDI and sales of Japanese products.

So turning then just briefly to my two cases on electronics and automobiles, we see that initially the Japanese electronics companies were eager to go to China

in order to cut some of their production costs. In Japan electronics companies are very competitive - Hitachi, Matsushita, Sharp, Toshiba, Canon - all of those companies are competing with each other, trying to lower costs, trying to make products that will appeal to consumers. And so out of the drive for lowering costs and expanding their markets they carried some of their investment into China. And as I said Hitachi was one of the first companies to go to China in the 1980s, but very soon we saw other companies like Matsushita, Sony - all of these companies started to make factories in China in the 1990s. Now in recent years, as the Chinese economy grew stronger, they started to put some conditions on Japanese companies going to China. And they said we want you to do research and development (R&D) in our country. We don't want you to just come and make factories and sell products here, but we want Chinese engineers and Chinese skilled workers to learn about the technology and about your management skills how to make products by their own workers. And so we see that companies like Matsushita, Sony, and Sharp and other ones were more or less forced to set up research and development facilities in the country.

And so it seems that in some ways Japan are setting themselves maybe in 10 years or 20 years to Chinese competition; the Chinese can learn in these R&D centres how to make the Japanese TV sets, copy machines, tape recorders, maybe learn about semiconductor manufacturing, computers, all of these kinds of things that Japan now has strength in, but China can learn and start to become competitive. In the last couple of weeks as I said I visited some of these Japanese electronics companies and I asked them about that. I asked "are you worried about Chinese competition". Most of the companies said yes, we did have to set up R&D facilities in China and it is true that maybe 10 to 20 years from now the Chinese could compete against us, even against Toshiba and Hitachi. But they said that first of all they try to keep their best technology in Japan. Sharp said for example that they make their LCD screens, the best ones they make - their 10th generation of television screens - here in Japan, but in China they are only making their 5th or 6th generation. So they are keeping their best technology here in Japan, they are not training the Chinese how to make those

[latest generation] products. And also they said that the trend now is to have 100% ownership by Japanese companies.

Back in the 1980s and 1990s the Chinese encouraged joint ventures; for many factories the foreign side could only have 50% ownership, so for example Sharp made TV sets in Nanjing in China and they only had 50% ownership. After China joined the WTO in 2001, then it became easier for foreign companies to take 100% ownership of the companies. In the case of Sharp, Sharp bought all of the company from their Chinese partner, so now Sharp can make their most advanced TV sets, or almost the most advanced, with 100% ownership and in that way they can protect their technology better. Other companies from other countries have done this too. For example, Alcatel from France makes telecommunications equipment in China and they bought 100% ownership of their factory also 3 or 4 years ago. Siemens from Germany also started to buy back their shares from their joint venture partner. In the electronics industry we see this trend that the foreign companies want to protect their technology and they are doing so by buying complete control of the company. Still, having said that, some of the companies I have talked to said, well we know that China is developing, we know that eventually they are going to become competitive, but they said we want to sell products, we want to make money, and China is growing very quickly now, and so we can't stay away, we can't avoid it, we have to give them some technology, otherwise we will lose the market to American companies or to German companies. So Toshiba for example, they had one special R&D facility they set up a few years ago but they said within all their factories in China there is separate R&D, so everywhere that Japanese companies have set up the Chinese have a chance to learn from the Japanese investors.

That's the trend in the electronics industry. For the automobile industry we see a slightly different trend. Here the Japanese companies, as I said before, were really rather slow to go into China. So in the 1980s the major companies there were Volkswagen (VW) from Germany and also to a lesser extent Chrysler from the US and Peugeot from France were some of the first car companies to manufacture automobiles in China in the 1980s. Some of these companies did rather well but

VW was the biggest winner in the 1980s and 1990s – they had about 60% of the market for cars in China up until very recently, but other companies didn't do so well. Peugeot was never really able to sell a lot of cars in China even though they had a factory in Guangdong in Southern China. Chrysler also didn't do very well; they were selling mostly jeeps which didn't find a very good market in China. Why didn't the Japanese companies go to China in those years? I remember the first time I went to visit a Toyota factory in, well very close to here, the company headquarters, in 1994, and I asked Toyota why aren't you in China now, why didn't you go to China at the same time that VW went there. The people from Toyota said, well, we did go to China to look in the early 1990s or late 1980s, and they said we weren't impressed [at that time] with the ability of the Chinese to make good quality cars.

But by the late 1990s, the mid and late 1990s, the Chinese economy had started to grow rather quickly and people had money to buy automobiles and also the capability of the Chinese to make cars had started to improve. VW had already been in China for more than 10 years, Chinese had developed parts companies to make at least many of the main parts for cars – tires, glass, engine components and so on. Then the Japanese started to become more interested in the Chinese market. Also they saw that the Chinese consumers had money – they would be able to buy their private cars for themselves. And so we see that Honda was actually the first major Japanese company to go into China in the late 1990s. In 1995 Peugeot had actually pulled out of China; Peugeot did so badly that they just left their factory [by ending the joint venture], and Honda was able to take it over, so Honda moved to Guangdong in 1998, again with a joint venture company of only 50% Honda ownership. That, by the way, is one way China is still protecting their automobile market. Automobile joint ventures can only have 50% foreign ownership. Unlike electronics industry where foreign companies can have 100% ownership, in automobiles the foreign owners can only have 50% foreign ownership. And this is true for all car companies – Toyota, VW can only have a half of the joint venture. So Honda went in to sell in China, to make their very popular Accord model cars in the year 2000, then Toyota also joined the manufacturing process in China. Both of these companies

invested more than 100 million US dollars in their first factories in China. So Honda was in Guangdong, Toyota set their first factory in Tianjin in Northern China. Toyota also had to set up a R&D facility in order to help to train Chinese engineers and workers. Again the Chinese had insisted on foreign companies going into China to do this. So General Motors, which has now the [joint venture with the] largest market share of cars in China, had to set up a R&D facility in Shanghai in 1997. So we see that all companies that have gone there also now have to contribute to Chinese R&D in the country.

We see also that the Chinese were trying to force the foreign car companies to make the parts in China as well. So they didn't want Toyota to just make all the parts in Japan and then send them to China to put them together. So Toyota then invited many of its part companies to go also into China. So Denso, Koito and many of the parts companies had gone into China and set up factories there. So today in China officially maybe 70 or 80% of the parts that are put into Toyota cars in China are made in China. At least they say that in China. But I asked a Toyota official just a few years ago, on the second time I went to visit the company here in Japan, I said is it really 70 or 80% of Chinese parts in their cars and they said "well, not really, actually the parts companies export their parts to China and then they assemble the Japanese parts in China and then they give them to us". And so actually many of the parts were really imported from Japan. And then just put together in China and then given to us. We call them Chinese parts but actually they are made in Japan. So really still many of the parts made for Japanese cars in China are exported from Japan. In that way Japan can guarantee the quality and the Chinese are very eager now to buy Japanese cars, and Toyota now [is among the leaders in] market share of the Chinese automobile market. General Motors's [factory in Shanghai], as I said before, has passed VW to have [the joint venture] with the largest market share in China.

But in China, about 8 years ago, the total car market in China was only about 2 million vehicles in the year 2000, but last year (2007) China sold 8 million cars and trucks, so China passed Japan as the second largest vehicle market in the world, and Toyota's goal is to have about 10% of that market, so Toyota wants to have maybe a million cars a year in China, so that is

really quite a significant portion of the Toyota's annual sales. Honda is [about even with] Toyota, maybe they have the fifth or sixth largest percentage of vehicles made in China and sold in China. Honda is also making quite a bit of money in China. And Nissan is a little bit further behind. Nissan was rather late to go into China [but] their production is [still a few] hundred thousand vehicles a year. Nissan maybe was a little bit late to go into the country. But still the car companies that felt this pressure to go into China, even though they had to set up R&D facilities, they have been able to get a big market share and make money there, and generally to protect their technology as well.

We do see though, from some of the other car companies, a leakage of technology. So for example China has created their own car company called the Chery Company, and some engineers from VW joint ventures moved to Chery and suspiciously some of the Chinese cars look a lot like VW cars or American cars, or even some cars are looking like Honda cars. So the car companies have to worry about the Chinese stealing their designs and their technology. And so, I want to go to the time if you have some questions and to conclude, we see that Japanese foreign companies were generally a bit slower than other companies to go into China; especially the automobile makers didn't go there until at least a decade after the other companies could do. The Japanese companies, however, have been forced in some cases to set up R&D facilities, some of which I think may become dangerous for Japan in the future. Especially if the Chinese learn too much technology from the Japanese companies then it could be that perhaps 20 years from now the Chinese will be so capable of making semiconductors, other consumer electronics products and automobiles that the Japanese companies themselves would have to worry about the competition from Chinese companies.

Those are the main points from my talk. And I hope to have time if you have some questions. I can speak a little Japanese. If you have questions in English or Chinese, that's fine.

Q and A

Prof. Hoshino: Why did you draw this line here?

Prof. Harwit: Oh, yes. It is mainly because I have too

few of the companies after; that's because they had already done most of their major investment until 2005 and 2006 and 2007. For example, Toyota, Honda and Nissan they invested a lot of money in these years to build up their factories; but recently they haven't been building [many] new factories. And the same is true for Hitachi and Toshiba - the very large projects had already been established. That's why the number of new factories is started... Maybe the total number is about the same but the amount per project is small. So the big companies are already there and they are not putting more money in.

Question 2 (in Japanese): It is about whether the pressure (for setting R&D centres and not having full foreign ownership level) is coming from the government.

Prof. Harwit: I think pressure is mostly from the government. They are the ones, for example for the automobile industry, they have to approve whether the companies go in or not. So they could state to Toshiba or GM that if you want to establish a factory here you have to give us R&D. Or for the local content, for the Chinese parts, they have laws and rules that say that if you don't have a certain percentage of Chinese parts then the tax of the imported parts will be higher. So they can use the pressure of allowing companies in and also the import terms they can use to pressure companies to do more R&D and also to make more local parts in the country.

If you can translate the second part of the question – “why after entering the WTO it continued?” – Well, for automobiles there were special protection, so the Chinese were so allowed for import tariffs and also, as I said there is a limit of 50% foreign ownership, and also the government is still allowed to approve whether those companies can go in. So even after WTO, China as a developing country is given some special conditions for automobiles. But actually recently, a few weeks ago, Japan and America and Europe challenged China on [auto parts] tariffs to the WTO, and the WTO said no, you can't [in effect] force the foreign companies to increase their local content [by taxing parts imports at complete vehicle rates]. It's still a bit complicated but with the WTO foreign companies are trying to use that to put some pressure on China, so that they don't have

to transfer so much technology into China. So you are right, the WTO is making things a little bit easier. And then the last, the third question: “how independent is management of those large Chinese automobile companies, (which become joint venture partners of foreign companies), from the government?”

In China they have an expression, which means “state-owned but privately managed”, and those kind of companies are basically in that category – the government owns them but the management is pretty much independent and more or less like a private company. So that's a very good question, and actually the Chinese joint venture partners, like you said Shanghai Automotive Company, they are trying to develop their own cars now and they've bought the brands even from some foreign companies like Rover from Britain and others. So those Chinese car partners are trying to buy brand names and technology from other companies and they can be competitive then in the next few years against other global automobile makers.

My e-mail address and name card are here if you have any questions. And I should be done with my paper probably in several months, so it will be in better shape to share with you if you are interested. Thank you very much for listening today, I appreciate your time.