

# Japanese Enterprises Since the Earthquake & Overseas Expansion of the Non-Manufacturing Sector

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## Introduction

In the wake of the Great East Japan Earthquake in March 2011, Japan's balance of payments changed dramatically. As indicated in *Table 1*, the negative trade balance continued and expanded in 2012. Before the earthquake, Japan's trade balance had been positive, but the earthquake marked a shift from positive to negative for reasons including higher fuel imports due to the nuclear power plant shutdown and a slump in exports caused by the rising yen.

At this point it is too early to know whether this enormous post-earthquake change in the balance of payments is only temporary or will be longer lasting. We must watch carefully to see how the weakening of the yen that began around the establishment of the second Abe administration will impact the balance of trade.

## Corporate Overseas Expansion & Balance on Income

At the same time, there are also structural trends in the Japanese economy that remain unchanged from before the earthquake. These include the low rate of economic growth, the worst fiscal deficits among developed nations, the shift from manufacturing to services, and corporate overseas expansion. Among these, the progress of corporate overseas expansion is important for the balance of payments. In the balance of payments shown in *Table 1*, income from abroad has increased, if only slightly, by 2%. This income from abroad primarily indicates profits from overseas investments. In other words, corporate overseas investments can be thought to have resulted in an increase in income from abroad. Japan's balance of payments, with its trade balance deficit and income surplus, reflects a shift in corporate strategy from earning profits on exports from Japan to earning profits through

overseas investment.

In rebuilding Japan's economy in the wake of the earthquake, rather than being buffeted by temporary phenomena such as exchange rate fluctuations, we must consider how to understand these sorts of structural issues.

In this paper I discuss the Japanese economy two years after the earthquake, focusing on corporate overseas expansion in general and non-manufacturing enterprises in particular.

## Rapid Post-Earthquake Recovery

The earthquake took a great many lives, particularly along coastal areas in the Tohoku region. Reconstruction has been delayed in these areas as well as in the vicinity of the Fukushima Dai-ichi nuclear power plant. In the interior, however, the manufacturing industry has recovered rapidly. Indeed, the industrial production index has climbed back to its pre-earthquake level. This rapid industrial recovery was achieved in the context of energetic repair efforts by individual corporations.

After the earthquake, plant sites in the affected areas recovered with tremendous speed. Together with Ryuhei Wakasugi, professor emeritus at Kyoto University, I conducted an analysis of valuable data collected through a questionnaire survey by the Research Institute of Economy, Trade, and Industry (RIETI) of 2,100 plant sites in Aomori, Iwate, Miyagi, Fukushima, Ibaraki, and Tochigi prefectures that had sustained earthquake damage (Wakasugi and Takaka, *Shinsai kara no fukkyū kikan no kettei yōin: tōhoku seizōgyō no jissō bunseki* [Determinants of the Reconstruction Period from the Great East Japan Earthquake: Evidence from manufacturing firms in Tohoku], RIETI-DP, No. 13-J-002, 2013).

*Chart 1* indicates the number of days after the earthquake that it took before damaged plant sites were able to resume operations, showing the cumulative distribution for the number of days required by degree of plant damage (totally destroyed, half-destroyed, and partly damaged). As the figure illustrates, more than 90% of partly damaged plant sites, more than 80% of half-destroyed plants, and 35% of totally destroyed plants resumed operations within a month of the earthquake. This is astonishingly quick. Plant sites that were totally destroyed were slower to resume operations, yet more than 50% resumed operations within two months and more than 70% within four.

Public funding may have sped the recovery of affected enterprises. Indeed, many forms of public aid were extended to enterprises in the affected regions. The Ministry of Economy, Trade, and Industry (METI), for example, provided group subsidies through the Restoration and Maintenance Subsidy Project for Facilities of Small and Medium Enterprise Groups. This program asked affected enterprises to form groups and draw up reconstruction plans, and then provided each group

TABLE 1

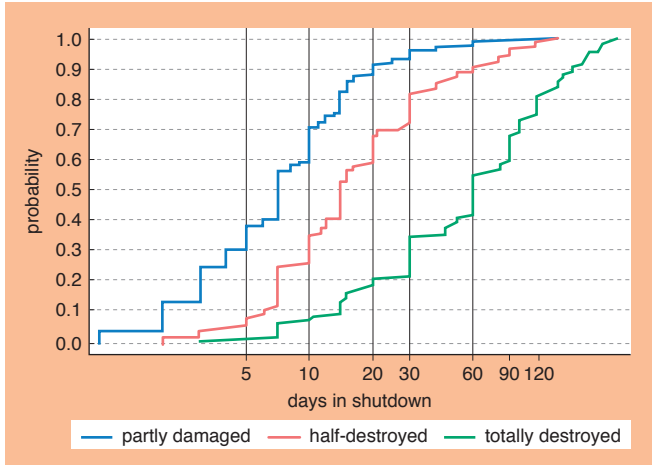
## Japan's balance of payments (100 million yen)

	2011	2012	growth rate
Current account	95,507	48,237	-49%
Trade balance	-16,165	-58,141	260%
Exports	627,248	614,421	-2%
Imports	643,412	672,562	5%
Services	-17,616	-24,900	41%
Income	140,384	142,723	2%
Current transfers	-11,096	-11,445	3%

Source: Japanese Ministry of Finance

CHART 1

### Cumulative distribution of number of days required to resume operations after earthquake



Source: Wakasugi and Tanaka (2013)

with financial subsidies. Through seven rounds of public applications, the program has already determined the distribution of 407.2 billion yen (including 271.4 billion yen in national funds) to 521 groups (in Hokkaido, Aomori, Iwate, Miyagi, Fukushima, Ibaraki, Tochigi, and Chiba prefectures).

These enormous subsidies may have hastened the recovery of affected enterprises. Tohoku Electronic Industrial Co., Ltd. (Sendai), for example, utilized the group subsidy to rebuild its headquarters, which had collapsed as a result of the earthquake. The company is an outstanding smaller enterprise, with an 80% global share of devices for detecting faint light. Similarly, KEDC Co., Ltd., a smaller enterprise specializing in the treatment and processing of surfaces, formed a group with some of its trading partners (including Tokyo Electron) shortly after the earthquake and received a group subsidy that it used to restore its facilities.

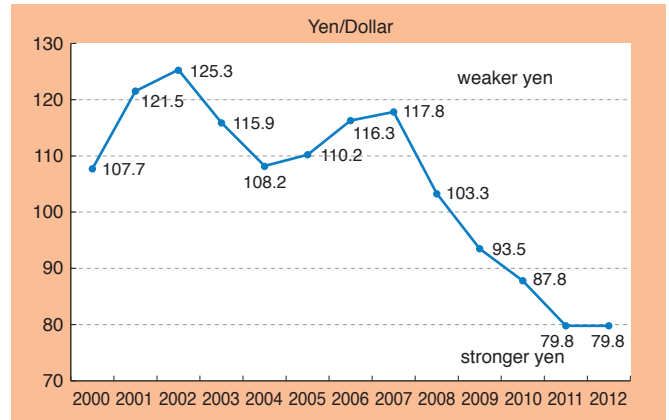
There are, however, a number of issues related to such public support. The first is whether the recipients of the subsidies were appropriate or not. It has been noted that the challenge of putting together the necessary paperwork meant that the only enterprises capable of applying were powerful ones that could likely have undertaken repairs even without subsidies. The second is the concern that massive subsidies interfered with the natural weeding out of enterprises through market forces. The third is that although there should be some means of evaluating the policy (cost-benefit analysis), no system is in place to conduct such follow-up assessments.

### From Stronger Yen to Weaker Yen

The yen has grown steadily stronger over the last five years. *Chart 2* indicates fluctuations in the nominal yen-dollar exchange rate since 2000. The exchange rate was about 117 yen to the dollar in 2007, and the yen then grew stronger every year: 103 yen in 2008, 93 in 2009, 87 in 2010, and 79 in 2011. A comparison of 2007 to 2011 shows an increase in value by more than 30 yen. Combined with the sudden drop in exports that resulted from the financial crisis triggered by the

CHART 2

### Nominal yen-dollar exchange rate (2000–2012)



Source: Produced by author based on data from Bank of Japan

September 2008 collapse of Lehman Brothers, there has been much reporting over the last five years about the struggles of Japan's export industries.

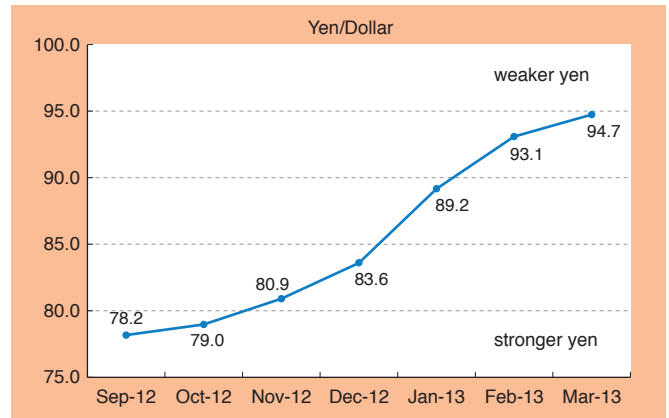
This five-year trend of a strengthening yen is now coming to an end. *Chart 3* indicates monthly fluctuations in the nominal yen-dollar exchange rate since fall 2012. It shows the exchange rate moving in the direction of a weaker yen from October 2012. The exchange rate was about 78 yen in September 2012, with the yen then weakening to 83 yen by December 2012 and 94 yen by March 2013. In the space of just over six months, the yen declined in value by about 20 yen.

### Was the Yen Really Strong?

The yen steadily gained in value beginning in 2007 and then finally began declining in the fall of 2013. How should we interpret this change in the nominal exchange rate? When the yen was strong, we were told that it would make exporting difficult, that it would lead companies to shift production overseas and reduce domestic employment. To address this "hollowing out" of industry, the government provided enterprises with subsidies for domestic production sites.

CHART 3

### Nominal yen-dollar exchange rate (Sept. 2012–March 2013)



Source: Produced by author based on data from Bank of Japan

Like many economists, I felt that we should not worry too much about a strong yen as reflected in the nominal exchange rate (NER). Economists believe we should focus instead on the real effective exchange rate (REER).

There are two problems with the NER. First, as with the yen/dollar exchange rate, the NER looks at the yen only with respect to a single foreign currency. In fact, however, Japanese enterprises do a growing share of their business with countries other than the United States, and settle trades in currencies other than the dollar. Looking only at the yen/dollar NER does not reveal the whole picture.

Secondly, the NER does not account for changes in price levels. Even if the NER shows a strong yen, in a situation where prices are falling only in Japan, Japanese enterprises can produce goods more cheaply than other countries and export them at lower prices. Nevertheless, such differences in price level are not accounted for in the NER.

The REER is an exchange rate that addresses these two problems, taking into account both the relationship of the yen to multiple currencies as well as differences in price levels. A strong yen under the REER, therefore, can indeed be said to cause price competitiveness difficulties for Japanese enterprises relative to their foreign counterparts.

*Chart 4* indicates fluctuations in the REER since 2000. The REER is an index calculated against a base year (here, 2010) set at 100. Higher values mean a stronger yen. As *Chart 4* shows, the 2000 exchange rate of 125 yen declined to 85 in 2007. It then rose to about 90 in 2008 and remained at roughly 100 beginning from 2009. In other words, the weakening of the yen that continued from 2000 to 2007 shifted to a strengthening of the yen from 2008 to 2012, but remained weaker than its 2000 level. To summarize, then, this figure illustrates first that even when looked at in terms of the REER, the yen after 2008 was indeed growing stronger. Secondly, however, it shows that the level of the yen after 2008 was lower than in 2000 when looked at in terms of the REER; the yen was actually not all that strong.

In this way, a strong yen relative to the dollar under the NER is not necessarily the same thing as a strong yen under the REER. The context here is the growing diversity of Japan's trading partners and Japan's continually falling prices (deflation). There is no need for us to be overly sensitive to fluctuations in the NER.

Furthermore, Japanese enterprises employ business strategies that, by expanding overseas investment, largely insulate them from the effects of exchange rate fluctuations. In manufacturing, many Japanese enterprises have adopted the strategy of setting up production centers in lower-wage Asian countries such as China and Thailand from which to export products to Japan, the US, and Europe. This strategy diminishes the impact of exchange rate fluctuations of the yen against the dollar.

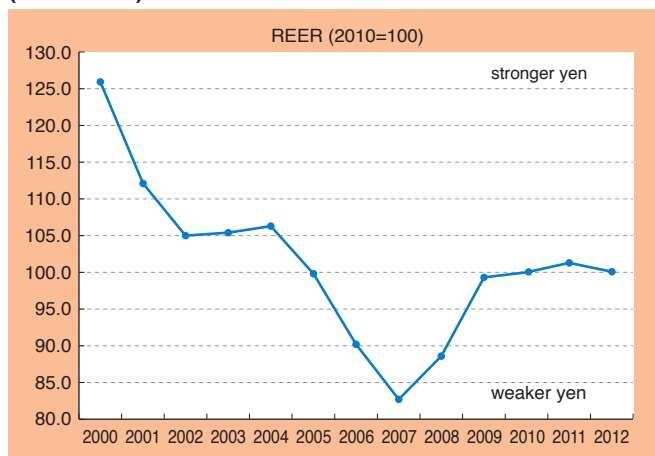
### Why Should Non-Manufacturing Industries Expand Overseas?

The impact of exchange rate fluctuations is lower for non-manufacturing industries, which make up 70% of the Japanese economy, than for manufacturing industries. Is there, then, no need for corporations in non-manufacturing industries to expand overseas?

I believe non-manufacturing corporations should also move forward in expanding overseas. This is first because, given Japan's shrinking population, the domestic market is expected to contract. Japan's population currently stands at approximately 120 million but is expected

CHART 4

### Real effective exchange rate (2000–2012)



Source: Produced by author based on data from Bank of Japan

to decline in the coming years. Meanwhile, China's population is now 1.3 billion while India's is 1.2 billion and the US population just over 300 million. Choosing not to make inroads into overseas markets means losing an enormous business opportunity.

Secondly, moving into overseas markets also enables enterprises to enjoy economies of scale, making it possible to fund research and development using earnings from both domestic and overseas markets. This increases their incentive to adopt superior technology and has the potential to increase productivity. Indeed, non-manufacturing multinational enterprises like Amazon and Starbucks Coffee that are active worldwide do appear to have superior technological strengths.

Thirdly, overseas inroads made by Japanese non-manufacturing corporations also have the potential to facilitate overseas inroads by Japanese manufacturers. Overseas inroads by Japanese retail or wholesale companies, for example, are likely to facilitate the provision to overseas markets of products made by Japanese manufacturers. Similarly, overseas inroads by Japanese transport companies are likely to facilitate speedier transport of such products in overseas markets. In this way, there is a complementary relationship between the overseas advances made by Japanese manufacturing and non-manufacturing enterprises.

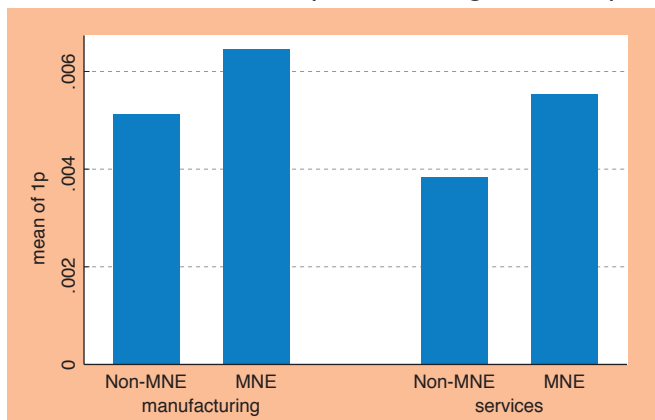
### What Kind of Corporations Succeed in Making Inroads Overseas?

The overseas expansion of Japanese corporations is both necessary and unavoidable. Further advances are needed in non-manufacturing as well as manufacturing industries. In fact, however, only a tiny minority of enterprises are successful in making inroads overseas. My research using large-scale data from METI suggests that in the manufacturing sector 27.7% of 13,624 enterprises have overseas subsidiaries, while in the non-manufacturing sector (wholesale, retail, services, etc.) the same can be said of only 10.5% of 15,680 enterprises (Tanaka, "Multinationals in the Services and Manufacturing Sectors", RIETI-DP, No. 11-E-059, 2011).

What factors, then, distinguish those non-manufacturing enterprises that have been successful in making inroads overseas? Based on my

CHART 5

## Comparison of productivity between MNE & Non-MNE (manufacturing & services)



Source: Tanaka (2011)

research, the first is that they tend to have higher productivity than other enterprises. *Chart 5* provides a comparison, for both manufacturing and non-manufacturing (services) sectors, of the average productivity of multinational enterprises with overseas subsidiaries (MNE) and non-multinational enterprises without overseas subsidiaries (Non-MNE). As the figure illustrates, for both manufacturing and non-manufacturing industries, MNE have a higher average productivity than Non-MNE.

My research also shows that MNE engage in more intensive research and development. This suggests that success overseas is not possible without a high level of technological strength. This also reinforces the third factor, which is the high concentration of intangible assets in MNE. Enterprises with a great deal of intellectual property are successful in advancing overseas.

### Does Overseas Direct Investment Reduce Domestic Employment?

In Japan, there are strongly rooted concerns that corporate overseas expansion will have a negative impact on the domestic economy. As noted above, however, Japanese enterprises must make inroads overseas. If they do not, they will lose out in competition with enterprises from countries such as the US, China, and South Korea. For Japan's international balance of payments, the structure is now in place to secure surpluses not from balance of trade but from income. Nevertheless, the media frequently mention "hollowing out" — a term emphasizing the negative effect of corporate overseas expansion.

But will corporate overseas expansion really have a negative effect on the Japanese economy? Using a large-scale data set on Japanese enterprises drawn from *Kigyō katsudō kihon chōsa* (Basic Survey of Business and Activities, METI, 2001–2008), I examined the effect of FDI (Tanaka, "The Effects of FDI on Domestic Employment and Workforce Composition", RIETI-DP, No. 12-E-069, 2012). Using a strict econometric method called propensity score matching (PSM), I compared enterprises that initiated FDI with those that did not. *Table 2* summarizes the findings.

As summarized in the table, there were three findings. First, the study found that overseas expansion increased the employment growth rate for the manufacturing, wholesale, and services sectors. In the

TABLE 2

## Average effect 3 years after initiating FDI

	Employment	Sales	Exports
Manufacturing	12.6%	8%	122%
Wholesale	9.5%	No	119%
Services	9.5%	18%	No

Source: Tanaka (2012)

manufacturing sector, overseas expansion (initiating FDI) boosted the employment growth rate by roughly 12%, and by about 9% in the wholesale and services sectors.

Secondly, in the manufacturing and wholesale sectors overseas expansion was accompanied by a rapid increase in exports. The effect of FDI on export growth was as much as 120%. Thirdly, sales also increased in the manufacturing and services sectors. This increase in exports and sales is understood to have stimulated domestic employment.

The results of my research are contrary to the concern, expressed in the "hollowing out" argument, that FDI will cause a decline in domestic employment. Rather, my research shows FDI to have a positive effect on domestic employment, sales, and exports. These findings are consistent with those from previous studies conducted in other countries. Numerous studies both in Japan and overseas have investigated the impact on domestic employment of corporate overseas expansion, and have made clear that there is basically very little effect in reducing domestic employment.

Such findings mean that the relationship between domestic activities and the activities of overseas subsidiaries is not an either/or relationship but a complementary one. In other words, the research findings to date suggest that we must not stand in the way of an enterprise's desire to make inroads overseas.

Furthermore, we have also learned that even for domestic enterprises without overseas subsidiaries, stimulation of overseas activities by buyers also has a positive effect. Research that I conducted together with Keiko Ito, professor at Senshu University, using data on enterprise trading relationships from METI has shown that when trading partners increase employment at their overseas subsidiaries it has a positive effect on employment at domestic enterprises without overseas subsidiaries. In other words, the data does not support concerns that overseas expansion by trading partners has a negative effect on domestic enterprises.

### Conclusion

With respect to Japan's international balance of payments, since the earthquake there has been progress in shifting from securing surpluses not through balance of trade but through income. In this context, even greater overseas expansion by the non-manufacturing sector is needed.

[This article was originally written in Japanese and translated into English by JS.]

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