Internationalization of the Yuan: the Case of Japanese Overseas Subsidiaries in Asia

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Introduction

The use of the Chinese yuan is said to have been increasing in recent years for trade invoicing, reflecting the rapid growth and development of the Chinese economy. The internationalization of the yuan can be defined as the greater use of the currency in international transactions including cross-border trade and financial/capital transactions. Various policy reforms to increase such cross-border transactions have been implemented by the Chinese government. Yuan-related deposits, bonds, and derivatives in offshore markets have also been expanding. Since China plays an important role as a regional and global manufacturing hub and Japanese overseas subsidiaries actively operate in China, it is necessary to investigate to what extent Japanese overseas firms use yuan in their trade transactions.

In response to the rapid movements in the yuan's internationalization, this article makes the following three arguments. First, the Chinese government has been pursuing a unique approach to the internationalization of its currency, learning from Japan's failure to internationalize the yen in the 1980s. Second, although the yuan is extensively used for local sales and procurement in China, Japanese overseas subsidiaries in China mainly use the US dollar and, to a lesser extent, the yen in trade with other countries. Japanese overseas subsidiaries in Asian countries also are still reluctant to use the offshore yuan for their cross-border trade settlements. Third, Japanese multinational corporations (MNCs) in China have increased the use of the yuan in intra-firm trade with Japan. Yuan transactions will continue to grow if it becomes easier for them to use the currency in intra-firm trade by further removing capital controls and restrictions.

Internationalization of the Yuan

According to Barry Eichengreen and Masahiro Kawai ("Issues for Renminbi Internationalization: An Overview", ADBI Working Paper Series No. 454, 2014), the internationalization of the yuan started in trade-related transactions. Since 2009, China has started to sign bilateral currency swap agreements with various countries to provide yuan liquidity for trade and direct investment. At the end of May 2015, China signed bilateral yuan-denominated swap arrangements with 32 foreign central banks, which enabled Japanese MNCs in both China and its partner countries to settle cross-border trade and direct investment in the yuan. In July 2009, Beijing launched a pilot scheme that allowed the use of the yuan in trade settlements with ASEAN countries, Hong Kong, Macau, and five mainland Chinese cities. Since then, authorization for yuan-denominated trade has been extended nationwide. At the same time, China has also promoted direct yuan trading with non-US dollar currencies, which eliminated the need for foreign counterparts to conduct indirect transactions by buying and selling dollars. Direct yuan trading started with Malaysia (August 2010), the Russian Federation (November 2010), Japan (June 2012) and Australia (April 2013). In June 2014, the Common Electronic Fund Transfer Switch (CEFTS) announced to the launch of direct trading between the yuan and the British pound. As of the end of July 2016, 13 foreign currencies can be directly traded with the yuan in China's inter-bank foreign exchange market.

In addition to the above policies, an offshore market plays an important role in expanding yuan transactions. As the currency is still not yet fully convertible due to capital controls and regulations, the Chinese government has promoted the offshore market where the yuan can be used outside the mainland. Offshore yuan markets are developing rapidly around the world, with official clearing banks established in 20 countries across Asia, Europe, the Middle East, and North and South America, as of July 2016. Recently, the offshore yuan is actively used for cross-border trade, finance and direct investment.

In line with continuous efforts to internationalize the yuan, its role has expanded in global foreign exchange trading. According to a Bank of International Settlements survey, the yuan was the ninth most actively traded currency in 2013, with a share of 2.2% in global foreign exchange volumes. Compared with other Asian currencies, its turnover has soared especially since China moved to a managed float regime in July 2005. The yuan's daily average trading turnover was the smallest among seven Asian currencies in 2004, but had become $44 billion in 2013 — the largest among the currencies *(Chart 1)*.

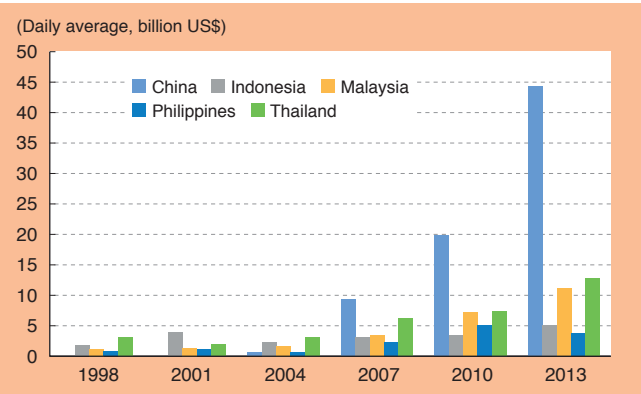
According to the Society of Worldwide Interbank Financial Telecommunication (SWIFT) data, the yuan was ranked in 10th position with a share of 0.87% in June 2013, while it had a share of 1.72% in global payments by value in June 2016. For Asia-Pacific intra-regional payments with China and Hong Kong, the yuan is second only to the yen. For cross-border payments done with China and Hong Kong, the yuan is the second currency, with a share of 12.7%, while the US dollar is still the primary currency with a weight of 63.6%. Thus, the SWIFT data indicates that the yuan continues to progress in various financial transaction areas such as payments, bank adoption and offshore clearing center growth.

Difference in Internationalization Between Yen & Yuan

As mentioned, the internationalization of the yuan began with trade-related

CHART 1

OTC foreign exchange turnover (1998-2013)



Note: OTC (over-the-counter) transactions include spot transactions, outright forwards, foreign exchange swaps, currency swaps, options and other products, which are adjusted for local inter-dealer double-counting (i.e. "net-gross" basis). Data may differ slightly from national survey data owing to differences in aggregation procedures and rounding.

Source: Bank for International Settlements (BIS), Triennial Central Bank Survey: Global Foreign Exchange Market Turnover in 2013, Monetary and Economic Department, February 2014

transactions. In the first step of this internationalization, Beijing focused on promoting the use of the yuan for trade settlement without its full convertibility. In this unique approach, bilateral swap arrangements played an important role. As the capital account is not fully liberalized in China, and foreign countries cannot freely use the yuan in international markets, one alternative approach toward increasing the international flow of the yuan is to sign bilateral swap agreements. In addition, the Chinese government promoted the utilization of the offshore yuan for cross-border transactions including trade settlements, deposits and direct investment. In order to make these transactions more convenient, they set up official yuan clearing banks in 15 countries around the world.

Let us briefly discuss the differences in the internationalization process between the yen and the yuan. The yen became a fully convertible currency through the following deregulations: the establishment of free yen accounts for nonresidents in 1960, the amendment of the Foreign Exchange and Foreign Trade Control Act in 1980, the abolition of the real demand principle and the US-Japan Yen Dollar Committee in 1984, and the amendment of the Foreign Exchange and Foreign Trade Act in 1998.

In comparison with the yuan, there are three marked differences in the yen's internationalization. First, the Japanese government started to deregulate the foreign exchange and capital controls to make the yen fully convertible. Second, as suggested by Eichengreen and Kawai, Japan was reluctant to internationalize the yen for trade settlement in the 1980s and the first half of the 1990s when it increased exports to the world market, while the Chinese government has aggressively and rapidly promoted the yuan's internationalization since becoming the largest exporting country.

When the Foreign Exchange and Foreign Trade Act was amended to deregulate domestic and foreign capital transactions and foreign exchange operations, 14 years had already passed since the abolition of the real demand principle. Although this amendment liberalized settlements in foreign currencies, it was too late to internationalize the yen for trade invoicing, because the Japanese economy had suffered from prolonged stagnation in the 1990s. Since the second half of the 1990s, Japan has tried to promote the use of the yen as an international currency, but the internationalization process has made little progress so far.

Third, the Japanese government allowed a large appreciation of the yen since the Plaza Accord in 1985. However, it did not promote the use of the yen for trade settlements at that time. On the other hand, the yuan's internalization started after the Chinese government changed its currency regime from the US dollar peg to a managed floating system. With the strong expectation of yuan appreciation, there should be a strong incentive to hold the yuan. As Eichengreen and Kawai indicated, the yuan's internationalization was supported by speculative motives rather than the convenience of the yuan itself for trade invoicing and settlement.

The use of the yen in trade transactions gradually increased its share until the 1980s, but then stopped rising and declined in the 1990s. There are various arguments and explanations for the limited use of the yen. First, the choice of invoice currency in international trade is usually affected by various factors such as market competitiveness (bargaining power) and trade structure. Japan used to import large amounts of raw materials that are traditionally invoiced in dollars in international markets.

Even in trade between Asian countries, the yen is not extensively used. First, the yen is not convenient to use because foreign exchange markets between the yen and Asian currencies remain underdeveloped. Second, the exchange rates between the yen and Asian currencies are unstable because most Asian currencies are linked more to the dollar. A third factor is the declining credibility of the yen, reflecting the long stagnation of the Japanese economy since the 1990s. Furthermore, inertia and the institutional constraints in choosing the currency for international trade and capital transactions are often pointed out as possible reasons for the limited use of the yen.

As explained above, the Chinese government has been pursuing a unique approach to the yuan's internationalization, learning from Japan's failure to internationalize the yen. Indeed, the use of the Chinese currency has been growing, but Japanese firms are still reluctant to use the offshore yuan for their cross-border trade settlements. Japan made an effort to promote the international use of the yen by removing capital controls and restrictions on yen transactions. In contrast, China has facilitated the yuan's internationalization and developed the offshore yuan markets while keeping strict capital controls on the international use of the onshore yuan. As long as capital controls exist, Japanese firms do not assume that the yuan is an international currency. Thus, this unique approach to the its internationalization in fact prevents Japanese firms from using the yuan despite the rapid growth of the offshore yuan markets.

Yuan Usage by Japanese Overseas Subsidiaries

Large-scale questionnaire surveys of Japanese overseas manufacturing subsidiaries were conducted by the Research Institute of Economy, Trade and Industry (RIETI) in August 2010 and November 2014. The questionnaires were sent to 16,020 and 18,932 subsidiaries in August 2010 and November 2014, with 1,479 and 1,640 subsidiaries responding in 2010 and 2014, respectively. These subsidiaries were chosen from Toyo Keizai's Overseas Japanese Companies database. Using these survey results, we investigated to what extent the use of the yuan has been growing in the trade of Japanese overseas subsidiaries along the production chain.

What Impedes Yuan Transactions?

Table 1 presents the 2010 and 2014 survey results obtained from Japanese

TABLE 1

Problems in using respective currencies for trade invoicing

(A) Name of currency	(B) Currency firms use for trade transactions	(C) Currency firms have difficulty in using for trade	(D) Problems					
			(D1) Foreign exchange controls/ regulations prevent non-residents' transactions of the currency	(D2) Foreign exchange controls/ regulations prevent operational hedging (marry and netting)	(D3) Capital controls/ restrictions prevent investment and fund-raising in that currency	(D4) High transaction costs involved with currency hedging	(D5) High foreign exchange volatility	(D6) Others
Result of 2010 Survey								
US dollar	1,224 (86.0)	714 (58.3)	31 [4.3]	—	40 [5.6]	84 [11.8]	608 [85.2]	39 [5.5]
Euro	484 (34.0)	236 (48.8)	7 [3.0]	—	6 [2.5]	28 [11.9]	210 [89.0]	11 [4.7]
Japanese yen	920 (64.6)	654 (71.1)	29 [4.4]	—	21 [3.2]	84 [12.8]	593 [90.7]	25 [3.8]
Chinese yuan	149 (10.5)	76 (51.0)	32 [42.1]	—	28 [36.8]	8 [10.5]	20 [26.3]	2 [2.6]
Hong Kong dollar	83 (5.8)	18 (21.7)	2 [11.1]	—	1 [5.6]	2 [11.1]	14 [77.8]	2 [11.1]
Singapore dollar	143 (10.0)	45 (31.5)	2 [4.4]	—	4 [8.9]	8 [17.8]	36 [80.0]	2 [4.4]
Thai baht	137 (9.6)	49 (35.8)	3 [6.1]	—	6 [12.2]	5 [10.2]	38 [77.6]	5 [10.2]
Result of 2014 Survey								
US dollar	1,266 (83.9)	311 (46.6)	22 [7.1]	18 [6.2]	18 [6.2]	53 [18.3]	247 [85.2]	13 (4.5)
Euro	527 (34.9)	87 (13.0)	5 [5.7]	3 [3.8]	4 [5.0]	11 [13.8]	70 [87.5]	3 (3.8)
Japanese yen	924 (60.4)	377 (40.8)	15 [4.0]	14 [3.7]	15 [4.0]	51 [13.5]	357 [94.7]	8 (2.1)
Chinese yuan	147 (9.6)	41 (27.9)	12 [29.3]	14 [34.1]	16 [39.0]	10 [24.4]	26 [63.4]	1 (2.4)
Hong Kong dollar	63 (4.1)	4 (6.3)	0 [0.0]	0 [0.0]	0 [0.0]	1 [25.0]	3 [75.0]	0 [0.0]
Singapore dollar	106 (6.9)	9 (8.5)	0 [0.0]	1 [11.1]	0 [0.0]	2 [22.2]	7 [77.8]	1 (11.1)
Thai baht	127 (8.3)	23 (18.1)	0 [0.0]	1 [4.3]	2 [8.7]	3 [13.0]	18 [78.3]	1 (4.3)

Note: The total number of respondents (firms) was 1,424. Multiple answers were allowed. Figures in parenthesis of column (B) denote percentage figures based on the ratio of (B) to the total respondents (1,424). Figures in parenthesis of column (C) denote percentage figures based on the ratio of (C) to (B). Figures in square brackets denote percentage figures based on the ratio of (D) to (C).

Source: RIETI Questionnaire Survey 2010 and 2014

TABLE 2

Do you have any plan to increase yuan transactions in the future?

	2010				2014			
	Number of respondents	Yes	No	Others	Number of respondents	Yes	No	Others
Asia	755 (100.0)	160 (21.2)	572 (75.8)	23 (3.0)	623 (100.0)	99 (15.9)	501 (80.4)	23 (3.7)
Oceania	43 (100.0)	0 (0.0)	43 (100.0)	0 (0.0)	44 (100.0)	0 (0.0)	43 (97.7)	1 (2.3)
North America	273 (100.0)	6 (2.2)	262 (96.0)	5 (1.8)	204 (100.0)	3 (1.5)	196 (96.1)	5 (2.5)
South America	–	–	–	–	20 (100.0)	0 (0.0)	20 (100.0)	0 (0.0)
Europe (Euro area)	109 (100.0)	3 (2.8)	104 (95.4)	2 (1.8)	121 (100.0)	7 (5.8)	112 (92.6)	2 (1.7)
Europe (non-Euro area)	70 (100.0)	0 (0.0)	70 (100.0)	0 (0.0)	70 (100.0)	1 (1.4)	66 (94.3)	3 (4.3)
All	1,250 (100.0)	169 (13.5)	1,051 (84.1)	30 (2.4)	1,082 (100.0)	110 (10.2)	938 (86.7)	34 (3.1)

Note: Figures in parenthesis denote percentage figures based on the ratio to total respondents of respective regions.
Source: RIETI Questionnaire Survey 2010 and 2014

TABLE 3

Do you have any yuan transactions? (2014 survey)

	Number of respondents	Yes	If "Yes", which yuan?		No
			CNY (Onshore)	CNH (Offshore)	
Asia	643 (100.0)	125 (19.4)	102 [85.0]	18 [15.0]	518 (80.6)
Oceania	43 (100.0)	1 (2.3)	1 [100.0]	0 [0.0]	42 (97.7)
North America	206 (100.0)	7 (3.4)	4 [57.1]	3 [42.9]	199 (96.6)
South America	20 (100.0)	0 (0.0)	0 [0.0]	0 [0.0]	20 (100.0)
Europe (Euro area)	123 (100.0)	5 (4.1)	4 [100.0]	0 [0.0]	118 (95.9)
Europe (non-Euro area)	70 (100.0)	2 (2.9)	2 [100.0]	0 [0.0]	68 (97.1)
All	1,105 (100.0)	140 (12.7)	113 [84.3]	21 [15.7]	965 (87.3)

Note: Figures in parenthesis denote percentage figures based on the ratio to total number of respondents. Figures in square brackets denote the ratio to number of respondents that answered "Yes". It must be noted that all respondents that answered "Yes" did not answer the question: "If 'Yes', which yuan?"
Source: RIETI Questionnaire Survey 2014

overseas subsidiaries concerning the difficulties in using respective currencies as invoice currency. First, the second column shows that the US dollar was the most used as an invoice currency, with 86% and 83.9% of responding firms using it in the 2010 and 2014 surveys, respectively, while the yen was the second most used currency. The yuan was the fourth most used currency, with about 10% of responding firms using it for trade invoicing. The rankings and shares of respective currencies do not change much between the 2010 and 2014 surveys.

Second, what are the problems when using respective currencies for trade invoicing? "(D5) high foreign exchange rate volatility" accounts for the largest share in most currencies in both the 2010 and 2014 surveys. For yuan invoicing, subsidiaries had difficulty in using the currency due to "(D1) foreign exchange controls/regulations" in the 2010 survey. But in the 2014 survey, 63.4% of subsidiaries had difficulty in using the yuan due to "(D5) high foreign exchange rate volatility".

Third, Japanese subsidiaries had less difficulty in using the yuan for trade transactions in the 2014 survey than in the 2010 survey. In the third column of *Table 1* ("(C) currency firms have difficulty in using for trade"), the share of the yuan declined from 51% to 27.9%. These results are consistent with the improvement of the yuan foreign exchange transactions discussed in the previous section and also with a gradual shift of the yuan's exchange rate regime toward a more flexible one.

Any Plans to Increase the Use of the Yuan and Other Asian Currencies?

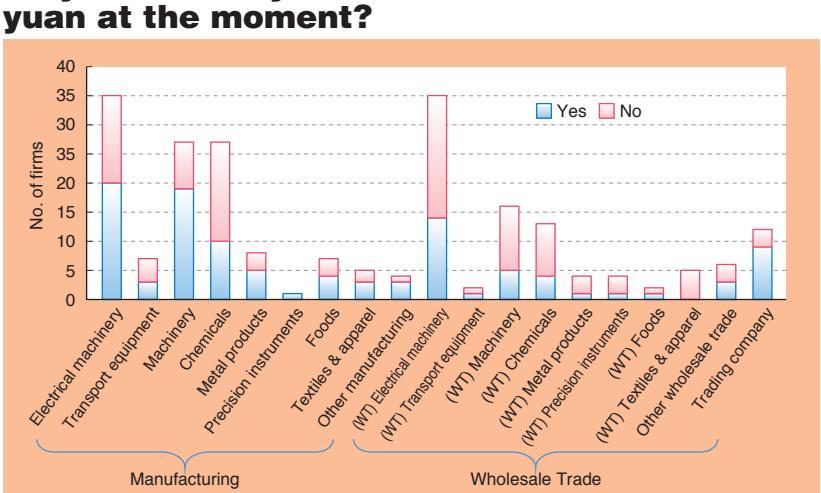
Table 2 presents the survey results of the question: "Do you have any plans to increase yuan transactions in the future?" Basically, few responding firms answered "Yes" in both the 2010 and 2014 surveys, except for subsidiaries located in Asia. But in the 2010 survey, only 21.2% of respondents in Asia answered "Yes". The share of respondents that answered "Yes" declines from 21.2% to 15.9% in the 2014 survey. Interestingly, the share of respondents that answered "Yes" in Europe rose from 2.8% to 5.8% in the 2014 survey. This might be related to the expanding of the yuan offshore market in London recently. When we look at a breakdown of the results by Asian country according to the 2014 survey, more than half of subsidiaries located in China and one fourth of subsidiaries located in Hong Kong plan to increase yuan transactions in the future. In contrast, only a few subsidiaries located in other Asian countries consider further use of yuan for their international transactions.

Which Yuan Is Used, CNY or CNH?

The 2014 survey gained information on the use of onshore yuan (CNY) and offshore yuan (CNH). *Table 3* shows that only a few subsidiaries have yuan transactions in all regions except Asia. In Asia, 19.4% of respondents use the yuan for their transactions, 85% of which use not CNH but CNY. This evidence suggests that Japanese subsidiaries mainly use CNY for their operations. For their yuan transactions, Japanese subsidiaries located in Asia use the currency mainly in China's foreign exchange market and Hong Kong market. Unfortunately, the offshore yuan-yen market in Tokyo is rarely used by Japanese subsidiaries. It is because many Japanese firms are reluctant to use CNH for their yuan transactions.

CHART 2

Do you have any transactions denominated in yuan at the moment?



Source: RIETI Survey 2014

Difference Between Users and Non-users of Yuan

Is there any difference between overseas subsidiaries that use the yuan for trade transactions and those who do not use it at the moment? According to *Chart 2*, which classifies respondents only in China to the question as to whether subsidiaries currently have any transactions denominated in the yuan, "Manufacturing subsidiaries" are more likely to use the yuan as an invoice currency than "Wholesale trade subsidiaries". By industry, 20 out of 35 subsidiaries of "Electrical Machinery (Manufacturing)" and 19 out of 27 subsidiaries of "Machinery (Manufacturing)" use the yuan as an invoice currency. In addition, nine out of 12 subsidiaries of "Trading Company" use it as an invoice currency.

Invoice Currency Choice in Intra-Firm Trade

Finally, we investigated the data on choice of invoice currency, focusing on production subsidiaries in Asia (all Asian countries), China, and the ASEAN-6 countries.

The left-hand side of *Table 4* shows that Japanese production subsidiaries in Asia procure 78% of their intermediate inputs from local companies, where local currencies are mainly chosen as a contract currency. In China, 86.5% of procurements from local companies were contracted in yuan in 2014. In ASEAN-6, 70.0% of local procurements were contracted in the local currency. However, in procurements of intermediate inputs from group companies, China exhibits a remarkable increase in yuan transactions from 26.7% in 2010 to 75.0% in 2014. In ASEAN, local currency transactions accounted for only 34.8% in 2014, whereas 47.8% of local procurements from group companies were traded in US dollars.

As shown on the right-hand side of *Table 4*, Japanese production subsidiaries in China mainly used the yuan for sales to customers in local markets: in 2014, 85.4% of local sales to customers were traded in yuan. In local sales to group companies in China, the share of yuan transactions declined somewhat, but was higher than the corresponding share of local currency transactions in other Asian countries.

The left-hand side of *Table 5* shows the invoice currency share in imports of intermediate inputs from Japan. The share of yuan invoicing exhibits a marked increase to around 11% in imports from Japanese head offices, group companies, and *Sogo Shosha* (large trading companies). The right-hand side of *Table 5* also indicates that the share of yuan invoicing in exports of subsidiaries in China to Japanese head offices rose considerably from 1.8% in 2010 to 16% in 2014. This observation shows that in intra-firm trade between production subsidiaries in China and Japanese head offices, yuan transactions have grown to a certain extent.

TABLE 4

Invoice currency choice of production subsidiaries in China: local procurements & local sales

Local Procurements

	Local Procurements (%)					
	Asia		China		ASEAN-6	
	2010	2014	2010	2014	2010	2014
1. From local company						
1. JPY	2.1	2.2	2.7	1.2	1.7	3.0
2. USD	16.2	17.7	11.5	7.6	20.7	25.6
3. Euro	0.0	0.0	0.0	0.0	0.0	0.0
4. Yuan	23.7	27.4	84.5	86.5	0.0	0.0
5. Local	53.9	50.8	1.3	4.7	71.9	70.0
6. Others	4.1	1.9	0.0	0.0	5.7	1.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
2. From group company						
1. JPY	28.0	11.6	20.0	12.5	23.1	13.0
2. USD	42.7	39.1	53.3	12.5	41.8	47.8
3. Euro	0.7	0.0	0.0	0.0	0.0	0.0
4. Yuan	5.6	17.4	26.7	75.0	0.0	0.0
5. Local	22.4	29.0	0.0	0.0	34.1	34.8
6. Others	0.7	2.9	0.0	0.0	1.1	4.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
3. From other company						
1. JPY	13.5	3.4	9.1	0.0	13.4	0.0
2. USD	44.9	72.4	27.3	50.0	41.8	80.0
3. Euro	3.4	0.0	9.1	0.0	3.0	0.0
4. Yuan	7.9	10.3	54.5	50.0	1.5	0.0
5. Local	24.7	10.3	0.0	0.0	32.8	15.0
6. Others	5.6	3.4	0.0	0.0	7.5	5.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Local Procurements → Production Subsidiaries → Local Sales

Local Sales

	Local Sales (%)					
	Asia		China		ASEAN-6	
	2010	2014	2010	2014	2010	2014
1. To customer						
1. JPY	1.4	1.6	0.0	3.7	1.6	0.6
2. USD	18.6	21.5	10.4	7.3	24.2	30.0
3. Euro	0.0	0.3	0.0	0.0	0.0	0.0
4. Yuan	21.8	21.8	88.7	85.4	0.4	0.0
5. Local	53.8	53.6	0.0	2.4	67.6	68.3
6. Others	4.4	1.2	0.9	1.2	6.1	1.1
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
2. To group company						
1. JPY	7.0	3.3	5.7	2.5	7.4	4.8
2. USD	30.1	26.7	14.3	17.5	34.0	38.1
3. Euro	0.7	4.4	0.0	7.5	1.1	2.4
4. Yuan	18.9	28.9	77.1	65.0	0.0	0.0
5. Local	41.3	35.6	0.0	7.5	55.3	54.8
6. Others	2.1	1.1	2.9	0.0	2.1	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
3. To distributor & other company						
1. JPY	1.3	0.0	0.0	0.0	3.4	0.0
2. USD	10.4	35.6	0.0	33.3	24.1	36.7
3. Euro	0.0	2.2	0.0	0.0	0.0	3.3
4. Yuan	41.6	17.8	100.0	66.7	0.0	0.0
5. Local	44.2	44.4	0.0	0.0	69.0	60.0
6. Others	2.6	0.0	0.0	0.0	3.4	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Source: RIETI Survey 2010 and 2014

TABLE 5

Invoice currency choice of production subsidiaries in China: imports from & exports to Japan

Imports from Japan

	Imports from Japan (%)					
	Asia		China		ASEAN-6	
	2010	2014	2010	2014	2010	2014
1. From Japanese head office						
JPY	58.8	54.4	53.0	43.8	57.5	58.6
USD	38.0	39.7	45.5	44.8	37.7	38.5
Yuan	0.2	3.6	0.8	11.5	0.0	0.0
Local	2.2	2.3	0.0	0.0	3.7	3.0
Others	0.4	0.0	0.8	0.0	0.4	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
2. From group company						
JPY	51.9	43.9	36.1	33.3	47.8	53.6
USD	46.5	48.5	58.3	51.9	52.2	42.9
Yuan	0.8	4.5	2.8	11.1	0.0	0.0
Local	0.8	3.0	2.8	3.7	0.0	3.6
Others	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
3. From Japanese *Sogo Shosha*						
JPY	56.9	54.5	41.5	61.5	59.5	47.9
USD	38.7	40.0	53.7	26.9	35.7	47.9
Yuan	1.5	2.7	4.9	11.5	0.0	0.0
Local	2.9	2.7	0.0	0.0	4.8	4.2
Others	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
4. From other company						
JPY	53.4	52.0	44.4	0.0	52.5	55.6
USD	32.8	44.0	33.3	100.0	35.0	44.4
Yuan	3.4	0.0	22.2	0.0	0.0	0.0
Local	6.9	4.0	0.0	0.0	7.5	0.0
Others	3.4	0.0	0.0	0.0	5.0	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Imports from Japan → Production Subsidiaries → Exports to Japan

Exports to Japan

	Exports to Japan (%)					
	Asia		China		ASEAN-6	
	2010	2014	2010	2014	2010	2014
1. To Japanese head office						
JPY	46.3	31.3	51.8	30.9	42.4	25.9
USD	45.8	60.4	46.4	53.1	45.5	69.6
Yuan	0.5	5.7	1.8	16.0	0.0	0.0
Local	6.8	2.6	0.0	0.0	11.1	4.5
Others	0.3	0.0	0.0	0.0	0.5	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
2. To group company						
JPY	50.8	38.1	45.5	41.2	44.7	37.5
USD	46.0	50.0	54.5	47.1	50.0	50.0
Yuan	0.0	2.4	0.0	5.9	0.0	0.0
Local	1.6	9.5	0.0	5.9	2.6	12.5
Others	1.6	0.0	0.0	0.0	2.6	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
3. To Japanese *Sogo Shosha*						
JPY	8.3	64.3	33.3	100.0	0.0	55.6
USD	91.7	28.6	66.7	0.0	100.0	33.3
Yuan	0.0	0.0	0.0	0.0	0.0	0.0
Local	0.0	7.1	0.0	0.0	0.0	11.1
Others	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0
4. To other company						
JPY	42.1	22.2	40.0	0.0	50.0	40.0
USD	42.1	55.6	60.0	100.0	33.3	20.0
Yuan	0.0	0.0	0.0	0.0	0.0	0.0
Local	5.3	0.0	0.0	0.0	8.3	0.0
Others	10.5	22.2	0.0	0.0	8.3	40.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0

Source: RIETI Survey 2010 and 2014

Conclusion

While the international use of the yuan for trade invoicing has been discussed in recent years, firm-level information on yuan transactions especially along production chains has not been investigated. Utilizing firm-level information obtained by these large-scale questionnaire surveys, this study shows new evidence of the use of the yuan by Japanese overseas subsidiaries operating in China and other Asian countries along their regional and global production network. We have found that although the yuan is largely used for local sales and procurement in China, Japanese overseas subsidiaries in China mainly use the US dollar and, to a lesser extent, the yen in trade with other countries. However, we also observe the growing use of the yuan in overseas subsidiaries' international trade along the production chain, especially in intra-firm trade. Production subsidiaries in China exhibit an increase in yuan transactions not only for imports of intermediate inputs from Japanese head offices and group companies but also for exports of production goods to Japanese head offices. At the moment, trading companies in China are playing an important role in promoting yuan invoicing for trade transactions. These results suggest that growing yuan trade transactions depend not only on a capacity for exchange rate risk management, but also on further deregulation of onshore yuan transactions for Japanese firms. JS

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