Deciding Factors in the Return on Foreign Direct Investment: —A Comparison between Japan and the United States—*

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Abstract

In Japan, where the aging of society with a low birth rate is ongoing, it is important to increase the return on net external assets as a way to offset a decline in the amount of such assets. As a result of an increase in the share of foreign direct investment in recent years, the return on net external assets is expected to rise. However, the return on foreign direct investment by Japan has continued to be lower than the return on foreign direct investment by the United States. Some reports indicate that the return on foreign direct investment by the United States is being inflated as a result of tax avoidance practices. However, it is essential to improve the return through appropriate risk-taking without relying on tax avoidance practices amid growing international criticism of such practices.

This research examines the deciding factors in the return on foreign direct investment by both Japan and the United States and compares the characteristics unique to the two countries. The research results suggest that US companies have a stronger tendency to choose investment destination countries in consideration of tax factors and that this tendency is likely to be reflected in the return on foreign direct investment. On the other hand, the results also suggest that although multinational companies face various risk factors in investment destination countries, US companies are securing higher excess returns in exchange for risk-taking.

Keywords: foreign direct investment, return on net external assets, corporate tax, macro risks, structural risk factors

JEL Classification: F20, F21, F23, F30

* The authors would like to thank Eiji Ogawa and other participants in the seminar meetings at the Policy Research Institute of the Ministry of Finance for their helpful comments. We are also grateful to Yoshio Kurosaka, Kiyoshi Matsubara, and Masao Kumamoto for their suggestions on our earlier version of this paper. This work was supported by JSPS KAKENHI Grant-in-Aid for Scientific Research (B) Number 15H03368. All the remaining errors are ours. The opinions expressed in this paper are those of the authors alone, and do not necessarily represent the official views of the Ministry of Finance or its Policy Research Institute.

I. Introduction

The Japanese economy developed based on processing trade: that is, Japan imported materials from overseas and processed them into manufacture goods with higher value added for exports. More recently, as Japanese firms have accelerated the expansion of production bases worldwide, international specialization makes the importance of trade even greater for the Japanese economy. Indeed, the statistics show that a significant portion of Japan's current account surplus was derived from trade surpluses in the 1980s and 1990s and thus the belief that manufacturing exports drive the economy persists in the Japanese public's mind. Nevertheless, a structural change occurred—the trade surplus shrank largely after 2008 and turned into a deficit between 2011 and 2015. Although the trade balance has returned to surplus since 2016, the recorded trade deficits after more than 30 years of persistent surplus were understood to reflect a serious structural change, and people typically regarded it negatively as "a fall."

Nevertheless, a decrease in the trade surplus does not necessarily result in the same scale shrinkage in the current account surplus. Japan has accumulated the world's largest holdings of foreign net assets through a long-lasting current account surplus, and so the returns on these assets are added to the primary income balance within the current account. Recently, the primary income surplus has been increasing and the latest statistics suggests that this, together with the improved service balance supported by increasing inbound tourism, prevents a declining current account surplus. In this way, Japan's economy is changing from one based on earnings from goods (trade surplus) to one supported by assets and money (primary income). Moreover, it is noted that, although the primary surplus used to center on securities investment, the presence of foreign direct investment has grown these days as Japanese firms relocate their production bases abroad.

There are some concerns that the increase in the foreign net assets will be curbed as the dwindling birthrate and an aging population inevitably reduces national savings. A declining households' savings rate has become a reality due to the aging of the population, and the prediction that Japan will experience a current account deficit in future is theoretically persuasive, if we recall the I-S balance in the macro economy. Given that the fall in national savings is likely due to the declining birthrate and the growing proportion of elderly people, it is important for the Japanese economy and its macro balance that we supplement the reduced current account surplus and decreased net foreign assets with improved returns from foreign assets. In this sense, the US economy which has been recording a primary income surplus for a long time even though it carries foreign liabilities far exceeding its foreign assets may provide thoughtful lessons. As is well known, the United States is the world's largest debtor nation, however, its foreign asset position has not deteriorated (compared to what the current account deficit suggests) and its primary income balance remains in surplus.

Gourinchas and Rey (2007) decompose US excess rates of return on external net assets into "return effect" (higher returns within each asset class) and "composition effect" (overweight on asset class with higher net returns). While the United States tends to borrow short

and lend long, they show that the United States' excess returns are mainly due to a "return discount." That is, within each class of assets, the total return (yields and capital gains) that the United States has to pay to foreigners is smaller than the total return the United States gets paid on its foreign assets. In contrast, Japanese foreign assets consist more of assets with low risk and low return such as US Treasury securities. In order to improve return on foreign assets, Japan needs to reallocate composition of its foreign assets and, in this sense, recent growth in foreign direct investment is a positive indication. On the other hand, comparing return rates on the foreign direct investment across countries, rates of return for both the United States and the United Kingdom exceed that for Japan; in particular, the US records high yields from net foreign direct investment to offset the deficit in securities investments. Curcuru et al. (2013), through decomposition of US returns on net foreign assets, indicate that the United States has owed its high returns on foreign assets primarily to direct investment yields, and, especially, income gains rather than capital gains.

What makes US returns from foreign direct investment so sizable? The literature has mentioned a variety of factors including first-mover advantage, judgement in hunting good investments, and tax evasion by multinationals. For example, Bosworth et al. (2007) estimate that one third of US excess return rates from foreign direct investment (differential between return rates from foreign direct investment by the United States and those from foreign direct investment into the United States) comes from profit-shifting, focusing on the difference in the tax rates across the countries. Curcuru et al. (2013) and Curcuru and Thomas (2015) also show that approximately 1.8% out of the 6% excess return from foreign direct investment is due to differences in the corporate tax rates across the countries. Since the Global Financial Crisis triggered by the collapse of Lehman Brothers in 2008, mounting pressure against tax evasion by multinationals has enhanced the dialogue among OECD countries and others about possible countermeasures. If the United States' higher rates of return from foreign direct investment have been exaggerated by tax evasion, return rates may be reduced by stricter regulations.

In Japan, foreign direct investment has been aimed at the transfer overseas of production and sales bases, and thus it is noted that Japanese firms are less involved in tax evasion. However, since Japanese firms competing with US and other countries' multinationals in the global market should have the same incentive to increase foreign investment into countries providing preferential treatment on taxes, Japanese rates of return from foreign direct investment can also be increased by tax evasion.

If the countermeasures against tax evasion by multinationals limit the scope of tax evasion to improve returns from foreign direct investment, multinationals will be required to explore other means including taking higher risks. If Japanese firms succeed in taking appropriate routes to higher returns, that will sustain the macroeconomic balance by improving net foreign assets.

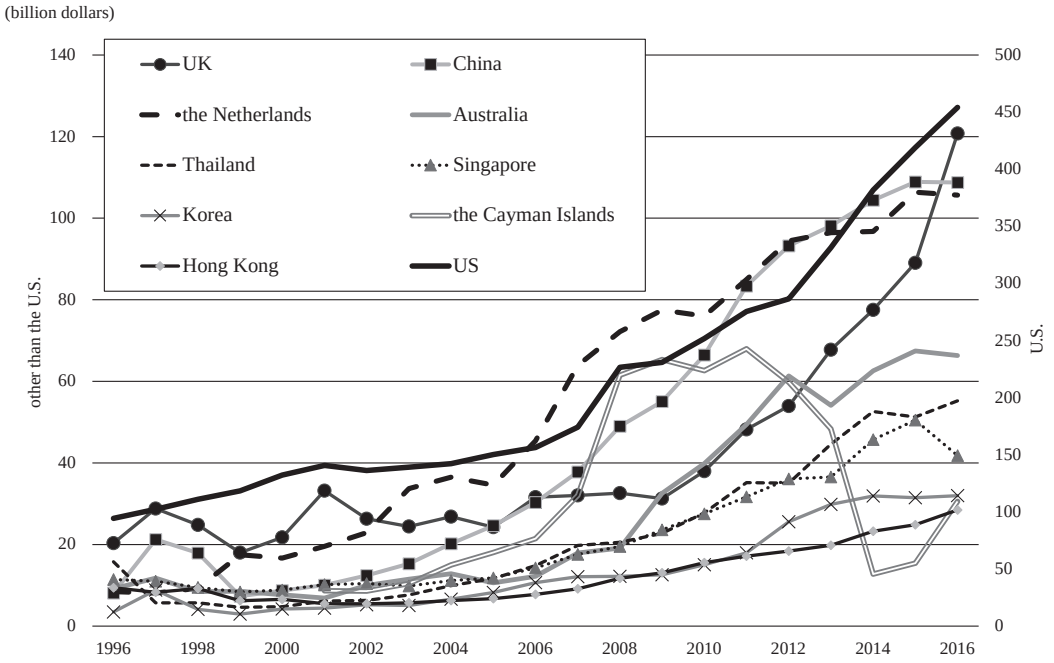
Accordingly, this paper focuses on foreign direct investment and explores empirical analysis regarding the determinants of rates of return from foreign direct investment by both Japan and the United States.

The remainder of this paper is organized as follows. Section 2 presents an overview of trends in foreign direct investment by both Japan and the United States and associated returns. Section 3 presents estimation models, reviews datasets employed in the regressions, and then discusses the empirical results. Finally, Section 4 presents conclusions.

II. Recent Developments in Foreign Direct Investment by Japan and the United States

Figure 1 lists the top 10 destination countries for Japan's foreign direct investment stock. Japan's foreign direct investment stock in the United States is exceptionally large followed by the stocks in the United Kingdom, China, and the Netherlands. Although the top 10 countries include Asian countries such as Thailand and Singapore, we can also find natural resource rich countries such as Australia and Brazil. In addition to the United Kingdom, the Netherlands appears in the list, which reflects the fact that the Netherlands provides a preferential taxation system for tax savings and so multinationals from all around the world increase investment in the Netherlands to benefit from tax advantages[1]. While foreign direct

Figure 1. Japan's Foreign Direct Investment Stocks by Country



Source: Japan External Trade Organization (JETRO)

[1] Masuda (2017) refers to several taxation systems for tax avoidance in the Netherlands: tax exemption from corporate income tax on dividends and capital gains from subsidiaries to holding companies in the Netherlands under certain conditions, a tax treaty network with many countries under which dividends, interests and royalty payments are effectively exempt from tax withholding.

investment into the Cayman Islands rapidly increased before the Global Financial Crisis in 2008, it has sharply declined since 2012. Iwami (2010) explains that this trend is due to the international consensus around strengthening surveillance over tax haven countries such as the Cayman Islands.

Table 1 lists rates of return on Japan's foreign direct investment in the top 15 countries in terms of outstanding foreign direct investment stocks as of 2016[2]. The list covers from 1996 to 2016, and is divided into two parts, up to 2013 and after 2014, as the underlying measurement method was changed in 2014[3]. Overall, return rates tend to be higher in Asian countries where Japanese manufacturing firms build supply chains, such as Hong Kong, Thailand, Singapore, Indonesia and China, as well as in natural resource rich countries including Australia and Brazil. At the same time, the return rates in Australia and Brazil dropped significantly in the latter period reflecting that the returns from foreign direct investment in natural resource rich countries critically hinge on commodity markets. In the comparison between the earlier and latter periods, we do not identify any clear patterns or differences. This implies that there is no significant effect of the balance of payment manual changes. The averages are quite close with 6.88% in 1996-2013 and 7.04% in 2014-16. While some countries record higher returns in 1996-2013, others yield higher returns in the latter period. Moreover, although Hong Kong, which is generally understood to be a tax haven country, records lower returns in 2014-16, the opposite is the case in the Cayman Islands, Singapore, the Netherlands, and the United Kingdom.

Table 1. Rates of Return on Japan's Foreign Direct Investment by Country

	US	UK	Chiana	Netherlands	Australia	Thailand	Singapore	Korea	Cayman Islands	Hong Kong	Indonesia	Brazil	Germany	Belgium	India
Whole Sample Period	5.30%	2.99%	7.31%	5.73%	10.00%	10.03%	9.04%	6.61%	3.49%	14.11%	8.70%	7.26%	4.84%	3.12%	5.19%
1996-2013 (Balance of Payment Manual 5)	4.99%	2.51%	6.52%	5.30%	11.01%	9.57%	8.77%	6.51%	2.90%	14.69%	8.75%	8.50%	4.93%	3.11%	5.15%
2014-2016 (Balance of Payment Manual 6)	7.07%	5.73%	11.78%	8.14%	4.26%	12.64%	10.61%	7.18%	5.88%	10.80%	8.44%	0.21%	4.36%	3.15%	5.38%

Note 1: The authors calculated the figures above based on the data from the Ministry of Finance, Bank of Japan, and JETRO.

Note 2: The return rates are gains from the direct investment (receipts) in primary income balance divided by the average of direct investment stock at the beginning of the year and the end of the year. The direct investment stock is based on book value[4].

To explore another aspect of the returns from foreign direct investment, Table 2 presents the ratio of gains from the investment to nominal GDP of the destination economy. The Cayman Islands shows a strikingly high value[5]. Singapore, Thailand, and Hong Kong come next followed by the Netherlands. It is noted that the values for both the Netherlands and the

[2] The top 15 countries cover 83.3% of the foreign direct investment stocks as of 2016.

[3] The data up to 2013 are based on Balance of Payment Manual 5, and those after 2014 are compiled on the basis of the Balance of Payment Manual 6.

[4] In the calculation, both numerators and denominators are denominated in Japanese Yen. Although the denominators of investment stocks at the beginning and the end of the year are converted by the exchange rates at these respective points in time, the numerators of gains from the investment are converted by the exchange rates at the end of the months of the receipts. Therefore, the rates are not perfectly immune from the valuation effects of the foreign exchange rates; the effects depend on how the foreign exchange markets fluctuate as well as how the receipts of the gains are distributed. The same argument applies to the rates of return from the US foreign direct investment in Table 3.

Table 2. Ratio of Gain from Japan's Foreign Direct Investment-to-GDP of the Destination Countries

	US	UK	Chiana	Netherlands	Australia	Thailand	Singapore	Korea	Cayman Islands	Hong Kong	Indonesia	Brazil	Germany	Belgium	India
Whole Sample Period	0.077%	0.052%	0.068%	0.409%	0.247%	0.770%	1.040%	0.086%	21.588%	0.752%	0.170%	0.063%	0.015%	0.073%	0.020%
A: 1996-2013 (Balance of Payment Manual 5)	0.065%	0.034%	0.060%	0.309%	0.255%	0.635%	0.951%	0.074%	21.588%	0.739%	0.161%	0.073%	0.014%	0.065%	0.017%
B: 2014-2016 (Balance of Payment Manual 6)	0.152%	0.161%	0.112%	1.015%	0.199%	1.576%	1.574%	0.158%		0.833%	0.220%	0.001%	0.024%	0.119%	0.036%
B/A	2.355	4.725	1.865	3.290	0.782	2.482	1.655	2.148		1.127	1.365	0.019	1.769	1.823	2.157

Note 1: The authors calculated the figures above based on the data from the Ministry of Finance, Bank of Japan, and the World Bank.

Note 2: We calculated the ratio above by taking gains from the direct investment (receipts) in primary income from the Balance of Payment for the numerator and nominal GDP of the destination countries for the denominator.

United Kingdom grew rapidly in the latter period. Generally, the values tend to be higher in the period 2014-16, which suggests that direct investment from Japan expands faster than the economic growth of the recipient countries. In contrast, values for natural resource rich countries such as Brazil and Australia declined in the period 2014-16 as commodity markets stagnated.

Figure 2 illustrates recent trends of the ratio of gains from the investment to nominal GDP presented in the Table 2. Figure 2-1 is for the top four countries excluding the Cayman Islands. The return GDP ratios of three Asian countries were slashed drastically in the aftermath of the Asian financial crisis, however, they have rapidly recovered since then. Also, while there are some anomalies, such as the Netherlands during the European sovereign debt crisis and Thailand and Hong Kong in 2012, the ratios exhibit a broadly upward trend. Particularly, the Netherlands indicates a steadily rising ratio, which in 2016 is 5.9 times what it was in 2002 and 12.5 times its 1996 level.

Figure 2-2 is for the rest of the top 15 countries. The return GDP ratios of Indonesia, like in Hong Kong, Singapore, and Thailand, dropped in the aftermath of the Asian financial crisis. Although returns from Australia were quite high until around 2010, they have since declined. Returns from Brazil have also stagnated recently. Belgium used to show higher returns, but stumbled in the Global Financial Crisis before subsequently making a moderate recovery.

All in all, returns from Japan's foreign direct investments have been on an upward trend and growing at faster rates than the economic growth rates of the destination countries. This trend applies to both tax haven and non-tax haven countries, though it appears that expanding foreign direct investment is particularly evident in tax haven countries.

Figure 3 presents the manufacturing sector's shares in the foreign direct investment stocks for the top 15 countries. Although manufacturing's shares are dominant in Asian countries such as India, China, Thailand, and Indonesia, overall manufacturing's shares are declining. This reflects the penetration of the service sector including retail trade, finance and insurance into Asia. Also, manufacturing's shares strongly reflect the industrial structure

[5] Since figures for the gain from direct investment from the Cayman Islands are available only for 1996 and 2006, the ratio above for the Cayman Islands is based on the average of these two years.

Figure 2-1. Ratio of Return from Direct Investment-to-Nominal GDP (Top 4 Countries)

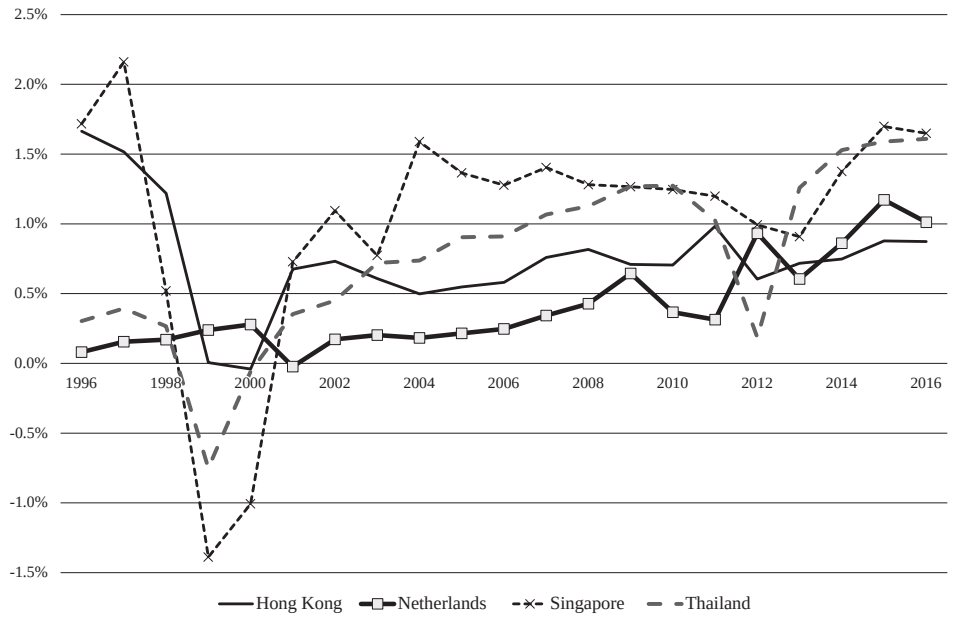
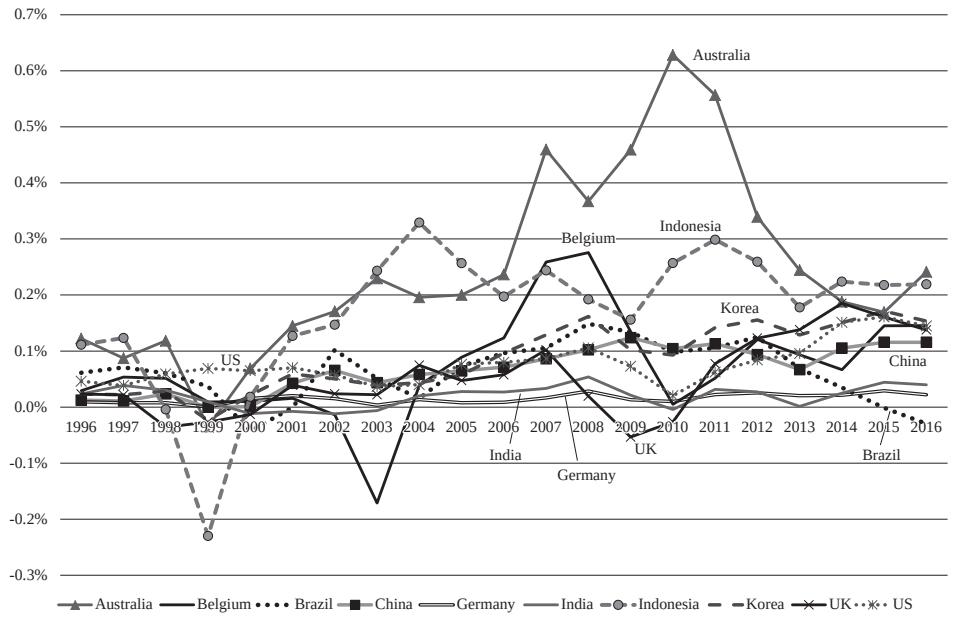


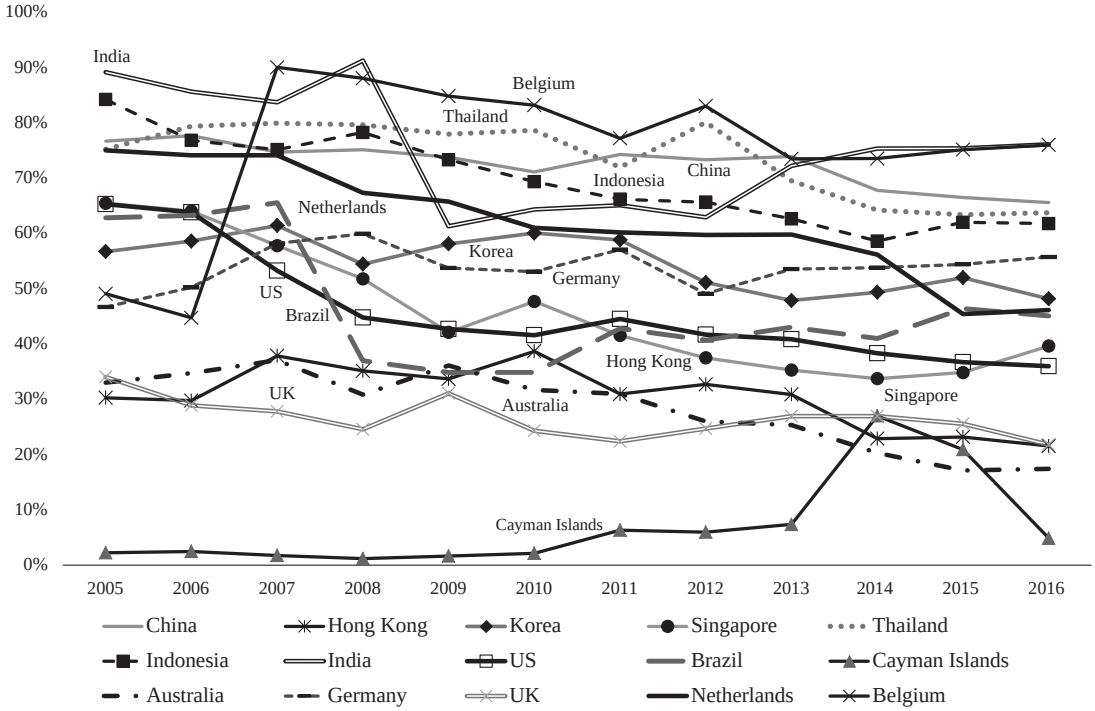
Figure 2-2. Ratio of Return from Direct Investment-to-Nominal GDP (Other Countries)



Note 1: The authors calculated the figures above based on the data from the Ministry of Finance, Bank of Japan, and the World Bank.

Note 2: We calculate the ratio here by taking gains from the direct investment (receipts) in primary income from the Balance of Payment for the numerator and nominal GDP of the destination countries for the denominator.

Figure 3. Manufacturing Share of Japan's Foreign Direct Investment Stocks



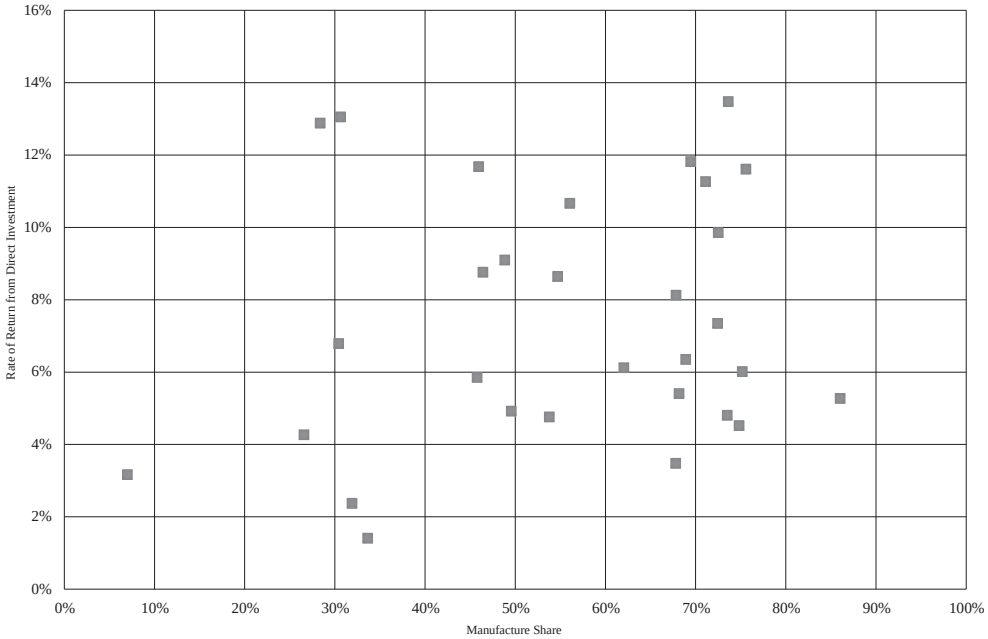
Note: The authors calculated the above based on the data from the Ministry of Finance.

of the destination countries. Among Asian countries, Hong Kong records a lower share for manufacturing although the shares for retail and wholesale business as well as finance and insurance are higher. Singapore used to record a high share for manufacturing, but it has declined due to the faster growth in retail and wholesale business. Among non-Asian countries, Belgium has seen an increase in the share for manufacturing since 2007. The Cayman Islands is finance, insurance and telecommunication centric, but the share for manufacturing temporarily increased in 2014 and 2015.

Manufacturing-centric countries such as China, Thailand, and Indonesia in Figure 3 are shown to record higher rates of return and the scatter plot in Figure 4 presents the overall relation between return rates and industrial structure. We observe a weakly positive correlation (correlation coefficient of 0.245) suggesting that foreign direct investment by the manufacturing sector tends to yield higher returns. Yet, manufacturing-centric Asian countries have recorded higher economic growth rates and thus we need to control for economic growth in order to identify the contribution of industrial structure on higher rates of return from direct investment.

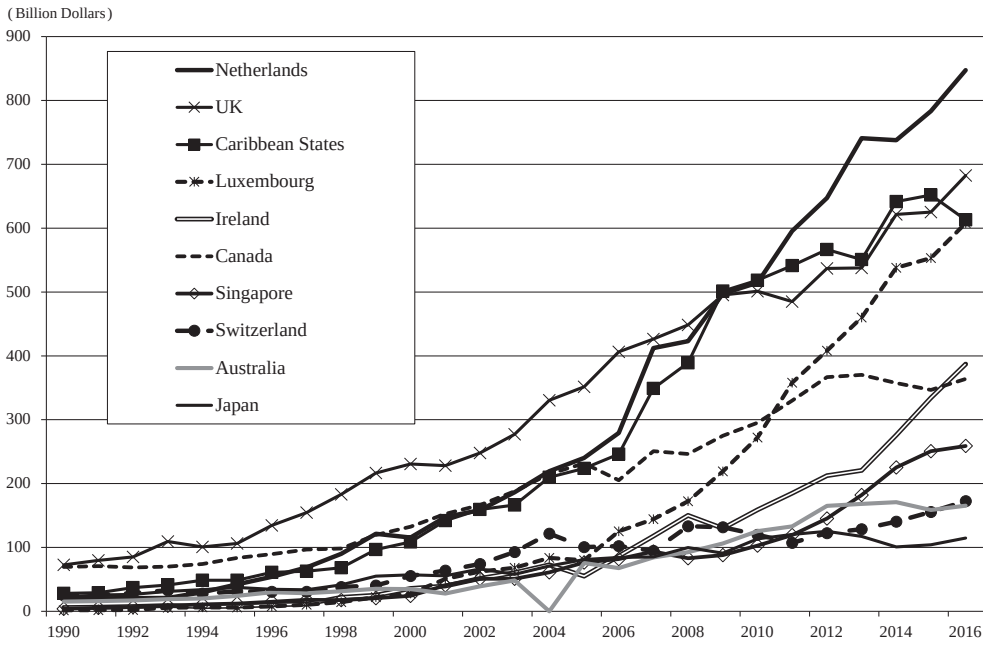
Similarly, we explore the development of US foreign direct investment. Figure 5 presents the top 10 destination countries for foreign direct investment stock from the United States. The Netherlands comes first followed by the United Kingdom. The Caribbean states in third place include Bermuda and British territories in the Caribbean. Neighboring coun-

Figure 4. Correlation between Rate of Return from Direct Investment and Manufacturing Share



Note: The authors calculate the above based on the data from the Ministry of Finance, Bank of Japan, and JETRO.

Figure 5. US Foreign Direct Investment Stocks by Country



Source: Bureau of Economic Analysis

tries Canada and Mexico are also principal destination countries, but Luxembourg and Ireland are recently more important in terms of investment stock sizes than Canada, and Mexico is out of the top 10. In contrast to Japan's case, the destinations of US foreign direct investment are less a reflection of trade partners. In Asia, foreign direct investment stock in Singapore is greater than it is in both Japan and China.

Table 3 lists rates of return on US foreign direct investment in the top 15 countries in terms of outstanding foreign direct investment stocks as of 2016. Although the entire period data based on Balance of Payment Manual 6 is available for the United States, we divide the period into 1996-2013 and 2014-16 to be consistent with Table 1 for Japan. We first notice that the rates of return tend to be higher in the United States than in Japan. The average return rate of the top 15 countries for the United States is 11.49%, whereas it is 6.92% for Japan. Comparing the same destination countries, while the rate of return from China is 7.31% for Japan, it is 15.9% for the United States. Note, however, that the difference in return rates between the United States and Japan has reduced recently as implied by the return rate from China after 2014 of 14.88% for the United States and 11.78% for Japan. Also, US foreign direct investment is directed to tax haven countries and earns higher returns such as in Ireland (19.74%), Singapore (15.68%), Switzerland (15.25%), Hong Kong (13.19%), Luxembourg (12.5%), the Netherlands (12.25%) and the Caribbean countries (10.78%). The US return rates from these tax haven countries are much higher than those of Japan. However, return rates from these tax havens have declined since 2014.

Table 3. Rates of Return on US Foreign Direct Investment by Country

	Netherlands	UK	Caribbean Countries	Luxembourg	Ireland	Canada	Singapore	Switzerland	Australia	Japan	China	Germany	Mexico	France	Hong Kong
1996-2016	12.25%	6.43%	10.78%	12.50%	19.46%	9.40%	15.68%	15.25%	7.95%	9.84%	15.90%	6.42%	11.43%	5.86%	13.18%
1996-2013	12.87%	6.44%	10.96%	13.50%	20.00%	9.91%	16.36%	15.06%	8.53%	9.97%	16.07%	6.92%	12.03%	6.22%	14.16%
2014-2016	8.50%	6.35%	9.72%	6.48%	16.28%	6.30%	11.60%	16.40%	4.45%	9.07%	14.88%	3.39%	7.80%	3.73%	7.35%

Note 1: The authors calculate the above based on the data from Bureau of Economic Analysis.
Note 2: The return rates are gains from the direct investment (receipts) in primary income balance divided by the average of direct investment stock at the beginning of the year and the end of the year. The direct investment stock is based on book value.

Table 4 presents economic growth rates of the destination countries. As far as the growth rates shown in the table, declining return rates for US foreign direct investment are not due to the stagnating destination economy. It is noted that stricter surveillance has been undertaken since the Global Financial Crisis in 2008. Although we need to wait for the empirical analysis before concluding that the international community's stance towards tax haven lowers the US return from foreign direct investment. However, what is clear here is that the United States obtains high returns from direct investment into the Netherlands and Switzerland, which are both countries that did not necessarily record high economic growth. On the

Table 4. Economic Growth rates of Destination Countries for US Foreign Direct Investment

	Netherlands	UK	Caribbean Countries	Luxembourg	Ireland	Canada	Singapore	Switzerland	Australia	Japan	China	Germany	Mexico	France	Hong Kong
1996-2016	1.96%	2.11%		3.57%	5.83%	2.44%	5.25%	1.88%	3.24%	0.87%	9.28%	1.39%	2.87%	1.56%	3.42%
1996-2013	1.96%	2.07%		3.51%	4.63%	2.57%	5.71%	1.92%	3.35%	0.87%	9.66%	1.31%	2.95%	1.65%	3.59%
2014-2016	1.96%	2.40%		3.91%	13.01%	1.66%	2.50%	1.68%	2.60%	0.86%	6.96%	1.87%	2.40%	1.07%	2.40%

Source: World Bank

other hand, the United States yields high return rates of near 9% from Japan whose economy has been stagnant for decades.

The US government publishes a large collection of data regarding direct investment and we can explore US foreign direct investment stocks by industry with more detailed categories than available in Japan's case. Table 5 shows the share of each industry in terms of foreign direct investment stocks in each of the prominent destination countries. It indicates 52% of entire US foreign direct investment is in holding companies. The shares attributable to holding companies are greatest in Luxembourg (88.97%) and the Netherlands (79.41%) followed by the Cayman Islands (66.54%), Ireland (54.11%), Singapore (50.26%), and the United Kingdom (46.15%). Multinationals typically set up a holding company to enhance efficiency of the management of the entire group, to improve effectiveness of the possession and management of the foreign subsidiaries, to diversify and isolate risks in proceeding multiple projects and businesses. The location of the holding company is determined after careful consideration of various factors including legal infrastructure, geometric convenience, availability of human resources, and regulation regarding foreign capital. Table 5 implies that US multinationals tend to put emphasis on the preferential taxation system that enables an entire group to improve cashflow. On the other hand, the direct investment into Japan is centered on finance and insurance (51.25%) and in China slightly more than half (50.86%) is in manufacturing.

Table 5. US Direct Investment Stock by Countries - Share by Industry (2016)

	Mining	Manufactureing	Wholesle Trade	Information	Depository Institutions	Finance (except depository institutions) and Insurance	Professional, Scientific, and Technical Services	Holding companies (nonbank)	Others
All countries	3.73%	12.50%	4.58%	3.66%	2.43%	12.65%	2.25%	51.79%	6.41%
Canada	5.32%	28.43%	6.52%	2.23%	1.18%	14.41%	2.25%	26.96%	12.70%
France	0.35%	26.84%	6.97%	2.59%	3.04%	20.73%	5.58%	21.17%	12.71%
Germany	0.28%	28.25%	11.17%	5.17%	1.18%	11.05%	4.65%	37.77%	0.48%
Ireland		5.43%	0.45%	11.55%		3.51%	2.83%	54.11%	
Luxembourg		1.72%	0.03%	0.61%		3.84%	0.20%	89.97%	1.65%
Netherlands	0.12%	6.34%	2.08%	2.89%	0.02%	6.89%	0.62%	79.41%	1.62%
Switzerland		21.49%	5.96%	4.83%		11.32%	1.80%	30.18%	19.01%
United Kingdom	0.68%	7.61%	1.48%	4.25%	3.12%	23.21%	5.05%	46.15%	8.44%
Mexico	12.47%	33.80%	4.33%	1.66%		11.02%	-0.35%	24.42%	
Caribbean States	2.25%	-1.61%	3.57%	1.45%	2.26%	23.52%	0.32%	66.54%	1.71%
Australia	19.56%	9.38%	3.33%	3.62%	0.32%	3.98%	5.93%	49.19%	4.68%
China	2.91%	50.86%	14.03%	2.81%	4.74%	3.09%	1.63%	8.98%	10.94%
Hong Kong	0.00%	6.13%	30.28%	12.42%	3.17%	10.67%	3.59%	26.13%	7.61%
Japan	0.00%	17.50%	5.95%	7.80%	3.17%	51.25%	3.02%	3.44%	7.86%
Singapore	0.38%	16.43%	16.39%	3.40%	0.51%	8.33%	0.62%	50.26%	3.69%

Note: The authors calculate the above based on the data from Bureau of Economic Analysis.

Table 6 shows share of destination countries in terms of foreign direct investment stocks in each industry. In all industries, the largest share is accounted for by the Netherlands (15.89%) followed by the United Kingdom (12.8%), the Caribbean states (11.5%), and Luxembourg (11.4%). Although the destinations of manufacturing investment are dispersed widely across countries, those of holding companies are concentrated in specific countries such as the Netherlands and Luxembourg which provide various preferential tax regulations enabling multinationals to minimize their tax burden. Thus the multinationals expand direct investment to the Netherlands and Luxembourg with preferential treatments in mind. Table 5 also shows that the United Kingdom has large shares in banking, insurance and other financial services.

Table 6. US Direct Investment Stock by Industry - Share of Each Country (2016)

	All Industries	Mining	Manufactureing	Wholesle Trade	Information	Depository Institutions	Finance (except depository institutions) and Insurance	Professional, Scientific, and Technical Services	Holding companies (nonbank)	Others
Canada	6.82%	9.74%	15.52%	9.71%	4.16%	3.33%	7.77%	6.82%	3.55%	13.52%
France	1.46%	0.14%	3.14%	2.23%	1.04%	1.83%	2.40%	3.63%	0.60%	2.90%
Germany	2.02%	0.15%	4.57%	4.92%	2.85%	0.98%	1.76%	4.17%	1.47%	0.15%
Ireland	7.26%		3.15%	0.72%	22.91%		2.01%	9.11%	7.58%	
Luxembourg	11.40%		1.56%	0.08%	1.89%		3.46%	1.01%	19.80%	2.94%
Netherlands	15.89%	0.51%	8.06%	7.21%	12.54%	0.14%	8.65%	4.40%	24.37%	4.02%
Switzerland	3.24%		5.56%	4.21%	4.27%		2.90%	2.58%	1.89%	9.60%
United Kingdom	12.80%	2.35%	7.79%	4.13%	14.87%	16.48%	23.47%	28.68%	11.40%	16.85%
Mexico	1.64%	5.50%	4.44%	1.55%	0.74%		1.43%	-0.25%	0.77%	
Caribbean States	11.50%	6.94%	-1.48%	8.96%	4.55%	10.73%	21.37%	1.61%	14.78%	3.07%
Australia	3.10%	16.28%	2.33%	2.26%	3.07%	0.41%	0.97%	8.16%	2.95%	2.27%
China	1.73%	1.35%	7.06%	5.31%	1.33%	3.39%	0.42%	1.26%	0.30%	2.96%
Hong Kong	1.23%	0.00%	0.60%	8.13%	4.18%	1.61%	1.04%	1.96%	0.62%	1.46%
Japan	2.15%	0.00%	3.01%	2.79%	4.58%	2.81%	8.71%	2.88%	0.14%	2.64%
Singapore	4.85%	0.50%	6.38%	17.37%	4.51%	1.01%	3.19%	1.34%	4.71%	2.79%

Note: The authors calculate the above based on the data from Bureau of Economic Analysis.

III. The Determinants of Rates of Return from Foreign Direct Investment

III-1. Model Specification

We will explore the determinants of rates of return from foreign direct investment in this section. We consider the effects of corporate income tax rates, as Bosworth et al. (2007) and Curcuru et al. (2013) did, as well as the choices of destination countries on the return rates.

To identify these determinants of the return rates of foreign direct investment from Japan and the United States, we estimate the following equation.

$$DIRET_{i,t} = \text{const} + \beta TAX_{i,t} + \sum \delta_h RISK^h_{i,t} + \sum \gamma_k Z^k_{i,t} + \eta DM_{year} + \mu_i + \varepsilon_{i,t}$$

where $DIRET_{i,t}$ is the rates of return from foreign direct investment into destination country i in the period between year $t-1$ to year t, $TAX_{i,t}$ is the corporate income tax rate (effective rate) in country i, $RISK^h_{i,t}$ is the h-th risk factor regarding the foreign direct investment in the destination country i, $Z^k_{i,t}$ are the potential determinants of foreign direct investment other than tax rates and risk factors, DM_{year} is the year (or period) dummy, and μ_i denotes the country fixed effect specific to country i.

We aim to verify whether cutting corporate income tax rates enhances rates of return from foreign direct investment. We also identify the impact of risk factors in the return rates. Curcuru et al. (2013) and Curcuru and Thomas (2015) report that sovereign risk factors influence the excess return rates of foreign direct investment from the United States in the magnitude of 0.9 percentage points. In this paper, we employ sovereign credit default swap (CDS) spreads for the sovereign risk factors following the previous literature. However, since the availability of sovereign CDS spreads is limited, we will adopt net external assets (% of GDP) and public debt (% of GDP) here too. Multinationals face a variety of risks in doing business in the destination countries including red tape required to set up a new subsidiary, and practices such as bribery due to widespread corruption. We examine how such structural factors in the destination countries affect rates of return from foreign direct investment.

The effect of corporate tax rates and risk factors as determinants of foreign direct investment returns should be estimated after controlling for other potential causes such as GDP growth, industrial structure, and fluctuation in exchange rates. Not surprisingly, return rates tend to be higher in countries with higher economic growth rates. Conversely, return rates drop with the outbreak of financial and economic crisis. Therefore, we control for the economic growth rates in cross section and time series in the estimation. Also, Japan tends to earn higher returns from direct investments into Asian countries, which are known as manufacturing-centric. Thus, we explore how industrial structure, namely manufacturing industry ratio, matters in terms of rates of return from foreign direct investment. Furthermore, as mentioned in footnote 4 in the previous chapter, the rates of return from foreign direct investment are not perfectly immune from the bias of foreign exchange fluctuations. Also, if variations in the foreign exchange affect sales profits of foreign subsidiaries and branches, such effects should be reflected in the return from foreign direct investment. To control for such possible impacts of foreign exchange fluctuations, we add rates of change in foreign exchange as an explanatory variable.

III-2. Data

The estimations are based on panel data from 2005 to 2016[6]. Destination countries, whose return rates from foreign direct investment are available, include 28 countries for Japan[7] and 45 countries for the United States.[8]

The data sources for Japan's foreign direct investment returns, foreign direct investment stock, ratio of manufacturing industry-to-entire foreign direct investment (MANUF) are from the Ministry of Finance and the Bank of Japan. Those for the United States are from the Bureau of Economic Analysis. Also, real GDP growth (GDPGR) is from the World Bank. Net foreign asset-GDP ratio, public debt-GDP ratio, sovereign CDS spread (SOVCDS), annual rates of change of foreign exchange (FX) are from, or calculated based on, Thomson Reuter's *Datastream*. Sovereign CDS spread and exchange rates are averages for December from each year. Sovereign CDS spread with a five-year term is available from 2007.

Although foreign direct investment data from the United States based on the Balance of Payment Manual 6 are available from 2005, the same data for Japan is available for only after 2014 and so data for previous years are based on Balance of Payment Manual 5. We check possible discontinuity due to changes arising from the edition change by period dummy (= 1 if after 2014) and confirm that it is insignificant.

The return from foreign direct investment in this analysis includes dividends, distributed

[6] Although the data for the US foreign direct investment dates back further, the data for Japanese foreign direct investment is available only after 2005 even based on the Balance of Payment Manual 5. Thus, we set the period of data analysis from 2005.

[7] In addition to these 28 countries, data for the Cayman Islands and Middle East countries are also available. However, macroeconomic data for these countries are not necessarily available and so we exclude them from the sample.

[8] In the United States' case, data are available for more countries. However, these 45 countries represent most of the US foreign direct investment destinations and we exclude data showing extreme values for return rates.

branch profits, reinvested earnings and interest payable, and the majority comprises of dividends, distributed branch profits and reinvested earnings. Hasegawa and Kiyota (2015) explore how foreign dividend exclusion introduced in 2009 affects dividend recycle flow from foreign subsidiaries to Japanese firms and Adachi (2017) analyzes how the new foreign dividend exclusion rule affects foreign direct investment by Japanese firms. Although the foreign dividend exclusion rule is considered to have some impact on dividend returns and reinvested earnings as a result of the change in the composition ratio of dividends and retained profits in direct investment income, our estimates aim at the total return from foreign direct investment including dividends and reinvested earnings, and we shed light on the after-tax return rates taking into consideration the corporate income tax deduction in the destinations. Thus, we do not explicitly consider the introduction of the foreign dividend exclusion rule in 2009.

The corporate income tax rates in the destination countries are the effective rates and downloaded from the homepage of KPMG.

As for the structural risk factors in the destination countries, we employ International Country Risk Guide (ICRG) by the PRS Group[9] and Doing Business[10] by the World Bank and International Financial Corporation. Specifically, we use Government Stability (GOVST), Socioeconomic Conditions (SOCIO), Investment Profile (INVPR), Internal Conflict (CONFLT), Corruption (CORRPT), Law and Order (LAWODR), and Bureaucracy Quality (BUREAU) from the ICRG. From Doing Business, we select expenses, procedure, and time required for start of business[11]. Since ICRG data are available until 2015, the estimation period using ICRG data is up to 2015.

III-3. Regression Results

Table 7 reports the regression results of the estimation equation of the determinants of the foreign direct investment returns from Japan and the United States using the fixed effects model. Although we use standard deviations adjusted for the cross-section heteroscedasticity in judging statistical significance levels, the standard deviation adjusted for the cross-section heteroscedasticity and the simultaneous correlation and the standard deviation adjusted for the time series heteroscedasticity and series correlations lead to only minor changes in the results. The results are unaffected by the inclusion of autoregression terms to exclude series correlations.

Looking at the results for US direct investment, we observe significantly positive coefficients for the economic growth and manufacturing industry ratio indicating that the higher

[9] The details of the methodologies in compiling each of the indicators of ICRG data are explained on the homepage of the PRS Group. (https://www.prsgroup.com/wp-content/uploads/2012/11/icrgmethodology.pdf)

[10] The indicators from Doing Business are available at the World Bank's website. The detailed explanation of indicators also refers to the web site. (http://www.doingbusiness.org/)

[11] To be specific, we employ cost to start a business (% of income per capita), procedures required to start a business (number), and time required to start a business (days). The Doing Business database provides information on tax rates and we obtain similar results with corporate income tax rate data from the KPMG.

the economic growth rates and the more manufacturing-centric the destination countries, the higher the rates of return from foreign direct investment. The average of estimates of the coefficients for economic growth is 0.339, which signifies that shifting foreign direct investment into a country with higher economic growth by one percentage point (or higher economic growth by one percentage point in the destination country) improves the return rate by 0.339 percentage points. The average of coefficients for the manufacturing industry ratio is 0.0979. This implies that if the US shifts foreign direct investment to a country with a higher manufacturing industry ratio by 10 percentage points (or a destination country increases manufacturing industry ratio by 10 percentage points), the return rate would increase by 0.979 percentage points. The coefficients for the foreign exchange rate fluctuation are not significant, which is consistent with the results of Curcuru et al. (2013). We employ net foreign assets (% of GDP), public debt (% of GDP), and sovereign CDS spread as sovereign risk factors. The estimates of the coefficient for the net foreign asset-GDP ratio are significant suggesting that the United States earns higher returns from foreign direct investment into a destination with lower net foreign assets reflecting higher risk premium. The average of the estimates is -0.0397 and this indicates that by shifting foreign direct investment into a destination with lower net foreign assets by 10 percentage points (of a destination country reduces its net foreign asset-GDP ratio by 10 percentage points), the United States would improve the return rate by 0.397 percentage points. Also, the estimate for the public debt in the rightmost column is significantly positive. That is, if the United States shifts foreign direct investment into a destination with a higher public debt-GDP ratio by 10 percentage points (of a destination country deteriorates its public debt-GDP ratio by 10 percentage points), the United States would earn an additional return of 0.458 percentage points. Yet, the coefficients for the corporate income tax in the six columns from the left are positive and significant. This might be due to the small time series variations in the tax rates and estimation by the fixed effects model.

Inclusion of year dummies instead of country dummy variables clearly shows lower return rates after 2010 and the coefficients for the 2012 and later are all negative. The year dummy stands for factors affecting returns from foreign direct investment common to all the destination countries. One possible interpretation is that unconventional monetary policy adopted by Japan, the United States, and Europe considerably lowered funding cost and then expanded the global flows of funds into countries across the world, in part as foreign direct investment. The declining US rates of return from foreign direct investment in the 2010s can be due to the implementation of such policy.

Then, we introduce a period dummy after 2010 (DM2010-2016) and year dummies (DM2006, ⋯, DM2016) to the fixed effect model with country dummies. It follows that the coefficients for the corporate income tax are not significant or show a negative sign. The period and year dummies have significantly negative estimates of coefficients and the average for the period dummy is -0.04. This signifies that the return from foreign direct investment by the United States tends to be lower by 4 percentage points in 2010 and later after controlling for economic growth and other factors. We also observe that the declining tendency

Table 7-1. Determinants of Returns from Foreign Direct Investment by the United States

Sample	2005-2016	2005-2016	2005-2016	2005-2016	2007-2016	2008-2016	2005-2016	2005-2016	2005-2016	2005-2016	2005-2016
Periods included	12	12	12	12	10	9	12	12	12	12	12
Cross-sections included	45	45	45	45	38	38	45	42	45	45	42
Total panel observations	529	522	524	514	345	306	524	449	529	524	449
Constant	-0.0498 *	0.0492 **	-0.0466 **	0.0178	-0.0615 **	0.0233	0.1083 ***	0.0750 **	0.1412 ***	0.1361 ***	0.1128 ***
	0.0292	0.0217	0.0229	0.0226	0.0307	0.0363	0.0176	0.0381	0.0300	0.0300	0.0371
TAX	0.0049 ***	0.0013 *	0.0048 ***	0.0025 ***	0.0053 ***	0.0026 *	0.0007	0.0011	-0.0013	-0.0011	-0.0008
	0.0010	0.0007	0.0008	0.0009	0.0010	0.0013	0.0012	0.0015	0.0010	0.0011	0.0013
GDPGR	0.4328 ***	0.3274 ***	0.4032 ***	0.3128 ***	0.2819 ***	0.3185 ***	0.4611 ***	0.4820 ***	0.2446 ***	0.2162 ***	0.2484 ***
	0.1040	0.0622	0.1083	0.0731	0.0951	0.0876	0.0880	0.0854	0.0783	0.0720	0.0718
MANUF	0.1134 ***	0.0867 **	0.1083 ***	0.0845 **	0.1042 *	0.0005	0.1246 ***	0.0847 ***	0.1369 ***	0.1308 ***	0.1019 ***
	0.0208	0.0341	0.0199	0.0341	0.0546	0.0417	0.0240	0.0224	0.0261	0.0240	0.0268
FX	-0.0383	0.0168	-0.0299	0.0216	-0.0296	0.0054	0.0002	-0.0274	0.0045	0.0084	-0.0131
	0.0439	0.0193	0.0455	0.0222	0.0486	0.0168	0.0292	0.0472	0.0269	0.0275	0.0452
NETEX			-0.0441 ***	-0.0427 **			-0.0381 ***			-0.0339 ***	
			0.0153	0.0183			0.0143			0.0124	
GOVD								0.0047			0.0458 *
								0.0205			0.0234
SOVCDS					0.0058	-0.0192					
					0.0609	0.0385					
DM2010-2016							-0.0415 ***	-0.0385 ***			
							0.0094	0.0129			
DM2006									0.0090 ***	0.0114 ***	-0.0005
									0.0028	0.0028	0.0066
DM2007									0.0091 **	0.0105 ***	0.0131 *
									0.0037	0.0037	0.0075
DM2008									0.0025	0.0043	0.0101 **
									0.0037	0.0037	0.0045
DM2009									-0.0277 ***	-0.0284 ***	-0.0311 ***
									0.0083	0.0076	0.0118
DM2010									-0.0152 ***	-0.0177 ***	-0.0167 ***
									0.0025	0.0023	0.0057
DM2011									-0.0219 ***	-0.0232 ***	-0.0255 ***
									0.0033	0.0030	0.0060
DM2012									-0.0417 ***	-0.0414 ***	-0.0451 ***
									0.0047	0.0044	0.0081
DM2013									-0.0513 ***	-0.0495 ***	-0.0537 ***
									0.0042	0.0041	0.0075
DM2014									-0.0592 ***	-0.0564 ***	-0.0611 ***
									0.0047	0.0052	0.0076
DM2015									-0.0748 ***	-0.0705 ***	-0.0761 ***
									0.0050	0.0054	0.0083
DM2016									-0.0725 ***	-0.0666 ***	-0.0742 ***
									0.0052	0.0055	0.0089
adj R^2	0.5179	0.6439	0.5240	0.6473	0.4677	0.6535	0.5929	0.5673	0.6306	0.6348	0.6188
DW	1.0096	2.0699	1.0374	2.1189	0.9357	2.0343	1.2219	1.2033	1.1434	1.1849	1.1487
AR	No	Yes	No	Yes	No	Yes	No	No	No	No	No

Note: For each of the explanatory variables, the value in the upper row is the estimate and the one in the lower row is the standard deviation. ***, **, and* denote significance levels of 1%, 5%, and 10% respectively. We estimate based on the fixed effects model and so include cross-section dummies. The standard deviations are White's standard deviation adjusting the cross-sectional heteroscedasticity.

Table 7-2. Determinants of Returns from Foreign Direct Investment by Japan

Sample	2005-2016	2006-2016	2005-2016	2006-2016	2007-2016	2008-2016	2005-2016	2005-2016	2005-2016	2005-2016	2005-2016
Periods included	12	11	12	12	10	9	12	12	12	12	12
Cross-sections included	29	29	28	28	24	24	28	27	29	28	27
Total panel observations	345	316	331	302	221	197	331	294	345	331	294
Constant	0.0086	0.0040	-0.0087	-0.0154	-0.0187	0.0239	0.1376 ***	0.0757 *	0.1566 ***	0.1352 ***	0.0920 **
	0.0238	0.0476	0.0293	0.0480	0.0406	0.1004	0.0352	0.0424	0.0321	0.0358	0.0371
TAX	0.0009	0.0010	0.0014 *	0.0015	0.0006	-0.0005	-0.0029 ***	-0.0021	-0.0033 ***	-0.0027 **	-0.0022 *
	0.0007	0.0016	0.0008	0.0015	0.0024	0.0049	0.0011	0.0013	0.0010	0.0010	0.0012
GDPGR	0.1434	-0.1007	0.1315	-0.1018	-0.0114	-0.1549	0.2297	0.2677	0.1301	0.1462	0.0571
	0.2187	0.2858	0.2178	0.2831	0.2549	0.3380	0.2260	0.2502	0.1908	0.1905	0.2075
MANUF	0.0669 **	0.0778	0.0306 **	0.0812	0.1496 **	0.1228	0.0506 *	0.0747 **	0.0454	0.0475 *	0.0701 **
	0.0295	0.0501		0.0519	0.0622	0.0792	0.0270	0.0315	0.0283	0.0278	0.0309
FX	-0.0175	-0.0363 **	-0.0151	-0.0343 **	-0.0505	-0.0465	-0.0072	-0.0142	0.0293	0.0308	0.0246
	0.0357	0.0148	0.0373	0.0165	0.0375	0.0425	0.0193	0.0196	0.0400	0.0427	0.0338
NETEX			0.0109	0.0078			0.0202 **			0.0211 ***	
			0.0072	0.0098			0.0080			0.0062	
GOVD								0.0588 *			0.0593 **
								0.0326			0.0300
SOVCDS					-0.7444	-0.5468					
					0.4902	0.7528					
DM2010-2016							-0.0361 ***	-0.0407 ***			
							0.0088	0.0114			
DM2006									-0.0015	-0.0021	-0.0020
									0.0016	0.0016	0.0013
DM2007									0.0141 ***	0.0145 ***	0.0150 ***
									0.0027	0.0028	0.0024
DM2008									0.0193	0.0201	0.0135
									0.0166	0.0178	0.0145
DM2009									-0.0247 **	-0.0230 *	-0.0383 ***
									0.0115	0.0120	0.0141
DM2010									-0.0579 ***	-0.0616 ***	-0.0665 ***
									0.0069	0.0071	0.0063
DM2011									-0.0204 **	-0.0220 **	-0.0299 ***
									0.0083	0.0088	0.0087
DM2012									-0.0304 ***	-0.0302 ***	-0.0386 ***
									0.0056	0.0059	0.0082
DM2013									-0.0475 ***	-0.0470 ***	-0.0569 ***
									0.0068	0.0075	0.0088
DM2014									-0.0236 ***	-0.0225 ***	-0.0321 ***
									0.0052	0.0058	0.0079
DM2015									-0.0237 **	-0.0240 **	-0.0386 ***
									0.0095	0.0103	0.0120
DM2016									-0.0321 ***	-0.0342 ***	-0.0440 ***
									0.0086	0.0094	0.0109
adj.R^2	0.3159	0.4115	0.3121	0.4035	0.3169	0.3722	0.3762	0.3644	0.4092	0.4145	0.4053
DW	1.2951	1.8602	1.3108	1.8731	1.5321	1.8975	1.4052	1.4472	1.3450	1.3653	1.3976
AR	No	Yes	No	Yes	No	Yes	No	No	No	No	No

Note: For each of the explanatory variables, the value in the upper row is the estimate and the one in the lower row is the standard deviation. ***, **, and* denote significance levels of 1%, 5%, and 10% respectively. We estimate based on the fixed effects model and so include cross-section dummies. The standard deviations are White's standard deviation adjusted for the cross-sectional heteroscedasticity.

in the return has become more evident recently.

Tuning our eyes to the results of Japan's return rates, most remarkably the estimates of the coefficient for the manufacturing industry ratio are persistently positive and significant regardless of the choice of sovereign risk factors[12]. When we include autoregressive terms, we tend to observe significance for the estimates of changes on the foreign exchange rates, however this does not alter the signs of the other estimates. Like in the US case, the coefficients of the period and year dummies are negative and significant, confirming that foreign direct investment returns from Japan have also been severely hampered by the worldwide economic downturn or global injection of liquidity. Yet, the absolute values of the coefficients of period and year dummies are smaller in the case of Japan, which indicates that declines in the returns rates from the foreign direct investment are more obvious in the United States.[13] Also, while some of the estimates of the coefficients for corporate income tax are positive and significant, inclusion of year dummies shifts them to negative and significance which is consistent with the tendency of higher return from foreign direct investment in destination countries with lower tax rates. As for the sovereign risk, we observe significantly positive coefficients for the public debt-GDP ratio as expected in the regressions with period and year dummies. The estimates of the coefficient for public debt are greater in the regression for Japan than those in the US case. This suggests that Japanese multinationals secure higher risk premiums in foreign direct investment into destinations with higher sovereign risk.

Table 8 presents the coefficients for the country dummies for Japan and the United States respectively. Note that the averages of the destinations are zero and so destinations with higher (lower) return rates than the averages, after controlling for the other factors, show positive (negative) coefficients. While we observe higher returns from Singapore, Hong Kong, Switzerland, Australia, Ireland, the Netherlands, and Luxembourg in the case of the United States, returns from foreign investments from Japan tends to be rather smaller and Asian countries and those returns from natural resource rich countries look superior on the whole. These top countries for US foreign direct investment, which are mostly consistent with Table 3, overlap considerably with top destination countries in terms of outstanding foreign direct investment stocks. Although the economic growth rates are close, coefficients for the dummies for other European countries such as Germany, France, Finland, and Italy are much smaller than the average. This is presumably due to factors not considered in this empirical analysis.

Next, we clarify how structural factors, instead of sovereign risk factors, affect foreign direct investment return. One thing to note is that each of the indicators from the ICRG dataset has only small time series variation like that for the corporate income tax rates, and so

[12] The results are not affected by the standard deviations adjusted for the heteroscedasticity and time series correlations.

[13] When we regress return rates on constant and year/period dummies only, the coefficient of determination (adjusted R^2) is 0.064 (−0.0018) for Japan and 0.148 (0.075) for the United States. If we assume year dummies reflect global injection of liquidity as a common factor, this may imply that US foreign direct investment returns are more sensitive to the climate of the global financial market.

Table 8. Coefficients for the Country Dummies (Fixed Effects)

Norway	0.186
Singapore	0.117
Hong Kong	0.113
Peru	0.107
Switzerland	0.085
Indonesia	0.080
Malaysia	0.076
Austria	0.059
Ireland	0.042
Venezuela	0.042
Columbia	0.038
Egypt	0.032
Netherlands	0.031
Chile	0.027
India	0.025
Luxembourg	0.024
Japan	0.021
Taiwan	0.016
China	0.007
Thailand	0.007
Argentina	0.004
Denmark	-0.012
Russia	-0.014
Philippines	-0.017
Brazil	-0.018
Korea	-0.022
South Africa	-0.027
Mexico	-0.028
Portugal	-0.028
Canada	-0.031
UK	-0.039
Australia	-0.043
Czech	-0.048
Spain	-0.048
Germany	-0.052
Turkey	-0.054
Hungary	-0.056
Belgium	-0.059
New Zealand	-0.060
Italia	-0.062
France	-0.066
Sweden	-0.067
Costa Rica	-0.071
Finland	-0.073
Poland	-0.085

Australia	0.088
South Africa	0.053
Thailand	0.052
Brazil	0.044
Canada	0.032
U.S.	0.031
Malaysia	0.026
Indonesia	0.017
Philippines	0.013
Korea	0.008
Spain	0.004
China	0.001
New Zealand	0.001
Mexico	-0.00002
India	-0.008
Russia	-0.009
Italia	-0.010
UK	-0.016
Germany	-0.016
Taiwan	-0.019
Netherlands	-0.020
Hong Kong	-0.022
France	-0.022
Singapore	-0.026
Belgium	-0.027
Luxembourg	-0.036
Sweden	-0.037
Switzerland	-0.095

Note: The estimates are based on the regression including corporate income tax rates, GDP growth, manufacture share, exchange rates fluctuations, net external asset-GDP ratio and period dummy.

we estimate the regression equation using OLS. Table 9 excerpts estimates of the coefficients of the structural factors. Comparing the estimates for Japan and the United States, while there are some exceptions, the absolute values of the coefficients are estimated to be greater for the United States on the whole. As smaller values in ICRG indicators and greater values in Doing Business indicators mean higher risks and costs, estimates for the United States are all in the signs expected and significant except for the one for GOVST. On the other hand, the coefficients for COSTSTART and PROCSTART are in the opposite signs without significance and the ones for SOCIO and INVPR are not significant. Overall, the results imply that US multinationals secure additional return from foreign direct investment by taking risks and costs.

Table 10 calculates weighted averages based on the index values of the structural risk factors of the destination countries. Although there are no major differences in the macroeconomic risks that Japan and the United States face, Japanese multinationals appear to be subject to relatively higher risks compared to US multinationals excluding the stability of the administration. As discussed with Figure 5, prominent destinations for the United States are tax havens in Europe such as the Netherlands, the United Kingdom, Luxembourg, Ireland, and Switzerland that provide various incentives including corporate income tax reduction to attract foreign direct investment.

What are the magnitudes of additional return by taking these risks? For example, the coefficients for the TIMESTART are 0.0002 for Japan and 0.0004 for the United States respectively. The average days to start a new business in the destination countries are 16 days for Japan and 14.4 days for the United States. Therefore, the risk factor of time required for set-

Table 9. Effect of Structural Risk Factors on the Return from Foreign Direct Investment

	US	Japan
GOVST	-0.0002	-0.0032 ***
SOCIO	-0.0018 *	-0.0017
INVPR	-0.0069 ***	-0.0036
CORRPT	-0.0073 ***	-0.0081 ***
CONFLT	-0.0068 ***	-0.0049 **
LAWODR	-0.0094 ***	-0.0102 ***
BUREAU	-0.0128 ***	-0.0108 ***
COSTSTART	0.0011 ***	-0.0001
PROCSTART	0.0043 ***	-0.0006
TIMESTART	0.0004 ***	0.0002 ***

Note: The estimates are based on the regression including corporate income tax rates, GDP growth, manufacture share, exchange rates fluctuations, period dummy, and structural risk factors in the table. The values in the table are the estimates of the coefficients for the structural risk factors. ***, **, and* denote significance levels of 1%, 5%, and 10% respectively based on the t-statistics calculated by the White's standard deviation adjusted for the cross-sectional heteroscedasticity.

Table 10. Levels of Structural Risks in the Destinations of Foreign Direct Investment

	US	Japan	US - Japan
GOVST	7.804	7.830	-0.026
SOCIO	8.726	8.396	0.330
INVPR	10.773	10.593	0.180
CORRPT	4.318	3.852	0.466
CONFLT	10.137	9.786	0.351
LAWODR	5.222	4.768	0.455
BUREAU	3.723	3.495	0.228
COSTSTART	4.727	4.936	-0.209
PROCSTART	5.654	6.736	-1.082
TIMESTART	14.386	15.997	-1.611

Note: The values in the table are the weighted averages of the structural risk index based on the outstanding of the foreign direct investment (period average). The index from ICRG covers 2005-2015 and index from "Doing Business" covers 2015-2016.

ting up a startup ensures risk premium of 0.626% (0.363%) for the US (Japanese) multinationals. Although Japan and the United States are confronted with a similar level of macroeconomic risks, the additional return for the United States is approximately twice as high as that for Japan.

Table 11 presents the estimates of the coefficients for the corporate income tax rates using OLS. All of the estimates show the signs as expected with significance. That is, shifting to a destination with lower corporate income tax rate (or reduction in the corporate income tax in the destination) enhances returns from foreign investments. Table 12 presents the development of corporate income tax rates in the destinations from 2005 to 2016 for Japan and the United States (weighted averages by the outstanding stocks). This shows the global tendency of declining corporate income tax rates. Although Japanese multinationals benefit from this trend, average tax rates are lower in the US destination countries and the difference between the two has widened on average. This signifies that US multinationals prefer destinations with lower tax rates more than Japanese firms do.

To what extent the return from Japan's foreign direct investment would be improved if Japanese multinationals choose to invest in countries with corporate tax rates similar to the case of the United States? Table 13 presents the value computed as products of difference in the tax rates between Japan and the United States in the Table 12 and the coefficient for the corporate tax rates for Japan in the Table 11. This experiment suggests that the return would be higher by 0.71 percentage points in 2005 and 1.12 percentage points in 2016. The gap arises due to the inclination of US multinationals to increasingly pursue low corporate tax countries.[14]

Note that the preferential treatment that the multinationals enjoy is not limited to the re-

[14] For Japan, the coefficients for the corporate income tax are significantly negative even by the fixed effect model with year and period dummies. The average of the estimates is −0.0026 and the improvement in the return by shifting to lower tax rate destinations similar to the US case would be computed as 1.01 percentage points in 2005 and 1.59 percentage points in 2016.

Table 11. Coefficients for the Corporate Tax Rates using OLS

	US	Japan
GOVST	-0.0013 ***	-0.0020 ***
COSIO	-0.0014 ***	-0.0020 ***
INVPR	-0.0018 ***	-0.0020 ***
CORRPT	-0.0014 ***	-0.0018 ***
CONFLT	-0.0016 ***	-0.0020 ***
LAWODR	-0.0019 ***	-0.0021 ***
BUREAU	-0.0015 ***	-0.0017 ***
COSTSTART	-0.0018 ***	-0.0019 ***
PROCSTART	-0.0022 ***	-0.0018 ***
TIMESTART	-0.0019 ***	-0.0021 ***
NETEX	-0.0012 ***	-0.0015 **
GOVD	-0.0015 ***	-0.0014 ***
SOVCDS	-0.0008 *	-0.0013 ***
average	-0.0016	-0.0018

Note: The estimates are based on the regression including corporate income tax rates, GDP growth, manufacture share, exchange rates fluctuations, period dummy, and structural risk factors in the table. The values in the table are the estimates of the coefficients for the structural risk factors using OLS. ***, **, and* denote significance levels of 1%, 5%, and 10% respectively based on the t-statistics calculated by the White's standard deviation adjusted for the cross-sectional heteroscedasticity.

duced corporate income tax rates. Whereas the tax rates in Ireland and the Netherlands in 2019 are 12.5% and 25% respectively[15], Google and Apple, which adopt the complicated tax avoidance scheme known as the so-called Double Irish with a Dutch Sandwich (DIDS), are said to pay only 2-3% corporate income tax. The tax treaties that Ireland and the Netherlands agreed with various countries enable those companies to benefit from such surprisingly low tax burdens. Thus, in order to explore effective tax burdens for the multinationals not shown as corporate tax rates, we need to pursue an alternative approach.

Table 14 presents estimates of the constant term of the regression with various risk factors. In all of the cases, the ones for the United States show higher values. This indicates that returns from foreign direct investment are higher for US multinationals after controlling for the macroeconomic risks and other factors and that US multinationals have advantages in securing returns from foreign direct investment due to some factors not considered in this analysis. This may come from tax avoidance schemes like DIDS or simply arise because of the pioneering advantage. Alternatively, it may be due to some microeconomic factors such as localization of management and operation resources.

[15] The tax rate in the Netherlands was 31.5% in 2005, and was lowered to 29.6% in 2004 and to 25.5% in 2005.

Table 12. Average of the Corporate Income Tax rates in the Destination Countries (%)

	US	Japan	US - Japan
2005	30.56	34.46	-3.90
2006	29.76	33.87	-4.11
2007	28.86	33.06	-4.20
2008	27.69	32.44	-4.74
2009	27.18	31.83	-4.66
2010	26.97	31.49	-4.51
2011	26.26	30.95	-4.69
2012	25.55	30.28	-4.74
2013	25.27	30.25	-4.97
2014	24.62	30.12	-5.50
2015	24.16	30.10	-5.95
2016	23.97	30.10	-6.13
average	26.74	31.58	-4.84

Note: The values are the weighted averages of the corporate income tax rates in the destination countries based on the outstanding balance of the foreign direct investment.

Table 13. Additional Return for Japan's Foreign Direct Investment through Corporate Tax Reduction

2005	0.71%
2006	0.75%
2007	0.77%
2008	0.86%
2009	0.85%
2010	0.82%
2011	0.85%
2012	0.86%
2013	0.91%
2014	1.00%
2015	1.08%
2016	1.12%
average	0.88%

Note: The values are the hypothetical additional returns if the corporate income tax rates for Japan are as low as those imposed on the direct investment by the United States. The values are calculated by the multiple of the difference in the corporate income tax rates between the United States and Japan in Table 13 and the coefficients for the corporate income tax rates for Japan in Table 12.

Table 14. Estimates of the Constant Term

	US	Japan	US - Japan
GOVST	0.1665 ***	0.1558 ***	0.0107
SOCIO	0.1836 ***	0.1429 ***	0.0407
INVPR	0.2568 ***	0.1714 ***	0.0854
CORRPT	0.1997 ***	0.1609 ***	0.0388
CONFLT	0.2420 ***	0.1813 ***	0.0607
LAWODR	0.2263 ***	0.1855 ***	0.0408
BUREAU	0.2122 ***	0.1593 ***	0.0529
COSTSTART	0.1606 ***	0.1252 ***	0.0354
PROCSTART	0.1581 ***	0.1262 ***	0.0318
TIMESTART	0.1648 ***	0.1281 ***	0.0367
NETEX	0.1582 ***	0.1127 ***	0.0454
GOVD	0.1714 ***	0.0976 ***	0.0738
SOVCDS	0.1603 ***	0.1365 ***	0.0238
average	0.1893	0.1449	0.0444

Note: The estimates are based on the regression including corporate income tax rates, GDP growth, manufacture share, exchange rates fluctuations, period dummy, and structural risk factors in the table using OLS. ***, **, and* denote significance levels of 1%, 5%, and 10% respectively based on the t-statistics calculated by the White's standard deviation adjusted for the cross-sectional heteroscedasticity.

IV. Concluding Remarks

Improving returns from net foreign assets to offset the deterioration of the net foreign asset position is a pressing issue for Japan which faces the serious concerns of rapid aging and a very low birthrate. While the share of foreign direct investment to entire foreign assets has increased, and this is expected to contribute to improvement in the return from net foreign assets, the return from foreign direct investment from Japan is known to be lower compared to that of the United States. Tax avoidance by multinationals is often referred as a reason for the higher return for the United States. However, Japan needs to find some measures for improvement without relying on tax havens, given mounting global criticism against tax avoidance.

This paper shows that, as has been often mentioned, Japanese firms tend to regard foreign direct investment as a mean to relocate production and sales bases towards foreign countries and are less aggressive in terms of tax avoidance. In contrast, US multinationals place emphasis on tax schemes and rates in choosing the venue of foreign direct investment, which is reflected in the higher returns from foreign direct investment for the United States. US multinationals are considered to benefit from not only lower corporate income tax rates on the surface but also utilizing tailor-made tax avoidance schemes.

If anti-tax haven regulation is strengthened, Japanese multinationals will be required to take more risks to boost investment returns. Our regression analysis shows that, although there are only minor differences in the levels of macroeconomic risks that Japanese and US multinationals are facing in foreign direct investment, the United States succeeds in securing higher risk premiums. Also, the United States earns returns that are higher by four percentage points through some factors not explicitly considered in our regression. The Japanese Cabinet Office (2016) points out that returns from foreign direct investment are lower for Japan for two reasons. First, Japan has some disadvantage in building up experience due to a shorter history of foreign direct investment. Second, Japanese firms have tended to be inclined to pursue greenfield investment, which generally provides lower returns than M&A. If so, we can expect that returns will be improved over the course of time and with the expansion of M&A investment activities by Japanese multinationals. Also, since the United States is the prominent destination of Japanese foreign direct investment, large-scale reduction of corporate income tax implemented by the Trump administration is expected to contribute to the improvement of returns from Japan's foreign direct investment.

Our regression results do not show strong evidence for the impact of foreign exchange rate fluctuation. However, generally speaking, as foreign direct investment is a long-term investment activity, the valuation effect on investment stock by the foreign exchange rate fluctuation should not be minor. Traditionally, foreign assets have centered on bonds, particularly those of the developed countries, and denominated in US dollars. On the other hand, the destinations of foreign direct investment are more diversified and so the increasing share of foreign direct investment to entire foreign asset should mean more diversified exposure in

terms of exchange rate risks. For example, Ohno (2018) explores the valuation effect of foreign exchange rate on Japan's external assets and asserts that an increasing share of foreign direct investment stocks in China leads to a greater presence of Renminbi in terms of its valuation effect on external asset stocks. If as the Balassa-Samuelson effect predicts, the Japanese Yen will depreciate vis-à-vis the Renminbi, reflecting the faster growth of China's productivity, it can be expected that the valuation effect will favor Japan's returns from foreign assets.

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