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Exports and FDI Entry Decision: Evidence from Japanese foreign-affiliated firms[1]

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Abstract

Why do aggregate foreign direct investments (FDI) fall with distance? To answer this question, we examine the behavior of Japanese multinational enterprises (MNEs). We are interested in FDI entry decision given export experience in foreign markets. We postulate that one of the firms' strategies is learning the foreign market potential by exporting first, followed by establishment of foreign affiliates if expected profitability is high enough. We propose a theoretical model and test it empirically using firm-level data from two basic surveys of Japanese companies: the Basic Survey of Japanese Business Structure and Activities and the Basic Survey on Overseas Business Activities for the period 1995-2013. We control for export experience and productivity of Japanese MNEs, and find that the probability of FDI entry decreases in distance. We conclude that trade costs shape outward FDI activity in addition to learning by exporting and productivity channels. Our tentative explanation suggests that trade costs limit firms' ability to reveal the foreign market demand. As a result, they may exit the foreign market before realizing the potential of profitability.

Keywords: Export dynamics, Foreign direct investment, Multinational enterprises
JEL classification: F10, F14, F21

[1]This study is conducted as a part of the "East Asian Industrial Productivity" project undertaken at the Research Institute of Economy, Trade and Industry (RIETI). This study utilizes the micro data of the questionnaire information based on the "Basic Survey of Japanese Business Structure and Activities" and the "Basic Survey on Overseas Business Activities" which is conducted by the Ministry of Economy, Trade and Industry (METI), and the Kikatsu Oyako converter, which is provided by RIETI. The authors are grateful to Stephen Yeaple for pointing them to this gap in the literature. The authors are grateful for helpful comments and suggestions by Kozo Kiyota, Makoto Yano, Masayuki Morikawa, Hiroshi Ikari, Kyoji Fukao, Hongyong Zhang and Discussion Paper seminar participants at RIETI. All remaining errors and shortcomings are our own.

Introduction

Aggregate Foreign Direct Investments (FDIs) fall with distance, but at slower rate than exports. This empirical regularity has been summarized by Antras and Yeaple (2014) as a common fact for US Multinational Enterprises (MNEs). A study by Matsuura and Sato (2011) suggests that a similar regularity holds for Japanese MNEs. Figures 1 and 2 confirm this finding holds using aggregate data: these figures show that there is a negative correlation between aggregate Japanese FDI flows and distance, and aggregate Japanese foreign affiliate sales and distance.

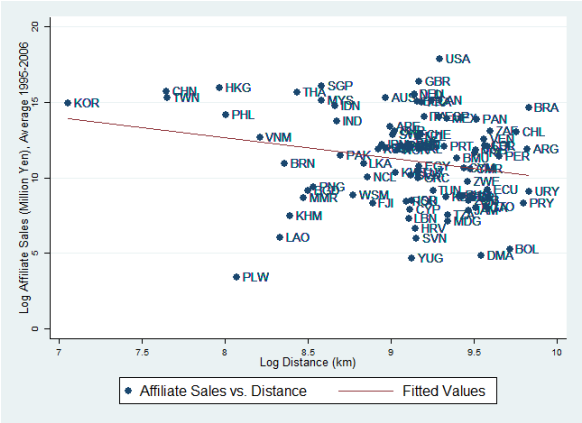


Figure 1: The relationship between Japanese Affiliate sales and Distance. Data sources: 97 countries; Affiliate sales – RIETI FDI Database, RIETI; Distance – CEPII

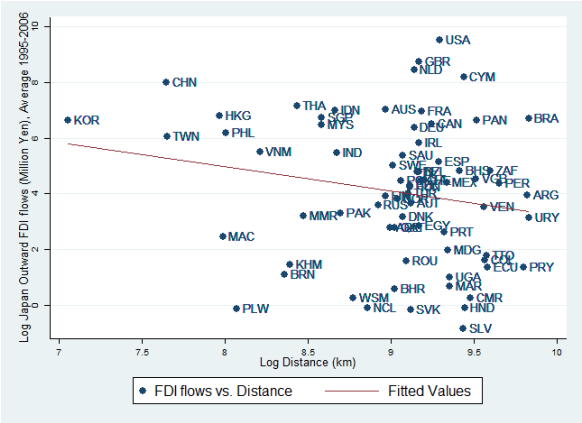


Figure 2: The relationship between FDI flows and Distance. Data sources: 97 countries; Affiliate sales – RIETI FDI Database, RIETI; Distance – CEPII

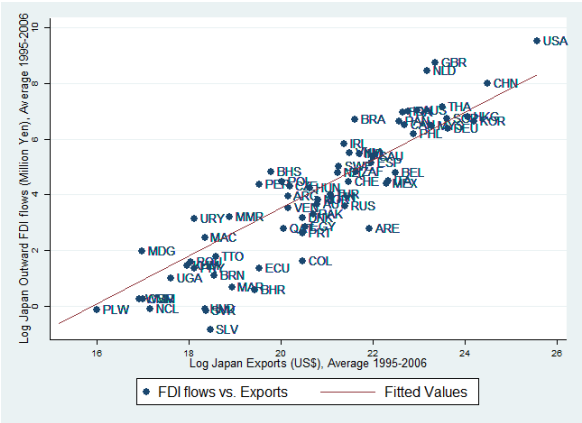


Figure 3: The relationship between FDI flows and Japans exports. Data sources: Data sources: 68 countries; FDI flows – OECD FDI Database, OECD; Exports – UN Comtrade

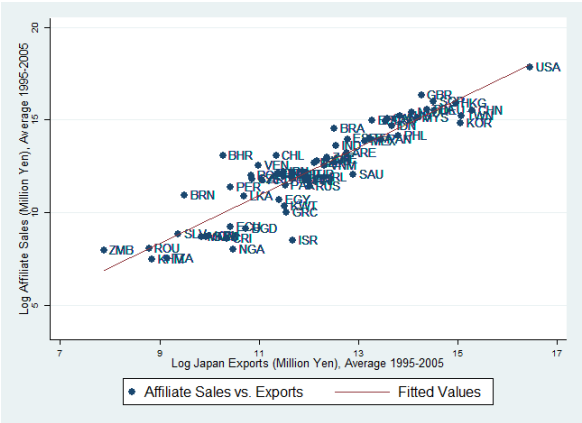


Figure 4: The relationship between Affiliate sales and Japans exports. Data sources: Data sources: 70 countries; Affiliate sales – RIETI FDI Database, RIETI; Exports – Historical Statistics of Japan, Statistics Bureau

Why do aggregate FDIs fall with distance? This paper attempts to answer this question. We

regard distance as a proxy for trade costs. The fact that FDIs fall with distance is not obvious from the theoretical point of view. There are several competing theoretical mechanisms that relate FDI to distance. First, within the traditional proximity-concentration framework (Helpman, Melitz, Yeaple, 2004) FDI and trade are substitutes. Firms establish foreign affiliates to serve distance markets in order to overcome per-unit trade costs. The least productive firms do not engage in any foreign activity. Firms that are more productive engage in trade. Most productive firms do FDI. Within this framework, aggregate FDIs decrease in exports and increase in distance. Second, FDI and trade can be compliments if the parent company exports intermediate inputs to foreign affiliates (Irarrazabal, Moxnes and Opromolla, 2013). In this case, distance affects negatively both FDIs and exports. Figures 3 and 4 show that in the case of Japan trade and FDI activity are positively correlated, which suggests that they can be complements. Kiyota and Urata (2008), in their study of Japanese outward FDI activity, come to the same conclusion. Third, Conconi, Sapir and Zanardi (2016), which is the closest work to ours, suggest that uncertainty in foreign market demand, local regulations and legal requirements induce firms to engage in a gradual internationalization process. In their framework, firms resolve market uncertainty via exports, and then engage in FDI if the expected profitability is high enough. The important implication of this framework is that if trade costs are high then FDIs fall with distance because experimentation via exporting to foreign markets becomes costly. However, this framework does not explain why FDIs may fall with distance conditional on export activity, which, as we document in this paper, is the case with the Japanese MNEs. Finally, one may consider FDI activity without its relation to exports. FDIs may fall because it is just too costly to engage in internationalization process due to Ownership, Localization and Internalization (OLI) factors (Dunning, 1992).

Our paper attempts to explain an FDI entry decision conditional on export experience in the foreign market both theoretically and empirically. In particular, our goal is to emphasize the role of trade costs in learning by exporting mechanism and to assess it empirically. We believe that learning by exporting plays an important role in shaping the outward FDI activity of Japanese MNEs. We postulate that one of the firms' strategies is learning the foreign market potential by exporting first, followed by establishment of a foreign affiliate if expected profitability is high enough. Thus, trade costs may limit the ability of MNEs to reveal foreign market potential. We propose a theoretical model and test it empirically using firm-level data from two basic surveys of Japanese companies: the Basic Survey of Japanese Business Structure and Activities and the Basic Survey on Overseas Business Activities for a period of 1995-2013.

We examine the behavior of manufacturing firms. Our results show that FDI entry with previous exports in a region arises in 70% of all cases of FDI entry. We confirm that distance has a

negative effect on the probability of FDI entry decision. Empirical results imply that a 1% increase in distance decreases the probability of FDI entry by about 51-97%.

Behavior of Japanese MNEs and exporters has been extensively studied in a number of previous works (e.g., Kimura and Kiyota 2006, Kiyota, Matsuura, Urata and Wei 2008, Hayakawa and Matsuura 2011, Matsuura and Sato 2011). To the best of our knowledge, Kiyota and Urata (2008) is the closest work to ours in which the authors use the same firm-level data for the period of 1994-2000, and analyze how the engagement of Japanese firms in international trade influences the probability to become an MNE. They confirm that for the Japanese firms exports and FDIs are compliments. In comparison to these works our study attempts to examine the dynamics of Japanese firms' FDI and export activity for the period of 1995-2013 and, in particular, to assess the separate roles of trade costs and exports in shaping FDI patterns.

Dynamics of FDIs and exports has been examined recently in a number of studies for Norway, French, German and Belgium firms (e.g., Gumpert, Moxnes, Ramondo and Tintelnot 2016, Conconi, Sapir and Zanardi 2016, Gazaniol 2015). Our work focuses on the behaviour of Japanese firms. In addition, we attempt to emphasize the learning by exporting mechanism, and to explain the impact of trade costs on FDI entry decision.

Recently, Chun, Hur, Kim and Kwon (2017) performed analyzis of intra-firm trade for Korean and Japanese MNEs as a part of the broader project "East Asian Industrial Productivity" undertaken at the Research Institute of Economy, Trade and Industry (RIETI). Their first finding is that, among vertically integrated firms, mainly large firms trade with their affiliates. The second finding is that there is no statistically significant relationship between the amount of trade between a parent and its affiliate on the one hand and the share of aggregate input from the affiliate's industry to the parent's industry on the other hand. In our work we focus on horizontal FDI, which is broadly defined as the case when a parent establishes an affiliate in order to serve a foreign market (as opposite to the case of vertical FDI when a parent establishes a foreign affiliate in order to take adantage of cheaper foreign inputs and, thus, to reduce the cost of production). We classify an FDI activity as horizontal when we observe that a parent imports less than one third of an affiliate's output (we classify the rest of FDI activities as vertical). Chun et al (2017) use a diffirent definition of vertical FDI: according to their definition a parent is vertically integrated with its affiliate if the parent owns more than 50% of the equity capital of the affiliate. Their findings suggest that, according to our definition of horizontal FDI, most of the FDI activity of Japanese firms is horizontal in nature. Thus, by focusing only on horizontal FDI, we cover most of the activity of Japanese MNEs.

The remainder of the paper is organized as follows. Section 1 describes our data, variables and

examines the effect of distance on affiliate sales, FDI stock, and FDI flows. Section 2 presents the theoretical model. Our empirical analysis of the effect of trade costs on FDI entry probability given previous export experience is given in Section 3. Robustness check is presented in Section 4. Section 5 summarizes our findings.

1 Data

1.1 Database description.

We use two micro-level confidential databases that are compiled annually by Research and Statistics Department of the Ministry of Economy, Trade and Industry (METI). The first database, the Kigyou Katsudou Kihon Chousa Houkokusyo (the Basic Survey of Japanese Business Structure and Activities: the basic survey hereinafter) provides information on various business and strategic activities of Japanese companies. This survey is compulsory for firms with over 50 employees and for firms with capital of more than 30 million yen.[1] We have access to the data that cover a period of 1994-2013 years from which we can identify export activities of Japanese firms in seven regions, namely North America, South America, Asia, Middle East, Europe, Oceania and Africa.

The second database, the Kaigai Jigyou Katsudou Kihon Chousa Houkokusyo (the Basic Survey on Overseas Business Activities: the FDI survey hereinafter) provides information on foreign affiliates that are established by Japanese parent companies. We define a foreign affiliate as a company abroad in which a Japanese parent holds at least 10% share of the capital, or a subsidiary of foreign affiliate abroad in which it holds at least 50% share of the capital. We have access to the data that cover a period of 1995-2013 years from which we can identify Japanese MNEs' FDI activities. The FDI survey provides information of an affiliate's year of establishment and the country where it is located. We can identify regional distribution of foreign affiliates using the correspondence of countries and regions defined in the survey.[2]

In order to analyze the FDI and export dynamics of Japanese firms we merge the information from the basic survey and from the FDI survey using the converter prepared at the Research Institute of Economy, Trade and Industry (RIETI). This converter provides a matching of the unique identifiers from both surveys for each year. However there are several complications related

[1] However, the available data sample is reduced since some of the questionnaires are not completed correctly. We assume that such cases occur randomly and thus do not create endogenous sample selection bias.

[2] The response rate of surveyed companies in the FDI survey ranges 60-70% for various years. It is possible that there exists a rule by which companies decide not to participate in the survey. If it is true then we may face endogeneity problem originating from the sample selection bias. We assume that this is not the case for our main empirical analysis. Although Japanese MNEs may be interconnected, it is unlikely that they exhibit a common behavior in their relationship with authorities, i.e., METI that conducts the study. Nevertheless, we are planning to do robustness checks by relaxing this assumption, and it remains on our working agenda.

to this converter. First, not all firms from the FDI survey could be matched using the converter. We suspect that the nonmatched firms do not appear in the basic survey for random reasons. Second, for some of the FDI survey identifiers there may exist more than one unique identifier in the basic survey. In order to maximize the matching we create a panel of all identifiers and match all possible combinations of unique identifier-year that exist in the FDI survey, the Converter and the Basic survey. After this procedure we are remained with 6949 parent companies and 40156 affiliates.

Our theoretical model suggests that the foreign market demand uncertainty is revealed by the learning-by-exporting mechanism (see Section 2). We are interested in firms that aim at serving the foreign market demand. Thus, it is important that parent companies belong to manufacturing industries. And so we focus only on the manufacturing parent companies in our data set. At the same time, we do not restrict our attention only to manufacturing affiliates. A non-manufacturing foreign affiliate can belong to wholesale or some other type of distribution-oriented FDI. In such cases revealing foreign market demand uncertainty is equally important for production-oriented FDI and distribution-oriented FDI. Out of 6949 parent companies in the matched dataset we leave only 4550 manufacturing parent companies with 24321 affiliates, which can be both manufacturing and non-manufacturing.[3]

The foreign market demand uncertainty is important for horizontal and platform-type FDI — not vertical FDI, which are motivated by intention to serve the Japanese market. As argued in Conconi et al. (2016) and reported in other recent studies (e.g., Ramondo et al., 2013), the relative number of vertical type FDIs is lower compared to horizontal or platform-type FDIs. We define an affiliate as a vertical FDI "if in any of the years following FDI entry exports to the parent company exceed one third of the affiliate's sales" (as in Conconi et al., 2016). In our empirical analysis we exclude vertical FDI affiliates, and examine horizontal and platform-type FDI affiliates (15698 affiliates, 73% of total number of affiliates).

1.2 Dynamics of FDI and Export activities

The definition of FDI entry ($FDIentry_{f,r,t}$) by firm f in region r at time t in our case is somewhat subtle. The main issue is that our FDI data are at the level of countries, while our export data are at the level of regions. We know each affiliate's year of establishment and country of destination. We are interested in the export experience prior to FDI entry. First, we assume that a new FDI entry occurs when a new affiliate is established in a country (host country) despite there may have been prior FDI entries in other countries in the same region (regional country). We argue that

[3] Some firms report an industry code that belongs to manufacturing in one year, and belongs to non-manufacturing in another year. We treat such firms as manufacturing in our study.

Table 1: Distribution of country-level FDI entries by region of destination and year

year	North America	South America	Asia	Middle East	Europe	Oceania	Africa
1995	39	15	313	2	55	4	3
1996	34	18	248	2	63	4	8
1997	37	17	197	4	55	6	9
1998	24	6	105	2	35	4	1
1999	22	10	81	1	48	2	2
2000	22	8	115	2	43	3	3
2001	26	6	172	1	58	1	0
2002	33	10	214	2	45	2	2
2003	24	4	220	0	54	3	1
2004	23	7	221	1	44	3	2
2005	25	8	206	1	50	1	4
2006	32	10	170	4	42	6	3
2007	15	15	155	1	37	2	3
2008	9	12	139	2	33	4	5
2009	12	6	87	1	36	6	1
2010	14	12	164	3	23	1	2
2011	9	16	253	2	38	2	3
2012	10	31	290	4	34	1	3
2013	11	20	121	2	21	6	3
Total	421	231	3471	37	814	61	58

such FDI entries do not reveal to a full extent the market uncertainty in every country in the region. Thus a parent company could continue exporting or could start exporting to a potential host country although it has already established an affiliate in another country within the region. The incentive for such behavior is market demand uncertainty in a potential host country. In fact, exports to a potential host country could occur from affiliates from other countries, which is the situation described as platform-type FDI. For instance, Matsuura and Sato (2011) argue that in Asia at least 40% of FDI affiliates are of platform type nature. Thus, an FDI entry by a Japanese MNE can happen several times for the same region.[4]

The distribution of FDI entries by years and regions according to our definition is given in Table 1. This table shows that during 1995-2013 most of new FDI entries by Japanese MNEs occurred in Asia, followed by Europe and North America.

We identify export entry ($Exportentry_{f,r,t}$) by firm f in region r at time t from the basic survey for which we have data for the period of 1994-2013. The data from the FDI survey allow us to identify years of FDI entry without period restriction since all affiliates directly report their

[4] Unfrotunately, data limitations do not allow us to make a weaker assumption. It is true that we do not know the country of export destination. So we may have cases when an MNE acquires export experience in one country but establishes an affiliate in another country where it never exported. Although the constraints of our data do not allow us to identify such cases, we believe that such situations are unlikely. Given that most MNEs are risk-averse in nature, they would prefer to reduce their risks by investing in the markets with less uncertainty, which is where they already have some experience. Another possible case is when exports experience is acquired for a country in the region where FDI has already been made. Then a Japanese firm makes FDI in another country in this region. Such situation is possible if, for example, there is learning from FDI and export experience within a region. We abstract from this effect in our analysis.

Table 2: Distribution of export entries by region of destination and year

year	North America	South America	Asia	Middle East	Europe	Oceania	Africa
1994	1984	678	3174	683	1702	893	521
1995	499	252	901	230	442	287	199
1996	269	155	480	136	262	134	88
1997	233	122	400	103	223	127	59
1998	273	141	385	110	227	118	79
1999	292	141	409	128	241	195	94
2000	316	149	531	120	272	159	84
2001	278	136	447	129	250	129	96
2002	259	110	442	128	227	149	95
2003	260	109	442	110	223	137	83
2004	310	163	562	124	327	155	84
2005	262	153	436	120	242	148	91
2006	222	124	409	130	231	135	85
2007	280	170	465	144	258	149	90
2008	274	136	474	135	255	145	74
2009	343	0	493	173	295	0	0
2010	291	0	501	166	279	0	0
2011	278	0	450	134	267	0	0
2012	253	0	436	129	219	0	0
2013	142	0	190	60	141	0	0
Total	7318	2739	12027	3192	6583	3060	1822

year of establishment. In order to make use of the most of our data and to avoid the left-censoring problem, we identify a new export entry for an exporter if we observe positive exports for current year and zero exports in the previous two years. Several definitions have been used in the literature. For instance, Eaton et al (2008) used 1 year of no exports, Conconi et al (2016) used 5 years of no exports. We aim at using our joint sample data starting from year 1995. So our least stringent condition for new exports is no exports in two previous years.[5] The distribution of export entries by years and regions according to our definition is given in Table 2.[6]

In order to depict the dynamics of FDI and export activities for each firm, we compute statistics for FDI entry with previous exports and export entry with previous FDI. The former statistics shows whether FDI entry in a country from a region occurred after a firm has exported for at least one year in this region. The latter shows if export entry occurred in a region in which a firm established an affiliate in at least one country in the previous years.[7] The main results are presented in Table 3.[8]

[5] We do robustness checks with the definition used by Conconi et al (2016). The results do not change qualitatively.

[6] The question about exports to South America, Oceania and Africa has been removed from the survey since 2009. Thus, we are not able to identify export entry since then. Since we have a total of 189 FDI entries reported for these regions for a period of 2009-2013 we can only expect a downward bias in our estimations of FDI entry with previous exports.

[7] We do not consider cases for which FDI exit occurred.

[8] We report the results starting from year 1995. Since our basic survey data start from year 1994, we can identify whether FDI entry happened after export experience. Nevertheless, note, that for year 1995 there might be some cases when FDI entry happened after export experience prior to 1994. But we cannot identify this situation — this is the left-censoring problem. The same is true for export entries: if for some firm exports are positive in 1995

Table 3: The dynamics of FDI and export activity

	FDI entry	FDI entry with previous exports	Share of FDI entry with previous exports	Export entry	Export entry with previous FDI	Share of export entry with previous FDI
1995	431	281	0.65	2810	200	0.07
1996	377	266	0.71	1524	102	0.07
1997	325	245	0.75	1267	103	0.08
1998	177	140	0.79	1333	114	0.09
1999	166	125	0.75	1500	127	0.08
2000	196	154	0.79	1631	128	0.08
2001	264	199	0.75	1465	76	0.05
2002	308	205	0.67	1410	100	0.07
2003	306	224	0.73	1364	166	0.12
2004	301	211	0.70	1725	162	0.09
2005	295	199	0.67	1452	114	0.08
2006	267	190	0.71	1336	109	0.08
2007	228	157	0.69	1556	153	0.10
2008	204	140	0.69	1493	201	0.13
2009	149	108	0.72	1304	232	0.18
2010	219	151	0.69	1237	215	0.17
2011	323	212	0.66	1129	179	0.16
2012	373	235	0.63	1037	230	0.22
2013	184	112	0.61	533	152	0.29
Total	5093	3554	0.70	27106	2863	0.11

As it can be seen from Table 3, FDI entry occurred after some export experience for at least 70% of cases suggesting that this is an important feature of Japanese MNEs behavior.[9]Thus, the mechanism of learning by exporting seems to play a significant role for the Japanese outward FDI activities. Export entry with previous FDI is observed in only 11% of cases in our sample. We infer that these exports represent foreign affiliate sales locally or to a third market.

Small and Medium Enterprises (SMEs) are regarded as important engine of economic growth, and, thus, Japanese government is interested in promoting SMEs outward activities. According to the traditional theory it might be more difficult for these firms to engage in such activity because their productivity is relatively lower. Table 4 provides some basic statistics of MNEs with previous exports. We observe that, although number of SMEs is relatively small and their productivity is somewhat lower they represent an important part of the sample that we address in this research. Thus, SMEs' outward FDI activities are not negligible, and should be considered carefully when designing FDI and export promotion policies.[10]

and zero in 1994, we qualify this case as an export entry, but it could be export continuation if there were exports by this firm in 1993. Thus, we might observe less FDI entries with previous exports in years 1995-1997, and more export entries with previous FDI in years 1995-1996.

[9] This number is lower than the corresponding number for Belgium — 85.9% — reported by Conconi et al. (2016). At the same time it is much higher than the numbers reported in Gumpert, Moxnes, Ramondo and Tintelnot (2016) for Norway (49%) and France (15% at the affiliate level).

[10] We thank Kyoji Fukao for suggesting to add this statistics. The threshhold of SMEs is less than 250 employees.

Table 4: Main characteristics of MNEs with previous exports

	Total	Large	SMEs
Average nr. of employees	1325	1914	150
Average Log(Productivity)	2.38	2.48	2.18
Number of affiliates	18862	17823	1579
Number of Horizontal FDI affiliates	14802	13706	1096
Total number	1993	1328	665

1.3 Effect of distance on FDI activity

1.3.1 Affiliate sales, FDI stock and FDI flow

We examine FDI activity of Japanese MNEs given their export experience in regions. We use three alternative measures of FDI activity. The first measure is local affiliate sales, $AfSales_{f,c,t}$, which for each parent company f is given by the sum of local sales of f's affiliates in country c corrected by the f's ownership share in each affiliate's capital. We assume that this measure is a proxy of MNEs' outward FDI activity. The second measure is the volume of FDI investment, $FDIstock_{f,c,t}$, which for each parent company f is given by the sum of total capital of f's affiliates corrected by the f's ownership share in the capital. The third measure is FDI flows, $FDIflows_{f,c,t}$, which is calculated as the change in FDI stock for parent company f in country c in year t relative to the previous year $t-1$.

We transform logarithmically our dependent varibales (local affiliate sales, FDI flows and FDI stock). However, there is a problem of many zero observations for local affiliate sales as well as negative FDI flows for some companies if they decrease their investment. In order to deal with this problem, we employ inverse hyperbolic sine transformation (Burbidge, Magee and Robb 1988) and log transform our dependent variables as follows: $g(y_t, \theta) = g_t = log(\theta y_t + (\theta^2 y_t^2 + 1)^{1/2})/\theta = sinh^{-1}(\theta y_t)/\theta$.[11]

1.3.2 Gravity variables

We are interested in the effect of trade costs on MNEs' outward FDI activity. We use distance from Japan to FDI host country i as a proxy for trade costs, $log(Dist)_c$. The data come from CEPII (Centre d'Etudes Prospectives et d'Informations Internationales) database. We define population-weighted distance within region r as a proxy for trade costs between Japan and a region, $log(Dist)_r = (\sum_{c \in r} Population_c Dist_c)/\sum_{c \in r} Population_c$.

We also use real GDP in constant 2005 US$ as a proxy for market size, $log(RealGDP)_c$. We define a sum of real GDP for all countries within a region r as regional GDP, $log(RealGDP)_r$.[12]

[11] The inverse hyperbolic sine transformation can be applied to data defined on $\mathbb{R}$. For large values of y_t it behaves like a log transformation, regardless of the value of θ. As $\theta \to 0$, $g(y_t, \theta) \to y_t$.

[12] The population and real GDP data come from the World Bank World Development Indicators (WDI) database.

1.3.3 Firm-level variables

Firm level controls are given by total employment, $log(Emp)_{f,t}$, and labor productivity, $log(Prod)_{f,t}$. Total employment is the sum of headquarters employees, non-headquartewrs employees and employees seconded to other companies. Labor productivity is calculated as the value added divided by total employment. Value added is defined as difference between sales and intermediate inputs.[13]

1.3.4 Estimation

How do trade costs affect horizontal FDI activity of manufacturing MNEs? To answer this quetion we estimate the following model:

$$\log Y_{f,i,t} = \beta_0 + \beta_1 \log(Distance)_i + \beta_2 \log(RealGDP)_{i,t} + \beta_3 X_{f,i,t} + \theta_f + \gamma_t + \varepsilon_{f,i,t}, \qquad (1)$$

where $Y_{f,i,t}$ represents affiliate sales, FDI flow or FDI stock by firm f in country i at time t. $X_{f,i,t}$ are firm-level controls. As discussed in the previous section we employ several transformations to deal with zero and negative observations. Our main interest is to identify sign effect of distance on the FDI activity. We also include firm fixed effects, θ_f, to capture firm level heterogeneity and year fixed effects, γ_t, to capture time trend. However, we face a problem of too many dummy variables for firm fixed effects. To overcome this problem we estimate the model by high-dimensional fixed effects method (Guimaraes and Portugal, 2009).

We consider the full sample (which includes all FDI observations) and the sample with FDI activities that were preceded by exports to a region of country i. The results are presented in Tables 5 and 6.

According to the results in Table 5, we observe a negative and consistent effect of distance on the Japanese MNEs' outward FDI activity. Thus, we confirm that distance plays an important role in shaping FDI distribution among countries. Previous research also emphasized this effect. For instance, Matsuura and Sato (2011) found a similar effect of distance on FDI activity using the same survey data for a period 1995-2006.

The more interesting for us is in the effect of distance on FDI activities by Japanese MNCs subject to previous export experience. To estimate this effect, we restrict our sample to the manufacturing MNCs that had export experience in the region before doing FDI. The estimation results are presented in Table 6.

[13] We compute intermediate inputs as follows: (Cost of sales + Selling, general and administrative expenses) - (Advertising expenses + Information processing communications expenses + Premises rent + Packing transportation costs + Gross pay + Depreciation and amortization + Welfare expense + Taxes and dues + Interest expense discount fee + Lease payments).

Table 5: Effect of distance on FDI activity for all MNEs.

	IHST(Local Affiliate sales)*	Log(FDI stock)	IHST(FDI flow)	IHST(Local Affiliate sales)*	Log(FDI stock)	IHST(FDI flow)
Log(GDP)	0.380***	0.194***	0.757***	0.351***	0.237***	0.859***
	(0.032)	(0.029)	(0.090)	(0.035)	(0.032)	(0.101)
Log(Dist)	-0.368***	-0.297***	-0.853***	-0.448***	-0.210***	-0.734***
	(0.070)	(0.049)	(0.182)	(0.071)	(0.054)	(0.208)
Log(Emp)	0.218	0.102**	0.198	0.260	0.178**	0.348*
	(0.160)	(0.050)	(0.136)	(0.215)	(0.075)	(0.205)
Log(Prod)	0.283***	0.030	-0.001	0.346***	0.031	0.165
	(0.080)	(0.028)	(0.102)	(0.098)	(0.036)	(0.123)
Observations	36,161	35,676	25,049	27,640	27,230	18,788
FDI entry year	>1995	>1995	>1995	>1995	>1995	>1995
FDI type	ALL	ALL	ALL	Horizontal/ Platform	Horizontal/ Platform	Horizontal/ Platform
R-squared	0.463	0.581	0.071	0.475	0.581	0.075
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Note.-*IHST stands for inverse hyperbolic sine transformation.

Table 6: Effect of distance on FDI activity for MNEs with previous export experience

	IHST(Local Affiliate sales)*	Log(FDI stock)	IHST(FDI flow)	IHST(Local Affiliate sales)*	Log(FDI stock)	IHST(FDI flow)
Log(GDP)	0.271***	0.236***	0.890***	0.373***	0.236***	0.825***
	(0.037)	(0.041)	(0.124)	(0.042)	(0.041)	(0.123)
Log(Dist)	-0.197***	-0.230***	-0.558**	-0.390***	-0.230***	-0.824***
	(0.072)	(0.067)	(0.251)	(0.084)	(0.067)	(0.245)
Log(Emp)	0.646***	0.171**	0.225	0.279	0.171**	-0.115
	(0.238)	(0.070)	(0.242)	(0.288)	(0.070)	(0.215)
Log(Prod)	0.324***	0.027	-0.117	0.390***	0.027	0.074
	(0.095)	(0.040)	(0.123)	(0.110)	(0.040)	(0.146)
Observations	26,010	25,690	18,193	20,618	20,345	14,221
FDI entry year	>1995	>1995	>1995	>1995	>1995	>1995
FDI type	ALL	ALL	ALL	Horizontal/ Platform	Horizontal/ Platform	Horizontal/ Platform
R-squared	0.463	0.552	0.069	0.470	0.578	0.069
Firm FE	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES

Note.-*IHST stands for inverse hyperbolic sine transformation.

As we can see, the effect of Log(Dist) is consistently negative in all estimations. Note that we also control for MNEs productivity which is an alternative theoretical channel that explains MNEs outward FDI activity (Helpman, Melitz and Yeaple, 2004). Thus, our inference that trade costs have negative effect on FDI activities of MNEs subject to previous export experience is confirmed by these results. We propose a theoretical model to capture this effect of trade costs in the next section.

2 Theoretical model

2.1 Model

Consider a dynamic partial equilibrium model with one domestic firm producing one good and two foreign countries A and B. Time is discrete. The firm discounts future profits with rate $\beta \in [0,1]$.

In any period, the cost of production of q units of good is given by the cost function

$$c(q) = Mq + F.$$

The price of the good is fixed to 1 in both A and B, which are the only markets for the firm's good. In any period consumers in country $i = A, B$ can buy any amount of the good up to some amount Q_i, where Q_i is a random variable taking one of two values: Q^H with probability p_i and Q^L with probability $1 - p_i$, with $Q^H > Q^L$. The firm does not know the true value of p_i, but has prior beliefs about p_i. The prior density of p_i is given by

$$g(p_i; a_i, b_i) = \frac{\Gamma(a_i + b_i)}{\Gamma(a_i)\Gamma(b_i)} p_i^{a_i - 1}(1 - p_i)^{b_i - 1} \text{ for } 0 \leq p_i \leq 1,$$

where $\Gamma(\cdot)$ is the Gamma function, and a_i, b_i are parameters specific to country $i = A, B$ (i.e., $g(\cdot; a_i, b_i)$ is the density of the Beta distribution).

In any period, if the firm can observe realized demand in country $i = A, B$, it applies the Bayesian rule to update its beliefs. The posterior distribution for a Beta prior with parameters a_i and b_i is also Beta with parameters:

$$(a_i', b_i') = \begin{cases} (a_i + 1, b_i), & \text{if demand was high;} \\ (a_i, b_i + 1), & \text{if demand was low.} \end{cases} \tag{2}$$

The firm can serve country $i = A, B$ either through trade or through multinational production (MP). Trade with country i is subject to iceberg cost τ_i. So, if the firm produces q units of the good at home and sends them to country i, its ex post current period profits are given by

$$\pi_i^T(q) = \min\{Q_i, (1 - \tau_i)q\} - Mq - F,$$

We make the following assumptions:

Assumption 1. $\tau_A < \tau_B, \tau_A \in [0, 1), \tau_B \in [0, 1)$.

Assumption 2. $0 < M < 1 - \tau_B$.

Assumption 3. $Q^L\left(1 - \dfrac{M}{1 - \tau_i}\right) < F < Q^H\left(1 - \dfrac{M}{1 - \tau_i}\right), i = A, B.$

Assumption 4. *If the firm supplies country $i = A, B$ with at least Q^L units of good, it can infer realized demand at the end of a period. Otherwise the firm can not infer realized demand.*

To understand assumption 3, suppose that the firm exports $Q^L/(1 - \tau_i)$ units of the good to country $i = A, B$. For any demand realization the firm will get $\left(Q^L - M\dfrac{Q^L}{1 - \tau_i} - F\right)$, which

is negative according to assumption 3. If the firm exports $Q^H/(1-\tau_i)$ units of the good, and demand realization in country i is high (the true probability of this event is p_i), then the firm gets $\left(Q^H - M\frac{Q^H}{1-\tau_i} - F\right)$, which is positive. So, assumption 3 says that the firm earns negative profits from exporting $Q^L/(1-\tau_i)$, and with probability p_i it earns positive profits from exporting $Q^H/(1-\tau_i)$.

For future use denote $\underline{q}_i \equiv \frac{Q^L}{1-\tau_i}$ and $\overline{q}_i \equiv \frac{Q^H}{1-\tau_i}$, $i = A, B$.

Given the firm's beliefs about p_i, its expected current period profit from trade with country $i = A, B$ is

$$E[\pi_i^T(q)|a_i, b_i] = \int_0^1 \left(p_i \min\{Q^H, (1-\tau_i)q\} + (1-p_i)\min\{Q^L, (1-\tau_i)q\}\right) g(p_i; a_i, b_i)dp_i - Mq - F.$$

Under assumption 4, given that the firm trades with country $i = A, B$, it never produces less than $\underline{q}_i$ for this country. Clearly, the firm will also never produce more than $\overline{q}_i$. So, we can simplify expression for $E[\pi_i^T(q)|a_i, b_i]$:

$$E[\pi_i^T(q)|a_i, b_i] = \int_0^1 \left(p_i(1-\tau_i)q + (1-p_i)Q^L\right) g(p_i; a_i, b_i)dp_i - Mq - F,$$

where $q \in [\underline{q}_i, \overline{q}_i]$. Taking into account that $E[p_i|a_i, b_i] = a_i/(a_i+b_i)$, this expression can be further simplified to

$$E[\pi_i^T(q)|a_i, b_i] = \frac{a_i}{a_i+b_i}(1-\tau_i)q + \frac{b_i}{a_i+b_i}Q^L - Mq - F,$$

where $q \in [\underline{q}_i, \overline{q}_i]$.

Let us now write the expression for the firm's expected current period profit when MP is established in country i:

$$\begin{aligned} E[\pi^{MP}(q)|a_i, b_i] &= \int_0^1 \left(p_i \min\{Q^H, q\} + (1-p_i)\min\{Q^L, q\}\right) g(p_i; a_i, b_i)dp_i - Mq - F \\ &= \int_0^1 \left(p_i(1-\tau_i)q + (1-p_i)Q^L\right) g(p_i; a_i, b_i)dp_i - Mq - F \\ &= \frac{a_i}{a_i+b_i}q + \frac{b_i}{a_i+b_i}Q^L - Mq - F, \end{aligned}$$

where $q \in [Q^L, Q^H]$. Note that, if $q \leq Q^L$, then $E[\pi^{MP}(q)|a_i, b_i] = (1-M)q - F$. Under assumption 2 $M < 1$, so the firm will choose q at least equal to Q^L.

For given beliefs of the firm characterized by a pair (a_i, b_i) for country $i = A, B$, denote by $V_i(a_i, b_i)$ the firm's value function (i.e., expected sum of discounted future profits) for the case when MP has not been established in country i. Similarly, denote by $H(a_i, b_i)$ the firm's value function

for the case when MP has been established in country i. We make the following assumption concerning firm's decision about withdrawing business from country $i = A, B$:

Assumption 5. *The firm is considered to be active in country $i = A, B$ as long as it supplies country i with a positive amount of the good. If in some period the firm does not supply country i with any amount of the good, then the firm becomes inactive in country i (i.e., it withdraws its business from country i) starting from that period. Furthermore, suppose that the firm's beliefs about demand in country i are characterized by a pair (a_i, b_i). If*

- *the firm has not established MP in country i, and $V_i(a_i, b_i) < 0$; or*
- *the firm has established MP in country i, and $H_i(a_i, b_i) < 0$;*

then the firm stops supplying country i with the good.

Under assumption 5, we have the following expressions for the value functions:

$$H(a_i, b_i) = \max\left\{0, \max_{q\in[Q^L, Q^H]}\left\{E[\pi^{MP}(q|a_i, b_i)] + \beta\left(\frac{a_i}{a_i+b_i}H(a_i+1, b_i) + \frac{b_i}{a_i+b_i}H(a_i, b_i+1)\right)\right\}\right\},$$

$$V_i(a_i, b_i) = \max\left\{0,\ H(a_i, b_i) - C,\ \max_{q\in[\underline{q}_i, \overline{q}_i]}\left\{E[\pi_i^T(q|a_i, b_i)] + \beta\left(\frac{a_i}{a_i+b_i}V_i(a_i+1, b_i) + \frac{b_i}{a_i+b_i}V_i(a_i, b_i+1)\right)\right\}\right\},$$

where we used equation 2 to write next period value functions. Solutions of the innermost maximization problems on the right hand sides of these expressions are straightforward to obtain. After solving corresponding problems, we get

$$H(a_i, b_i) = \max\left\{0,\ \mathbb{I}_{\left\{M<\frac{a_i}{a_i+b_i}\right\}}\left(\frac{a_i}{a_i+b_i}Q^H - MQ^H + \frac{b_i}{a_i+b_i}Q^L\right) + \mathbb{I}_{\left\{M\geq\frac{a_i}{a_i+b_i}\right\}}(1-M)Q^L - F + \beta\left(\frac{a_i}{a_i+b_i}H(a_i+1, b_i) + \frac{b_i}{a_i+b_i}H(a_i, b_i+1)\right)\right\}, \tag{3}$$

$$V_i(a_i,b_i) = \max\Bigg\{0,\ H(a_i,b_i) - C,\ \mathbb{I}_{\left\{\frac{M}{1-\tau_i} < \frac{a_i}{a_i+b_i}\right\}}\left(\frac{a_i}{a_i+b_i}Q^H - \frac{M}{1-\tau_i}Q^H + \frac{b_i}{a_i+b_i}Q^L\right) \quad (4)$$
$$+\mathbb{I}_{\left\{\frac{M}{1-\tau_i} \geq \frac{a_i}{a_i+b_i}\right\}}\left(1 - \frac{M}{1-\tau_i}\right)Q^L - F$$
$$+\beta\left(\frac{a_i}{a_i+b_i}V_i(a_i+1,b_i) + \frac{b_i}{a_i+b_i}V_i(a_i,b_i+1)\right)\Bigg\}.$$

2.2 Intuition of the model

The firm starts from trading with either A, or B, or both. After observing realized demands the firm updates its prior beliefs about the corresponding parameters of the demand distributions. Conditional on its beliefs, the firm can calculate the expected demand in each country. If the expected demand is high enough, the firm establishes MP in the corresponding country. Assume that the demand distributions in A and B are such that if the firm knows them, it establishes MP in both countries.

Now suppose that in the beginning the firm starts trading with both countries, and for several periods it gets the same sequence of low demand realizations in both countries. Assume that this sequence is such that the firm decides to stop serving B (because of high iceberg costs), but it continues serving A. Suppose that after that the firm gets a sequence of high demand realizations in country A, and based on these observations it decides to establish MP in A. So, we end up in a situation where the firm does MP in A and never learns that doing MP in B is also profitable.

We examine the probability of FDI entry given export experience in the next section.

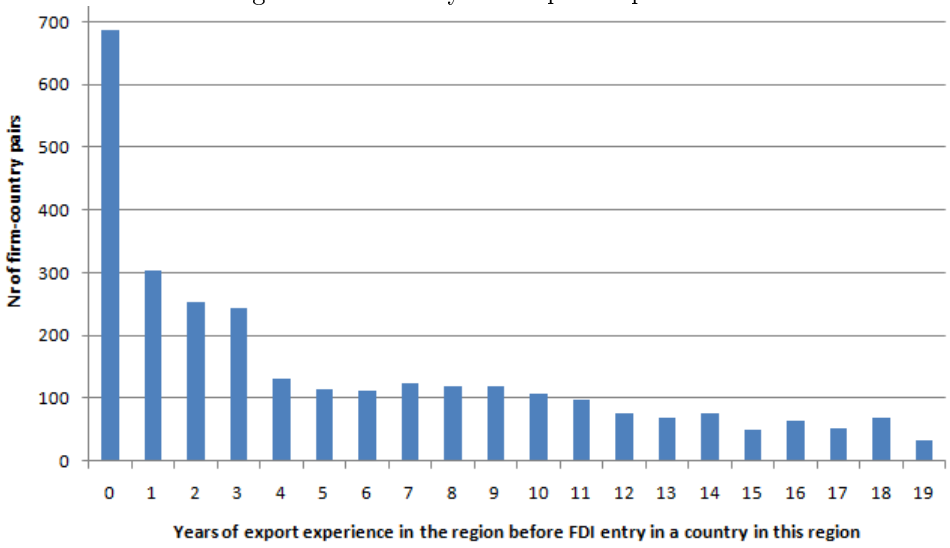
3 Empirical analysis

3.1 Export experience

We identify export experience as a number of years after the export entry. It accumulates if the firm continues to export. If it doesn't export for two years consecutively after export entry (in year t) we record export experience as one and two in the years after export entry (t+1 and t+2), and as zero after two consecutive years of no export activity (in year t+3). It is plausible to assume that upon export entry a firm adjusts its expectation about local market demand and local uncertainty, and this information is not outdated for at least two next consecutive years. Using the data on export experience we identify three separate cases: *Experience*0(No export experience), *Experience*12 (Export experience for one or two years) and *Experience3plus* (Export experience

for three years and more).[14] Figure 5 and Table 4 present the distribution of FDI entries given export experience at the year of foreign affiliate establishment.[15]

Figure 5: FDI entry and export experience



Note that the share of FDI entries with three and more years of experience is relatively high. A relatively small number of FDI entries with 1-2 years of experience suggests that it may not be enough to reveal foreign market demand uncertainty for a period of 1-2 years of exports. Japanese MNEs prefer to export for a longer period prior to FDI entry. Since we are interested in the effect of export experience we focus our analysis on the period 1997-2013 for which we can avoid the left-censoring problem given our definition of export experience.[16]

3.2 Probability of FDI entry and Export experience

We estimate the proportional hazard model (Cox 1972). This is a semiparametric model that assumes a common baseline hazard for all subjects. Thus, the likelihood of FDI entry depends on our variables of interest, and it is not affected by the timing of FDI entry. We estimate two models.

$$h(t) = h_0(t)exp(\beta_1 experience12_{f,r,t} + \beta_2 experience3plus_{f,r,t} + \gamma_r) \tag{5}$$

This model aims at revealing regional export experience effect on the probability of FDI entry in the host country. Given our data constraints, the export experience is identical for all FDI

[14] Conconi et al (2016) use another range of years for export experience i.e. 1-4 years and more than five years. If we use this definition we need to reduce our sample size due to left-censoring issue. Thus we prefer our definition given that it is widely used in the literature (e.g. Eaton et al. 2008). Nevertheless, we estimate the model using Conconi et al (2016) definition as well and confirm the results in our robustness check analysis (section 4).

[15] Note that we exclude FDI entries for which we cannot identify export experience due to left censoring problem.

[16] New export entry happens after no export activity for two year. Imagine that we have a firm with reported export entry in 1995 and no exports in 1994 and 1996. Then in 1997 it can have 2, 3 and more years of experience depending on its exports activity prior to 1994.

Table 7: FDI entry and export experience

	FDI entry	With zero export experience	With 1-2 years of export experience	With ≥3 years of export experience
1996	66	66	0	0
1997	247	44	29	174
1998	107	13	9	85
1999	112	24	11	77
2000	122	16	5	101
2001	146	32	9	105
2002	158	46	10	102
2003	177	43	12	122
2004	182	51	20	111
2005	173	55	11	107
2006	176	65	22	89
2007	162	52	7	103
2008	141	36	6	99
2009	109	35	13	61
2010	165	54	15	96
2011	240	87	24	129
2012	253	109	15	129
2013	167	71	12	84
Total	2903	899	230	1774

entries in the region. We estimate this model for first FDI entries in a country i of region r. Thus, we may have multiple FDI entries in a region. We allow for multiple failures in our survival analysis estimation. Our dataset comprises all exporters that were active in the period 1998-2013 including Japanese MNEs with previous export experience. We include Japanese MNEs that established horizontal or platform-type FDI in a country i in the period of 1997-2013. We include regional fixed effects (γ_r) were possible.

$$h(t) = h_0(t)exp(\beta_1 experience12_{f,r,t} + \beta_2 experience3plus_{f,r,t} + \beta_3 log(Dist)_r + \theta V_{r,t} + \mu Z_{f,t} + \gamma_r) \quad (6)$$

In this model we would like to focus our attention on the effect of distance on the probability of FDI entry by firm f in a country i of region f given export experience of firm f in region r. We define distance to a region as a maximum distance to a country within region r. We include an interaction term of Log(Distance) and Export experience as well. $V_{r,t}$ represent regional controls i.e. log(Real GDP). $Z_{f,t}$ include firm level controls. The main results of our estimation are reported in Table 8.

Column (1) and (2) report results of equation 5 estimation. Columns (3)-(6) report results of equation 6 estimation. In column (3) estimation we add only distance as explanatory variable. In

Table 8: Proportional Hazard Model estimation

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	STCOX	STCOX	STCOX	STCOX	STCOX	STCOX
Experience12	0.908***	0.768***	0.808***	0.300**	1.518	0.154
	(0.123)	(0.123)	(0.123)	(0.130)	(1.506)	(1.396)
Experience3+	1.305***	1.021***	1.101***	0.386***	3.787***	3.137**
	(0.074)	(0.073)	(0.073)	(0.077)	(1.423)	(1.269)
Log(Dist)			-1.656***	-2.147***		
			(0.076)	(0.079)		
Experience12xLog(Dist)					-0.138	-0.035
					(0.172)	(0.160)
Experience3plusxLog(Dist)					-0.393**	-0.384***
					(0.163)	(0.147)
Log(Real GDP)				0.545***	0.157	0.085
				(0.036)	(0.111)	(0.095)
Log(Prod)				0.298***	0.304***	0.194***
				(0.054)	(0.055)	(0.043)
Log(Emp)				0.498***	0.507***	0.092***
				(0.022)	(0.022)	(0.017)
Observations	231,968	231,968	231,968	175,007	175,007	19,240
Region fixed effects	No	Yes	No	No	Yes	Yes
Firm fixed effects	No	No	No	No	No	No
FDI entries	1659	1659	1659	1495	1495	1495
Log likelihood	-15689	-15143	-15276	-13009	-12931	-10559

column (4) estimation we add additional controls. In column (5) estimation an interaction term of export experience and FDI is included. Finally, in column (6) estimation we analyze only MNEs i.e. firms that invested in at least one country.

The results suggest that Export experience has a positive effect on the likelihood of FDI entry. Moreover, longer experimentation increases probability of FDI entry ($\beta_2 > \beta_1$). As expected distance has a negative effect on the probability of FDI entry. Model (4) implies that a 1% increase in distance will decrease the probability of FDI entry by around 97% (1-exp(-3.506)). Model (5) suggests that a positive effect export experience for more than three years is reduced by 51% (1-exp(-0.703)) due to distance (i.e. trade costs) effect.

Thus, these estimations imply that export experience positively affects the probability of FDI entry due to learning by exporting mechanism. The uncertainty of foreign market demand plays an important role in Japanese MNEs outward FDI activity. Trade costs, however, decrease the probability of FDI entry. Our theoretical model suggests that it becomes costly to experiment in the foreign market by exporting activity. Thus, Japanese companies may exit the market before they reveal that it is profitable to establish a foreign affiliate there.

4 Robustness Check

As a robustness check we estimate equation 5 and 6 using an altenative split of export experience, i.e., export experience for 1-4 year (*experience*14) and experience for more than 5 years (*experience*5*plus*). The results are reported in Table 9.

Table 9: Proportional Hazard Model estimation

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	STCOX	STCOX	STCOX	STCOX	STCOX	STCOX
Experience14	1.094***	0.916***	0.967***	0.449***	2.219	0.958
	(0.087)	(0.087)	(0.087)	(0.091)	(1.389)	(1.274)
Experience5+	1.344***	1.032***	1.119***	0.342***	4.242***	3.760***
	(0.080)	(0.078)	(0.079)	(0.084)	(1.547)	(1.357)
Log(Dist)			-1.658***	-2.152***		
			(0.076)	(0.080)		
Experience14xLog(Dist)					-0.202	-0.115
					(0.158)	(0.147)
Experience5plusxLog(Dist)					-0.452**	-0.464***
					(0.178)	(0.158)
Log(Real GDP)				0.548***	0.158	0.082
				(0.036)	(0.112)	(0.095)
Log(Prod)				0.299***	0.305***	0.194***
				(0.054)	(0.054)	(0.044)
Log(Emp)				0.501***	0.509***	0.095***
				(0.022)	(0.022)	(0.017)
Observations	231,968	231,968	231,968	175,007	175,007	19,240
Region fixed effects	No	Yes	No	No	Yes	Yes
Firm fixed effects	No	No	No	No	No	No
FDI entries	1659	1659	1659	1495	1495	1495
Log likelihood	-15692	-15144	-15278	-13008	-12930	-10557

We find that the results are identical to the ones reported in previous section. In particular, distance has a negative effect on the probability of FDI entry in all models. An increase of distance by 1% reduces the positive effect of more than 5 years export experience by 55% (model 4). This result provides an additional evidence that trade costs play an import role in shaping outward FDI activities even when we control for learning by exporting effect and productivity effect.

5 Summary

In this paper we address the question of why FDI falls with distance conditional on export activity in the foreign country. We suggest that learning by exporting mechanism plays an important role in MNEs behaviour, and we attempt to detach it from other effects. MNEs reveal the uncertainty of the foreign market via exports, and update their expected profitability. However, distance increases

trade costs and may reduce the time of experimentation with exports. This can lead to a decrease in FDI.

We test this hypotheses empirically using two confidential micro surveys compiled by Research and Statistics Department of the Ministry of Economy, Trade and Industry of Japan: the Basic Survey of Japanese Business Structure and Activities and the Basic Survey on Overseas Business Activities. We reveal the dynamics of FDI and Exports from these micro data for a period of 1995-2013, and show that FDI entry occurs after experimentation with exports in a considerable number of cases (around 70%).

We conduct empirical analysis of the effect of distance on Affiliate sales, FDI flows and stocks of Japanese MNEs and confirm its negative effect on Japanese firms' outward FDI activity. Finally we examine the probability of FDI entry subject to export experience and distance using semiparametric proportional hazard model. The results show that export experience increase the probability of FDI entry while distance affects negatively Japanese MNEs outward FDI activity.

From the policy perspective the main implication of our paper is that trade costs are important for export activity and FDI activity. For instance, if Japanese government promotes exports it will indirectly induce FDI activity since the cost born by Japanese firms to reveal foreign market uncertainty will decrease. This is particularly important for SMEs as they cannot afford high costs of foreign activity. Moreover, FDI promotion policy could encourage exports since it will increase value of experimentation in the foreign market to reveal potential FDI opportunity. From the Japanese inward activities perspective, our results suggest that an import promotion policy could also induce inward FDI in Japan.

Nevertheless, our study still lacks a number of important considerations. From the empirical point of view a number of robustness checks should be deployed. For instance, a parametic analysis (e.g., Weibul) of the probability of FDI entry needs to be performed. From the theoretical point of view we need to identify how the learning by exporting mechanism shapes trade costs effect on FDI entry decision. This remains on our future agenda.

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