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Transplanting Corporate Culture across International Borders: FDI and female employment in Japan♦

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Abstract

This paper examines the effect of foreign ownership on gender-related employment outcomes and work practices in Japan. The data indicate that the proportion of females among workers, managers, directors, and board members is higher, and the gender wage gap is smaller, in foreign affiliates than in domestic firms of comparable size operating in the same industry. Foreign affiliates are also more likely to offer flexible working arrangements, telecommuting, and child care subsidies. These effects are mostly visible in older affiliates and are more pronounced in affiliates with a larger foreign ownership share. These patterns are in line with the view that it takes time to transplant corporate culture to an overseas affiliate and that a higher ownership stake may facilitate this process.

Keywords: FDI, MNEs, Corporate culture, Gender gap
JEL classification: F16, F66, J71

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I. Introduction

In ancient times, foreign newcomers sometimes accepted the gender norms prevailing in their destination and sometimes replaced them with their own.[1] The same could be said about modern times: in the 1980s and early 1990s, it was thought that foreign pressure was one of the few effective forces for advancing the women's status in the Japanese society.[2] More recent commentaries point to foreign direct investment (FDI) as a catalyst for change, suggesting that Japanese women are more likely to have opportunities for professional advancement in foreign affiliates operating in Japan than in Japanese firms.[3] This matters because creating opportunities for professional advancement for disadvantaged groups, which before were not fully able to purse their comparative advantage, improves the allocation of talent and translates into a faster economic growth (Hsieh et al. 2013).

The aim of this paper is to document one channel through which globalization affects the gender norms and labor allocations. More specifically, we examine the effect of foreign ownership on gender-related employment outcomes and work practices in Japan. We compare female employment (at various levels) in foreign affiliates and domestic firms operating in Japan. We also consider differences in the self-reported work practices and some aspects of corporate culture such as offering flexible working arrangements, telecommuting, job sharing, child care subsidies and the average share of vacation days used by employees, all of which are likely to make employment attractive to female

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[1] Graves (1960) describes how different waves of migrants to Greece had a different effect on the societal gender norms. For instance, he claims that the Ionians and Aeolians, the first two waves of patriarchal Hellenes to invade Greece, accepted the matrilineal customs prevailing in Greece. Only later the arrival of Achaeans and Dorians succeeded in establishing patriarchal rule and patrilinear inheritance.

[2] For example, when the Equal Employment Opportunity Act for men and women was passed in 1985, it was suggested that international pressure, especially the ratification of the UN Convention concerning the Elimination of All Forms of Discrimination against Women, was the major force behind passing this law (Parkinson 1989).

[3] See, for example, *The Economist* Briefing "Japanese women and work" March 29, 2014

workers.

Japan is an interesting setting for our study for three reasons. First, gender inequality is greater in Japan than in other developed countries, suggesting that there are ample opportunities for foreign affiliates to bring changes in this dimension. According to the World Economic Forum, Japan ranked 104 among 142 countries in terms of the Gender Gap Index in 2014. Japan is also at the bottom of the Glass Ceiling Index compiled by *The Economist* magazine, ranking 26th among 27 countries considered. While Nordic countries attain a score of 80 percent, the index value for Japan reaches only 20 percent. Moreover, the gender wage gap is much larger in Japan than in other developed countries (Blau et al. 2014).

Second, most FDI inflows into Japan come from countries that are more gender-equal than Japan is. This can be seen in Figure 1 which plots the Gender Gap Index against the number of foreign affiliates operating in Japan, with the index value attained by Japan shown with the horizontal line. Thus it is likely that foreign investors bring gender norms that are different from the existing norms in Japan.

Third, a lot of anecdotal evidence suggests that Japanese women are likely to have greater career opportunities in foreign affiliates operating in Japan than in Japanese firms. For instance, the female manager ratio in Texas Instruments Japan Ltd. was 10 percent in 1995, and the company set a target of raising it to 15 percent by 1999 (Taniguchi 2008).[4] IBM Japan has made serious effort to utilize female talents as a crucial part of their corporate strategy: in 1999 it announced its intent for the number of female managers to quadruple to 700 by 2003. Nissan Motor Co. employed only 5 female managers before the acquisition by Renault in 1998, 36 in 2004 but this number increased to 101 in 2007, and the proportion of female managers in design, planning, and

[4] The average ratio of female managers in Japan was only 2 percent in 1989 and 8 percent in 2012 (White Paper of Gender Equality, the Cabinet Office of Japan). Among publically traded companies it was even smaller reaching 3.6 percent in 2012.

product development doubled.[5]

Our analysis is based on three datasets that allow us to capture gender outcomes and management practices in foreign and domestic firms in Japan from the 1990s to the present. Our first dataset comes from the Corporate Social Responsibility (CSR) survey, which covers all listed companies, including about 1000 firms per year from 2004 to 2014. The second dataset combines the Basic Survey of Wage Structure (BSWS) and the Basic Survey of Japanese Business Structure and Activities (BSJBSA). This is a linked employer-employee dataset that contains individual worker data. The final dataset is obtained by combining the Establishment and Enterprise Census (EEC) and BSJBSA. This dataset allows us to examine the causal effect of foreign acquisition on gender outcomes in the firm. The last two datasets include small firms that are not covered in the first dataset.

Our first set of the results, based on the CSR data set covering publicly traded firms, suggest that foreign affiliates are more gender-equal than Japanese firms are. We find that the proportion of females among workers, managers, directors, and board members is higher in foreign affiliates than in domestic firms of comparable size operating in the same industry in the same year. Foreign affiliates are more likely to offer flexible working arrangements, such as flexible working hours or telecommuting. They are also more likely to offer child care facilities or child care subsidies. Moreover, their employees take on average a larger proportion of their vacation allowance. These differences are present for the most part only in foreign affiliates that have been in operation for more than three years, suggesting that it takes time to transplant a corporate culture across international borders. The difference is also more pronounced in affiliates with a higher foreign ownership share suggesting that control is essential for

[5] This increase took place slightly after the acquisition of Nissan by Renault: the Renault-Nissan alliance started in 1999, and Renault's shareholding increased from 36.8 percent to 44.4 percent in 2002.

ability of the foreign parent to affect the corporate culture in the overseas affiliate.

Our second exercise is based on the matched employer-employee data. Its main finding is that the gender wage gap (after controlling for worker characteristics such as education and age) is smaller in foreign affiliates than in Japanese firms. The gender wage gap appears to be smaller in older affiliates and in affiliates with a larger foreign ownership share, echoing our earlier findings.

In our final exercise, we examine whether there is a causal link between foreign acquisitions and gender outcomes. We conduct an analysis that combines propensity score matching with a difference-in-differences approach and find that foreign acquisitions lead to a 6-7 percentage point increase in the share of female workers in the third period under foreign ownership. However, they do not appear to have an impact on female representation at the board level within the timeframe considered. Both findings are consistent with the results based on the CRS data.

Together, all of these results suggest that inflows of FDI affect gender-related labor market outcomes in Japan. Given that innate ability is unlikely to differ between men and women and that women have been historically disadvantaged in the Japanese labor market, our results suggest FDI has the potential to improve the allocation of talent and in this way contribute to faster economic growth.[6]

Our paper is related to three strands of the economic literature. The first strand examines the impact of globalization (and more specifically, international trade) on gender outcomes. In an early study, Black and Brainard (2004) use industry-level data for the period 1977-94 to show that increased import competition reduces the gender wage gap in the more concentrated industries in the United States. Juhn, Ujhelyi, and Villegas-Sanchez (2012) argues that tariff reductions under the North American Free

[6] FDI can also contribute to economic growth through other channels, such as technology transfer and impact on innovation, but these channels are not of immediate interest in this study.

Trade Agreement (NAFTA) prompted Mexican establishments to adopt modern technologies that require less physical strength resulting in an increase in the number of female blue-collar workers and their wages, but not the number and wages of white collar workers.[7] Boler et al. (2014) show that exporting firms in Norway differ in term of the gender wage gap from non-exporters. Once unobservable worker heterogeneity is taken into account, the gender wage gap appears to be higher in exporting firms than in non-exporters, but this effect is present only among workers with college education.

The second strand of the related literature documents the impact of foreign ownership on various aspects of plant performance. Arnold and Javorcik (2009) show that foreign acquisitions of Indonesian plants lead to a 13.5 percent productivity boost after three years under foreign ownership. The rise in productivity is a result of restructuring, as acquired plants increased investment outlays, employment and wages. Foreign ownership also enhances the integration of acquired plants into the global economy through increased exports and imports. Similarly, Guadalupe et al. (2012) show that in Spain foreign acquisitions result in more product and process innovation and adoption of foreign technologies, also leading to higher productivity.

The final strand of the literature related to this study documents the differences in management practices across firms and countries. Bertrand and Schoar (2003) show that manager fixed effects matter for a wide range of corporate decisions. A large portion of the heterogeneity in investment, financial, and organizational practices of firms can be explained by manager fixed effects. Management practices display significant cross-country differences and are strongly correlated with firm productivity (Bloom and Van Reenen 2007). Multinational firms appear to transplant their management practices to host countries. For instance, while there is a wide dispersion in management scores

[7] Kazekami and Endoh (2012) estimate labor demand elasticity using Japanese data, and arrive at mixed conclusions concerning the effect of trade on labor demand elasticity of female and male workers.

across countries, the subsidiaries of foreign multinationals score highly regardless of their location. Multinationals also transplant other features of their organizational form overseas, such as the average degree of decentralization (Bloom, Sadun, and Van Reenen 2012).[8,9]

Our study makes three contributions to the existing body of knowledge. First, we contribute to the labor literature focusing on gender issues by investigating how another aspect of globalization, namely FDI, influences the gender-related labor market outcomes. Second, we contribute to the literature documenting the impact of FDI on the recipient plants by examining outcomes that the previous studies were unable to explore. And third, we contribute to the literature on management practices by examining how the foreign affiliates age and the extent of foreign control affect the process of transplanting corporate culture across countries.

The paper is organized as follows. In the next section, we describe the data. Section 3 reports the regression results on various gender outcomes. In Section 4, the results from our matching exercise are presented. The last section presents conclusions of the study.

II. Data and Definitions

Data

Our analysis relies on three distinct data sets, which are described below.

CSR data (Dataset 1). The Corporate Social Responsibility survey is conducted by a

[8] Expatriate staff plays an important role in transplanting management practices across international borders. Marin et al. (2014) mention that 43% of eastern European affiliates of German and Austrian multinationals had at least one manager sent from the headquarters. The average number of expatriate managers per affiliate was 2.63.

[9] Detailed case studies of the Philippines, Dominican Republic, and Costa Rica suggest that FDI can create favorable institutional externalities for workers, both at the national level and within export processing zones or industrial parks. This externalities stem from foreign affiliates introducing different management practices and labor relations (for more details see Moran (2002)).

private publishing company Toyo Keizai among all the listed companies and a subset of large non-listed companies.[10] It covers about 1000 firms per year and is available for the period 2004-14 (with the exception of 2005). The survey includes questions about the number of employees by gender, the number of managers by gender, whether the firm has introduced a flextime system, whether the firm allows its employees to have temporary part-time work arrangements, whether the firm offers an option of telecommuting to its employees, whether the firm offers child care facilities or subsidies for child care, and what share of vacation days is utilized on average by firm employees. In order to identify foreign affiliates we merge the CSR data with the information on foreign capital shares available from the Development Bank of Japan (DBJ). As the DBJ data cover only publically traded firms, we lose all non-traded firms from the sample. The merged dataset contains between 5,000 and 7,000 firm-year observations depending on the outcome considered.

BSWS & BSJBSA (Dataset 2). We combine data from two sources: the Basic Survey on Wage Structure (BSWS) and the Basic Survey of Japanese Business Structure and Activities (BSJBSA). The BSWS is the most comprehensive wage survey in Japan, conducted every year by the Ministry of Health, Labour and Welfare. It covers establishments of private and public sector firms with 10 or more employees, and private sector establishments with 5 to 9 employees. The establishments in the sample are randomly drawn from the population of firms in proportion to the size of prefectures, industries, and the number of employees.[11] The sampling of the survey is done in two steps: in the first step, a random sample of establishments is selected, and in the second step, the selected establishments are asked to take a random sample of workers and

[10] The CSR dataset was provided by RIETI.
[11] Prefecture and industry size are measured in terms of employment.

provide information on their payroll records. The BSWS excludes agriculture, forestry, fishery and public services. The data contain information on an individual worker's monthly salary in June, annual bonuses, hours worked, gender, age, tenure, education, job title, and the type of a job. The data include approximately 1.2 million workers per year coming from 70,000 establishments. Our wage variable is calculated by dividing the total amount of remuneration by the total hours worked.

The BSJBSA survey is conducted among approximately 30,000 firms operating in manufacturing, commerce, and a subset of services industries, which have 50 or more employees and the value of capital of at least 30 million yen.[12] The BSJBSA data contain information on the foreign ownership, sales, total number of employees, debt/asset ratio, and R&D/sales ratio. The BSWS and BSJBWA are merged using the company name, address, and the phone number. The dataset used in this study consist of 60,239 firm-year observations pertaining to 16,692 firms and 2,708,061 employees. We use this dataset to study differences in the gender wage gap of domestic and foreign firms. The actual number of observations used in the analysis is smaller due to missing values of control variables.

EEC & BSJBSA (Dataset 3). To create our third dataset we combine information from two sources: the EEC and BSJBSA. The EEC is the census that covers all establishments in Japan and is conducted twice in every five year period by the Ministry of Internal Affairs and Communications. We use years 1996, 2001, 2004, 2006, and 2009. The EEC data contain annual information on the number of employees and board member by gender in all establishments operating in Japan. The EEC and the BSJBSA are merged

[12] The BSJBSA survey is conducted by the Ministry of Economy, Trade, and Industry. Finance and real estate sectors are not included in the survey. Since BSJBSA is a survey of private sector firms, non-profit service sector organizations (e.g., hospitals and schools) are not included either.

using the company name, address, and the phone number. The dataset we use in this analysis contains 52,616 firm-year observations.

Definition of foreign ownership

We define a foreign affiliate dummy (*Foreign affiliate*) as 1 for a firm with a foreign equity share of at least ten percent, and zero otherwise. We clean the data to correct for what most likely are coding errors. A sequence of *Foreign affiliate* values observed for the same firm over four consecutive years equal to 0010 and 0100 is replaced with 0000. Analogously 1101 and 1011 become 1111. Missing values (denoted as .) due to the firm not be present in the data set in a given year are replaced with the ownership status in the adjacent years (e.g., 0.0 becomes 000, 1.1 becomes 111, 0..0 becomes 0000, and 1..1 becomes 1111). The missing year adjustment matters only for calculating the age of the foreign affiliate.

We define *New foreign affiliates* as those that are in their first, second or third year of operation under foreign ownership. *Old foreign affiliates* are defined as those that have been operating under foreign ownership for more than three years. *Majority owned affiliates* are defined as those with the foreign ownership share above 50 percent. *Blocking interest* is defined as foreign ownership share of at least 25 percent but no more than 50 percent. Foreign affiliates with the foreign ownership share of less than 25 percent (but at least 10 percent) are considered to be *Minority foreign owned.*

Summary statistics

As shown in Table 1, the number of foreign affiliates operating Japan increased over time: the share of foreign affiliates among listed firms went up from 38 percent in 2004 to 54 percent in 2014. The number of new affiliates declined significantly during the financial crisis, though it started to recover in the most recent years. According to Table 2,

most affiliates in our sample involve minority shareholding by foreign owners. There is only a handful of majority-owned foreign affiliates.

III. Estimation Results

Female employment: Baseline estimates from the CSR data

Using Dataset 1 (CSR data), we examine whether foreign affiliates differ from Japanese firms operating in the same industry in terms of gender-related outcomes. We distinguish between new and established (old) foreign affiliates as transplanting the corporate culture across international borders is likely to take time. The former are defined as those in their first three years of operation, while the latter definition encompasses the remaining affiliates. In order to distinguish the effect of size from the effect of "foreigness", we control for the firm size measured using the number of employees (logged).

The first set of dependent variables consists of the proportion of women in the firm's workforce and in the following managerial positions: (1) managers, (2) directors, and (3) board members. As different industries may have a different appeal to women, we control for industry-year fixed effects. The second set of outcome variables takes the form of indicator variables equal to one if at least one female holds a given position, and zero otherwise. When we use the second set of outcomes, we estimate a logit model which is more appropriate for indicator variables. Again we control for industry-year fixed effects.

The summary statistics are presented in Table 2. One striking difference emerging from this table is between domestic firms and majority foreign-owned affiliates. The latter have a higher share of female employees (23 percent versus 20 percent in Japanese firms), female managers (6.8 versus 3.8 percent), female directors (2.9 versus 1.7 percent) and female board members (3.1 versus 1.1 percent). There are also pronounced differences between Japanese firms and all foreign affiliates in terms of

human resource practices. The latter group is much more likely to offer flexible work time (73 percent of old foreign affiliates do so as compared to 40 percent of Japanese firms), telecommuting arrangements (18 versus 4.3 percent), child care or child care subsidies (32 versus 6.2 percent). Employee of old foreign affiliates use on average 56 percent of their annual leave allocation, while the corresponding figure for Japanese firms is only 44 percent. Some of these differences could be due to different industry affiliations in the two groups of firms, which we take into account in our regression analysis, to which we turn next.

The regression results based on the first set of variables, shown in the top panel of Table 3, suggest that established (old) foreign affiliates indeed hire and promote more women than do other firms of similar size operating in the same industry. The results are statistically significant in all regressions (at the 1 percent level in three of four specifications). The estimates are also economically meaningful. For example, the results from column (1) suggest that the proportion of women in the firm's workforce is on average 2 percentage points higher in established foreign affiliates than in Japanese firms. For managers, the corresponding figure is 1.6 percent, which is meaningful given that the average ratio of female managers in Japanese companies in our dataset is only 3.5 percent. Established affiliates have almost a fifty percent higher share of female directors and board members than Japanese firms do, though it is also true that the ratio of women in these positions is very low in domestic establishments.[13] The estimated effects for new foreign affiliates are much smaller in magnitude and do not reach the conventional significance levels, with the exception of the share of females in total workforce.

Moving on to our control variable, we find that the fractions of women in the

[13] Siegel et al. (2013) show greater representation of females in managerial and executive roles translates into improved firm-level outcomes in Japan.

workforce and in managerial positions are lower in large firms, as the significant coefficients on the total firm employment suggest. Large firms appear to be more male-dominated than smaller firms are.

The lower panel of Table 3 reports the results from regressions where the dependent variable is an indicator capturing the presence of women in managerial positions. The basic pattern is very similar to that found in the top panel. Controlling for a firm's employment, industry–year fixed effects, we find that, relative to Japanese firms, established foreign affiliates are more likely to have at least one female manager, director, and board member. New foreign affiliates exhibit this pattern only in the case of female managers.

Overall, we find support for the view that foreign affiliates hire and promote more women than do domestic firms. Our results also suggest that implementing the more female-friendly hiring and promotion practices takes time.

Does the extent of foreign control matter?

So far we have established that foreign affiliates hire and promote more women and that implementing these policies takes time. Next, we examine whether the extent of foreign ownership plays a role. We do so by allowing for a differential effect for majority owned affiliates (i.e., those foreign ownership share above 50 percent), affiliates where foreign owners have a blocking interest (foreign ownership share between 25 and 50 percent), and minority owned affiliates (with foreign share exceeding 10 percent but being below 25 percent). As before, we keep the distinction between old and new affiliates.

Two patterns are clearly visible in the results for female shares presented in Table 4a. First, the more gender-equal employment outcomes are driven almost exclusively by established affiliates. And second, there is a monotonic relationship between the share of females at various levels and the extent of foreign ownership. These

conclusions are broadly confirmed when we consider outcomes captured by indicator variables in Table 4b.

In sum, we conclude that both the age of the affiliate and the extent of foreign ownership matter when it comes to transplanting the corporate culture to an affiliate abroad.

Management practices

We would expect that more balanced gender-related outcomes should go hand in hand with more flexible working arrangements which women tend to find attractive. The CSR survey asks firms about their human resource practices, and their responses are used as dependent variables. We consider the following human resource practices: (1) flexible working hours (flextime); (2) the option to temporarily reduce one's employment to a part-time position (short-time); (3) telecommuting arrangements; (4) the employer offering child care facilities or child care subsidies; and (5) the average share of vacation days used by workers. The first four variables are indicator variables, while the last one is continuous. Thus we employ a logit model in the first four specifications and OLS in the last specification. We control industry-year fixed effects.

Table 5 reports the results from regressions on human resource practices. The sample sizes are smaller than those in Table 4 because questions related to work practices were not asked in all waves of the CRS survey. In all regressions in the top panel of Table 5, the estimates imply that established foreign affiliates are more likely than Japanese firms are to offer flexible working arrangements. Their employees also tend to take a larger portion of the annual leave allocation. Interestingly, both new and old foreign affiliates are more likely to offer child care facilities or child care subsidies when compared to Japanese firms. This finding is intuitive as establishing child care facilities or offering child care subsidies can be accomplished through a central decision

and does not require behavioural changes on the part of the workforce.

In the lower panel of Table 5, we additionally distinguish between affiliates with different degrees of foreign control. As before, we confirm that the differences between Japanese and foreign firms are driven by old foreign affiliates and that the degree of foreign control is positively correlated with the introduction of the practices studied (though the pattern does not hold for Flextime).[14]

Gender wage gap: Wage regressions based on Dataset 2

So far, we have shown that foreign affiliates in Japan (particularly the more established ones and those with a greater share of foreign ownership) have a higher share of women in their workforce and management and are also more likely to follow modern and women-friendly human resource policies.

Now we turn to the question: Is the pay difference between men and women smaller in foreign affiliates than in domestic firms? If indeed foreign affiliates follow more gender-balanced human resource policies, this should also be manifested in the lower gender wage gap.

To examine this issue, we estimate a Mincerian wage regression using the matched BSWS-BSJBSA data (Dataset 2). The dependent variable is the hourly wage of worker *i* employed in firm *j* in year *t*. We control for the worker's age (to capture the potential worker experience) and age squared.[15] We also include indicator variables for four levels of education (9 years, 12 years, 14 years, 16 years or more, setting the 12 years as the base group).

Our primary interest here is in the coefficients on the female dummy (capturing the gender wage gap, that is, the pay differential between men and women that is not

[14] We have very few observations on majority-owned new affiliates we are unable to separately estimate a coefficient on this variable.

[15] Controlling for tenure and tenure squared, in addition to age and age squared, leads to very similar results.

explained by workers' characteristics) and its interaction with indicator variables for the worker being employed in a foreign affiliate. We expect a negative coefficient on the female dummy (since women are paid less than men), and a positive coefficient on the interaction term which would suggest that the gender wage gap is smaller in foreign affiliates. We distinguish between new and old foreign affiliates as well as between affiliates which are majority foreign owned, minority foreign owned, and those where the foreign owner has a blocking interest. We expect to see larger effects for older affiliates and for affiliates with a large foreign ownership share in accordance with our earlier findings.

Again to make sure that we pick up the effect of foreign ownership rather than the effect of the firm's size, we control for the log of lagged employment in the firm and its interaction with a dummy for female. The latter will capture any systematic relationship between the firm's size and the gender wage gap. The specification also includes, industry, region and year fixed effects. The standard errors are clustered at the firm level. The regressions are weighted by the person weight in the BSWS, the weight that reflects the survey sampling of workers.

The results, reported in Table 6, echo the central message of our study as they suggest that foreign affiliates are more gender equal. Starting with the results in column 1, we find that the gender gap in domestic firms is equal to 33 percent.[16] In other words, Japanese women earn on average 33 percent less than equally qualified men of the same age employed in the same industry in a firm operating in the same region. More interestingly from our perspective, the gender wage gap goes down by three percentage points to 30 percent in older foreign affiliates.[17] While the magnitude of the effect is not

[16] 1 - exp(-.396) = 0.33

[17] One explanation for higher wages in foreign affiliates than in domestic firms is that unobserved human capital in foreign affiliates is higher than in domestic firms. Another is compensating wage differentials due to the fact that jobs are less secure in foreign

huge, the estimate is significant in statistical terms. New foreign affiliates do not appear to be different from Japanese firms.

In line with the existing studies (see Javorcik (2015) for a literature review), we find that foreign affiliates tend to pay higher wages to all workers. The foreign affiliate premium reaches 6 percent in established affiliates and 3.5 percent in new affiliates. Finally, we find that larger firms tend to have a lower gender wage gap (this result is not shown to save space).

In column (2), we investigate differences in the gender wage gap between affiliates with different foreign ownership shares (while allowing for a differential effect for old and new affiliates and large firms). We find that majority owned foreign affiliates have a lower gender wage gap. This effect is statistically significant (at the one percent level) and economically meaningful. Working for a majority owned foreign affiliate closes the gender wage gap from 33 to 25 percent. Consistent with the evidence from other countries, we also find that foreign affiliates pay higher wages to all workers. The effect is larger for older affiliates and increasing with the foreign ownership share.

Finally, in column (3), we distinguish between affiliates of different ages and with different ownership share. The gender wage gap appears to be the lowest among the established majority owned affiliates, which is in line with the results from the first two columns.

While the results are consistent with the picture painted by our first dataset, they should be interpreted with caution as our data do not allow us to account for the possibility of workers with different unobservable characteristics self-selecting into working for foreign affiliates.[18]

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affiliates than in Japanese firms.

[18] Our dataset has the form of repeated cross sections which make it impossible to trace workers over time.

IV. Foreign acquisitions and gender-related outcomes

In our final exercise, we explore the causal link between foreign ownership and gender-related outcomes. More specifically, we focus foreign acquisitions and ask whether the ownership change from domestic to foreign resulted in changes in gender-related outcomes. As Japanese establishments acquired by foreign owners are not a random sample of firms, we address the selection bias through propensity score matching combined with a difference-in-differences approach (as was done by Arnold and Javorcik (2009)). Propensity score allows us to create the missing counterfactual of how the acquired firm would have performed in the absence of ownership change, while the difference-in-differences approach allows us to take into account unobservable firm heterogeneity.

Our exercise is based on Dataset 3. The estimates from the logit model predicting the probability of a future foreign acquisition (which is the propensity score in our analysis), indicate that larger, more R&D intensive and less indebted firms are more likely to be attractive to foreign investors (see Table 7). The higher fraction of women in the workforce increases the likelihood of a future foreign acquisition, although this effect is smaller for large firms. Having a female board member decreases the probability of being acquired.[19] The estimated propensity score satisfies the balancing property.

We employ kernel matching, in which multiple control observations are used and the weight given to each is determined by the distance in the propensity score from the treated (acquired) firm.[20] We consider three outcomes: (1) the share of female workers, (2) a dummy for the firm having at least one female board member, and (3) the total

[19] This estimation assumes that the treated and the control groups share the common trends in the pre-acquisition period.

[20] In other words, kernel matching uses weighted averages of all firms in the control group (within the common support) to construct the counterfactual outcome. Higher weight is given to controls whose propensity score is closer to that of the treated observation, while a lower weight is given to more distant controls.

employment.[21]

The estimates, presented in Table 8, indicate that foreign acquisitions boost employment as well as the share of women among workers. The effect on employment (a 4 percent increase) is visible already in the year of ownership change. By the time we observe the firm for the third time under foreign ownership, the magnitude of the effect more than doubles. The increase in the share of female employees is statistically significant only in the last column. Relative to the control group (firms remaining in Japanese hands), the acquired firms see an increase in female employment share by 6.6 percentage points.

In the bottom panel of the table, we restrict our attention to firms that we observe in the pre-acquisition survey, in the survey year of the ownership change and the next two surveys after the acquisition. Thus comparisons across columns are made on exactly the same sample of firms, which unfortunately lowers the sample size to between 151 and 177 acquisition cases depending on the outcome of interest. The message remains unchanged. The acquired firm experience an increase in both employment and the share of females in their workforce.

In neither of the panels, do we find an effect on the female representation at the board level, which is consistent with the findings based on Dataset 1 suggesting that only old affiliates differ from Japanese firms in terms of female participation in the board (recall Table 3).

In summary, we find that foreign acquisitions lead to employment growth and an increase in the female share of workers, but have no impact on the likelihood of having a female board member.

[21] Although total employment is not a gender-related outcome, it is easier to change the composition of the firm's workforce through growth than through downsizing.

V. Conclusions

Globalization influences countries not only by bringing foreign goods and foreign capital but also by exposing them to foreign cultural norms. These foreign cultural norms are likely to manifest themselves in the corporate culture transplanted by foreign investors from their headquarters to their affiliates operating in host countries.

In this paper, we study how transplanting foreign cultural norms affects gender-related labor market outcomes and human resource practices in Japan. More specifically, we use multiple data sources to examine whether female representation in the workforce and human resource practices are related to foreign ownership. We focus on Japan because it exhibits very different attitudes toward female employment than do most countries from which it receives inflows of foreign direct investment.

We find that foreign affiliates are more gender-equal than Japanese firms are, but this difference, while meaningful, is not dramatic. This suggests that foreign investors bring their home country attitudes to overseas investments but they also adjust them to the local culture. The higher representation of women in foreign affiliates goes hand in hand with flexible and family-friendly human resource practices, such as telecommuting and child care subsidies.

The difference in gender-related outcomes is driven mostly by older foreign affiliates and by affiliates where the foreign parent has a greater degree of control. These patterns suggest that transplanting corporate culture abroad takes time and is facilitated by having greater control over operations.

Our results suggest that by contributing to improved allocation of talent the cultural changes brought about by FDI inflows are likely to make a positive contribution to economic growth.

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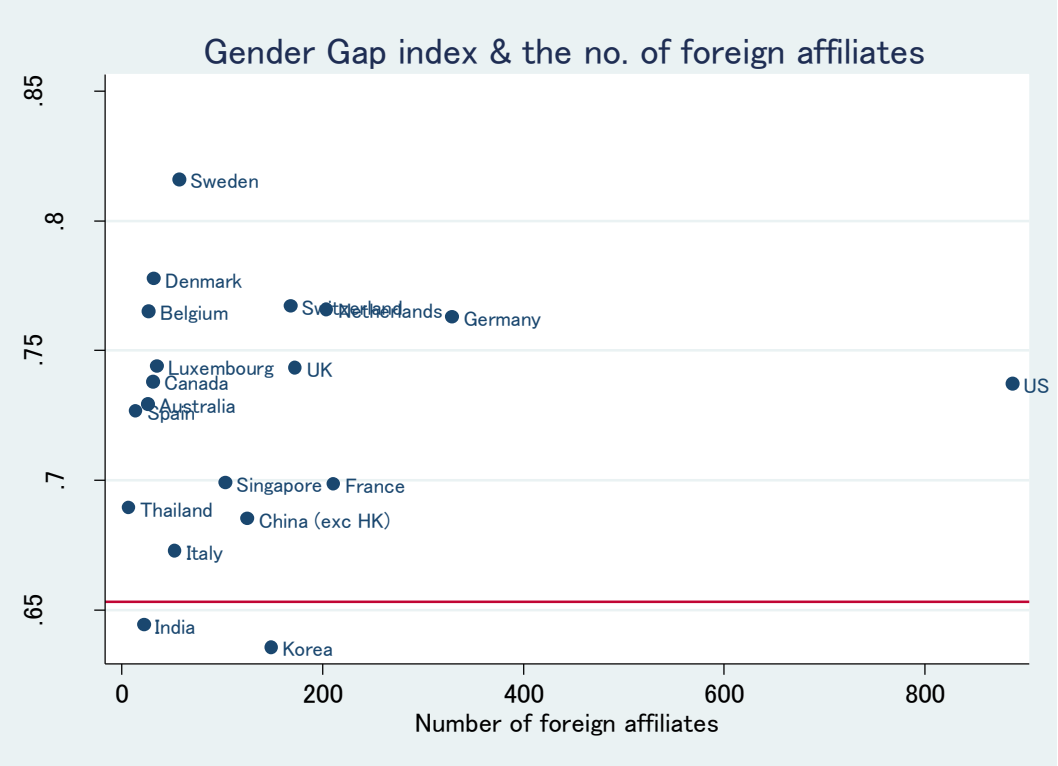
Figure 1. Gender Gap Index and the number of foreign affiliates



Notes: The horizontal line depicts the value of the Gender Gap Index for Japan. The FDI data pertain to year 2011 and come from the Survey of Foreign Firms in Japan by Ministry of Economy, Trade and Industry. The Gender Gap Index is from World Economic Forum and pertains to 2012.

Table1a. Number of Japanese and Foreign Companies (among listed companies)

Year	Domestic	New foreign affiliate	Old foreign affiliate	Total
2004	354	30	187	571
2006	328	77	228	633
2007	396	68	280	744
2008	447	49	310	806
2009	442	20	320	782
2010	413	20	317	750
2011	378	17	334	729
2012	359	12	341	712
2013	400	20	381	801
2014	336	36	366	738
Total	3,853	349	3,064	7,266

Note: In the case of 12 firms, we are unable to distinguish between the new and the old foreign affiliate status because of the missing information on the year of ownership change.

Table 1b. Number of Minority, Blocking, and Majority Companies by year (among listed companies)

Year	Domestic	Majority	Blocking	Minority	Total
2004	354	5	61	151	571
2006	328	6	114	185	633
2007	396	7	135	207	745
2008	447	8	138	215	808
2009	442	3	82	256	783
2010	413	6	117	215	751
2011	378	9	137	206	730
2012	359	8	128	218	713
2013	400	12	154	238	804
2014	336	7	172	225	740
Total	3,853	71	1,238	2,116	7,278

Note: Minority foreign owned affiliates are defined as those with the foreign ownership share of more than 10 but less than 25 percent, Blocking share is between 25 and 50 percent. Majority foreign owned affiliates are those with the foreign ownership share above 50 percent.

Table 2. Summary statistics

	All sample Mean/N	Domestic Mean/N	New FDI Mean/N	Old FDI Mean/N	Majority Mean/N	Blocking Mean/N	Minority Mean/N
Foreign capital ratio	12.798	3.118	15.573	24.601	61.002	32.971	17.002
	7278	3853	349	3064	71	1238	2116
Old foreign affiliate	0.422	0	0	1	0.971	0.984	0.845
	7266	3853	349	3064	70	1236	2107
New foreign affiliate	0.048	0	1	0	0.029	0.016	0.155
	7266	3853	349	3064	70	1236	2107
Majority owned	0.010	0	0.006	0.022	1	0	0
	7278	3853	349	3064	71	1238	2116
Blocking owned	0.170	0	0.057	0.397	0	1	0
	7278	3853	349	3064	71	1238	2116
Minority owned	0.291	0	0.937	0.581	0	0	1
	7278	3853	349	3064	71	1238	2116
Female ratio	0.192	0.203	0.184	0.179	0.231	0.179	0.178
	7278	3853	349	3064	71	1238	2116
Female manager ratio	0.035	0.038	0.032	0.033	0.068	0.032	0.032
	6625	3409	330	2874	66	1171	1979
Female director ratio	0.016	0.017	0.016	0.014	0.029	0.014	0.014
	6367	3258	310	2787	60	1136	1913
Female board member ratio	0.011	0.011	0.012	0.011	0.031	0.013	0.009
	6563	3393	321	2837	65	1159	1946

Table 2. Continued.

	All sample Mean/N	Domestic Mean/N	New FDI Mean/N	Old FDI Mean/N	Majority Mean/N	Blocking Mean/N	Minority Mean/N
Female manager dummy	0.787	0.683	0.845	0.904	0.955	0.93	0.877
	6625	3409	330	2874	66	1171	1979
Female director dummy	0.300	0.185	0.268	0.435	0.633	0.498	0.366
	6367	3258	310	2787	60	1136	1913
Female board member dummy	0.138	0.101	0.121	0.185	0.400	0.237	0.137
	6563	3393	321	2837	65	1159	1946
Flextime	0.553	0.398	0.616	0.732	0.606	0.762	0.702
	7000	3650	336	3004	71	1213	2066
Short time	0.770	0.680	0.761	0.880	0.901	0.904	0.845
	7001	3648	335	3008	71	1216	2066
Telecommuting	0.104	0.043	0.057	0.182	0.324	0.227	0.131
	6974	3636	336	2992	71	1205	2062
Child care	0.177	0.062	0.152	0.319	0.409	0.406	0.236
	6853	3571	330	2942	66	1190	2026
Share of vacation days used	0.498	0.439	0.516	0.558	0.592	0.565	0.548
	5498	2677	254	2556	47	1070	1704

Table 3. Foreign affiliates are more female friendly

	Share of females			
	Workers	**Managers**	**Directors**	**Board members**
Old foreign affiliate	**0.020*** **	**0.016*** **	**0.010*** **	**0.004***
	[0.007]	[0.004]	[0.003]	[0.002]
New foreign affiliate	**0.015***	0.007	0.009	0.004
	[0.009]	[0.004]	[0.006]	[0.003]
ln (Employment)	-0.013***	-0.007***	-0.004***	-0.001*
	[0.003]	[0.001]	[0.001]	[0.001]
R^2	0.354	0.299	0.173	0.142
N	7266	6613	6355	6551
Avg in Japanese companies	**0.192**	**0.035**	**0.016**	**0.011**

	At least one female		
	Manager	**Director**	**Board member**
Old foreign affiliate	**0.103*** **	**0.107*** **	**0.084*** **
	[0.024]	[0.024]	[0.020]
New foreign affiliate	**0.103*** **	0.046	0.044
	[0.030]	[0.040]	[0.031]
ln (Employment)	0.099***	0.109***	0.023***
	[0.007]	[0.009]	[0.008]
R^2	0.227	0.224	0.128
N	6228	6075	5614
Avg in Japanese companies	**0.787**	**0.300**	**0.138**

Notes: The top panel presents OLS results. The bottom panel presents results from a logit model expressed as marginal effects. All regressions control for industry-year fixed effects. Standard errors, presented in brackets, are clustered at the firm level.

***, **, * denote significance at the 1, 5 and 10percent level, respectively.

Table 4a. Differences in gender outcomes: Role of the foreign ownership share

	Share of female			
	Workers	Managers	Directors	Board members
Majority owned * Old affiliate	**0.056****	**0.041*****	**0.014****	**0.021***
	[0.024]	[0.013]	[0.007]	[0.012]
Blocking interest * Old affiliate	**0.031*****	**0.022*****	**0.013*****	**0.008*****
	[0.009]	[0.005]	[0.003]	[0.003]
Minority owned * Old affiliate	**0.014***	**0.013*****	**0.008*****	0.002
	[0.008]	[0.004]	[0.003]	[0.002]
Majority owned * New affiliate	-0.012	0.006	-0.007**	-0.002*
	[0.039]	[0.018]	[0.003]	[0.001]
Blocking interest * New affiliate	0.002	**0.024***	0.008	0.023
	[0.018]	[0.014]	[0.013]	[0.018]
Minority owned * New affiliate	0.017*	0.007	0.009	0.004
	[0.009]	[0.005]	[0.006]	[0.003]
ln (Employment)	-0.014***	-0.008***	-0.005***	-0.002**
	[0.003]	[0.001]	[0.001]	[0.001]
R^2	0.357	0.301	0.174	0.147
N	7266	6613	6355	6551
Avg in Japanese companies	**0.192**	**0.035**	**0.016**	**0.011**

Notes: OLS results. Each regression controls for industry-year fixed effects.
Standard errors, presented in brackets, are clustered at the firm level.
***, **, * denote significance at the 1, 5 and 10 percent level, respectively.

Table 4b. Differences in gender outcomes: Role of the foreign ownership share

	At least one female		
	Manager	**Director**	**Board member**
Majority owned * Old affiliate	**0.328****	**0.174*****	**0.199*****
	[0.135]	[0.067]	[0.063]
Blocking interest * Old affiliate	**0.129*****	**0.145*****	**0.141*****
	[0.035]	[0.030]	[0.025]
Minority owned * Old affiliate	**0.089*****	**0.085*****	**0.045****
	[0.024]	[0.024]	[0.022]
Majority owned * New affiliate	0.032	n.a.	n.a.
	[0.282]		
Blocking interest * New affiliate	0.193	0.025	**0.191****
	[0.148]	[0.123]	[0.082]
Minority owned * New affiliate	0.101***	0.051	0.037
	[0.031]	[0.040]	[0.031]
ln (Employment)	0.098***	0.105***	0.018**
	[0.007]	[0.009]	[0.008]
R^2	0.228	0.226	0.142
N	6228	6075	5614
Avg in Japanese companies	**0.787**	**0.300**	**0.138**

Notes: The table presents results from a logit model expressed as marginal effects.
All regressions control for industry-year fixed effects.
Standard errors, presented in brackets, are clustered at the firm level.
***, **, * denote significance at the 1, 5 and 10 percent level, respectively
n.a. denotes variable dropped due to colinearity.

Table 5. Foreign affiliates follow different work practices

	Flextime	Short time	Telecommuting	Child care	Share of vacation days used
Old foreign affiliate	**0.069****	**0.064*****	**0.084*****	**0.086*****	**0.040*****
	[0.027]	[0.024]	[0.021]	[0.025]	[0.011]
New foreign affiliate	0.053	0.021	0.011	**0.063****	-0.003
	[0.038]	[0.031]	[0.034]	[0.028]	[0.014]
ln (Employment)	0.119***	0.078***	0.042***	0.103***	0.028***
	[0.011]	[0.008]	[0.008]	[0.009]	[0.004]
R^2	0.266	0.172	0.184	0.287	0.449
N	6793	6548	5921	6307	5487
Avg in Japanese companies	**0.553**	**0.77**	**0.104**	**0.177**	**0.498**

	Flextime	Short time	Telecommuting	Child care	Share of vacation days used
Majority owned * Old affiliate	-0.075	0.162	**0.149*****	**0.120****	0.059
	[0.086]	[0.140]	[0.053]	[0.057]	[0.037]
Blocking interest * Old affiliate	0.049	**0.090*****	**0.105*****	**0.116*****	**0.039*****
	[0.038]	[0.034]	[0.025]	[0.030]	[0.014]
Minority owned * Old affiliate	**0.083*****	**0.051****	**0.070*****	**0.069*****	**0.040*****
	[0.029]	[0.025]	[0.021]	[0.025]	[0.011]
Majority owned * New affiliate	n.a.	n.a.	n.a.	n.a.	n.a.
Blocking interest * New affiliate	**0.281****	0.052	0.06	0.042	0.049
	[0.142]	[0.083]	[0.085]	[0.075]	[0.035]
Minority owned * New affiliate	0.041	0.023	0.012	**0.068****	-0.006
	[0.039]	[0.032]	[0.033]	[0.029]	[0.014]
ln (Employment)	0.120***	0.077***	0.039***	0.099***	0.028***
	[0.011]	[0.009]	[0.008]	[0.010]	[0.004]
R^2	0.2672	0.172	0.1878	0.2901	0.449
N	6792	6546	5920	6306	5487
Avg in Japanese companies	**0.553**	**0.77**	**0.104**	**0.177**	**0.498**

Notes: Columns (1)-(4) present results from a logit model expressed as marginal effects, and Column (5) from OLS. All regressions control for industry-year fixed effects. Standard errors, presented in brackets, are clustered at the firm level. ***, **, * denote significance at the 1, 5 and 10 percent level, respectively. n.a. denotes variable dropped due to collinearity.

Table 6. Foreign ownership and the Gender wage gap

Female	**-0.396*** **	**-0.400*** **	**-0.402*** **
	[0.025]	[0.024]	[0.024]
Female * Old affiliate	**0.034***		
	[0.019]		
Female * New affiliate	0.024		
	[0.021]		
Female * Majority owned		**0.113*** **	
		[0.034]	
Female * Blocking interest		0.024	
		[0.025]	
Female * Minority owned		0.019	
		[0.015]	
Female * Old affiliate * Majority owned			**0.134*** **
			[0.038]
Female * Old affiliate * Blocking interest			0.016
			[0.027]
Female * Old affiliate * Minority owned			0.017
			[0.018]
Female * New affiliate * Majority owned			-0.018
			[0.040]
Female * New affiliate * Blocking interest			**0.078*** **
			[0.028]
Female * New affiliate * Minority owned			0.026
			[0.019]
Old affiliate	**0.059*** **		0.060
	[0.016]		[0.083]
New affiliate	**0.035*** **		0.045
	[0.013]		[0.082]
Majority owned		**0.107*** **	0.049
		[0.033]	[0.089]
Blocking interest		**0.067*** **	0.009
		[0.018]	[0.083]
Minority owned		**0.034*** **	-0.019
		[0.013]	[0.082]
R^2	0.621	0.622	0.622
N	1,443,835	1,449,345	1,443,835

Notes: All specifications control for age, age squared, three educational categories, lagged ln(Employment) and its interaction with the Female dummy. These coefficients are not reported to save space. All specifications include industry, year, and region fixed effects. Robust standard errors, clustered on firm, are presented in brackets. ***, **, * denote significance at the 1, 5, and 10 percent level, respectively.

Table 7. Predicting foreign acquisitions

ln(Employment) (t-1)	0.515***
	[0.032]
Debt/Assets (t-1)	-0.835***
	[0.089]
R&D/Sales (t-1)	8.082***
	[1.366]
Share of female workers (SFW) (t-1)	1.314***
	[0.456]
ln(Employment)*SFW (t-1)	-0.226***
	[0.075]
At least one female board member (t-1)	-0.312***
	[0.059]
Pseudo R^2	0.200
N	52,616

Note: All specifications include year fixed effects.

t-1 pertains to the year of the previous survey.

***, **, * denote significance at the 1, 5 and 10 percent level, respectively.

Table 8. Matching results

	Acquisition year	One period later	Two periods later
Share of female workers	-0.002	-0.011	**0.066*** **
	(0.011)	(0.019)	(0.023)
N of acquisitions	463	332	185
At least one female board member	0.045	-0.000	0.059
	(0.031)	(0.038)	(0.046)
N of acquisitions	463	315	182
ln(Employment)	**0.040*** **	**0.049***	**0.084** **
	(0.015)	(0.026)	(0.041)
N of acquisitions	488	336	186
	Keeping the sample size constant		
	Acquisition year	One period later	Two periods later
Share of female workers	0.016	**0.088*** **	**0.059*** **
	(0.018)	(0.026)	(0.029)
N of acquisitions	151	151	151
At least one female board member	0.035	0.003	0.057
	(0.060)	(0.065)	(0.046)
N of acquisitions	158	158	158
ln(Employment)	**0.054***	0.024	**0.060***
	(0.030)	(0.036)	(0.035)
N of acquisitions	177	177	177

Notes: Bootstrapped standard errors (300 repetitions).

Periods pertain to survey years.

***, **, * denote significance at the 1, 5 and 10% level, respectively.