Index Inclusion and Corporate Social Performance: Evidence from the MSCI Empowering Women Index

Vikas Mehrotra, Lukas Roth, Yusuke Tsujimoto, and Yupana Wiwattanakantang*

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Abstract

We exploit a unique setting in Japan to examine whether equity market indexation can drive corporate social performance. In 2017, the Government Pension Investment Fund of Japan, the world's largest pension fund, adopted the MSCI Empowering Women Index (WIN). To qualify for the index, firms must meet specific criteria for the advancement of women in the workforce. Inclusion in the WIN is structured as a tournament—only the top half of firms in each sector are included. Using a difference-in-differences methodology to compare firms on the brink of inclusion against those considerably distant from this threshold, we find that firms competing for index membership display significant improvements in women's participation in the workforce, particularly in management positions. Treated firms exhibit an increase in paternity leaves and a reduction in overtime, indicating a shift towards a more inclusive corporate culture. We also find that inclusion in the WIN is followed by higher institutional ownership without detracting from shareholder value. Our findings highlight the potential of purpose-driven equity indexes through which capital markets can influence and transform corporate social behavior.

Keywords: Women in the workforce, gender diversity, social performance, index, WIN
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* Mehrotra is at the University of Alberta (vmehrotr@ualberta.ca), Roth is at the University of Alberta and ECGI (lukas.roth@ualberta), Tsujimoto is at Waseda University (ytsujimoto@waseda.jp), and Wiwattanakantang is at National University of Singapore and ECGI (yupana@nus.edu.sg). We thank Andrew Ellul, Joseph Fan, Masaharu Hanazaki, Takeo Hoshi, Mark Huson, Yosuke Kimura, Michael King, Charles Martineau, Ron Masulis, Hideaki Miyajima, Randall Morck, Yoshio Nozawa, Elena Pikulina, Laura Starks, Yoko Shirasu, Jungwon Suh, Yasuhiko Tanigawa, Konari Uchida, Cara Vansteenkiste, John Wald, Charles Wong, seminar participants at the Development Bank of Japan, Kyushu University, Monash University, University of New South Wales, University of Sydney, and York University, and participants at the 2023 UN PRI Academic Conference, 2023 FIRS Conference, 2023 ECGI Global Corporate Governance Colloquium, 2023 Waseda Summer Workshop in Finance, 2023 International Conference on Corporate Finance (Hitotsubashi University), 2022 Canadian Sustainable Finance Network Conference, and the 2022 Queensland Corporate Finance Conference. We are grateful to the Social Sciences and Humanities Research Council of Canada and the Singapore Ministry of Education Tier 1 Research Grant [grant number R-315-000-127-115] for financial support.

"Creating an environment in which women find it comfortable to work […] is no longer a matter of choice for Japan. It is instead a matter of the greatest urgency."

—Abe Shinzō, speaking to the United Nations in September 2013.

1. Introduction

Responsible investment, which focuses on environmental, social, and governance (ESG) considerations, has gained significant attention over the last decade. In this paper, we focus on the social dimension of responsible investment and examine the impact of specialized equity indices on companies' social behavior. We explore this through the case of the MSCI Empowering Women Index (WIN) in Japan. Launched in 2017, with backing from the Government Pension Investment Fund of Japan (GPIF), world's largest pension fund with ¥200 trillion (~$1.5 trillion) in assets under management in 2023, the WIN seeks to encourage Japanese companies to improve women's participation in the workforce. It selects companies for inclusion in the index based on their effectiveness in fostering gender diversity.[1] This initiative places companies within a competitive framework, selecting the top half of performers in gender diversity from each industry for inclusion in the WIN from the larger MSCI Japan IMI Top 700 Index. To examine the impact of inclusion in the WIN on corporate social performance, we employ a difference-in-differences methodology to compare gender diversity metrics between companies ranked near the threshold for inclusion in the index and those with little chance of inclusion. Given the tournament-like structure of the WIN, the identification assumption is that firms around the inclusion threshold have an incentive to enhance their gender diversity performance to be included in the WIN at the next rebalancing date, whereas firms farther away from the threshold have little chance of inclusion

[1] In 2016, among developed nations, Japan had one of the highest workforce gender gaps of 20.3%. In comparison, this was almost double the workforce gender gap in the United States (12.6%) and triple the average gap in Scandinavian countries (7.2%).

and therefore weaker incentives to improve their gender diversity. Our research design provides a plausible identification strategy for establishing directional inferences.

We propose that the WIN has the potential to drive changes in corporate social performance for two primary reasons. First, changes in shareholder preferences towards ESG criteria may pressure companies to improve gender diversity. This is supported by the idea that companies might adapt their practices to align with shareholder preferences, as described in the catering theory of Baker, Greenwood, and Wurgler (2009).[2] Secondly, inclusion in the WIN could raise a company's profile among investors, especially those aligned with the index's goals, such as the GPIF, the Bank of Japan, and other institutional investors,[3] potentially leading to increased institutional ownership and a reduced cost of capital (see, e.g., Pastor, Stambaugh, and Taylor, 2021; Pedersen, Fitzgibbons, and Pomorski, 2021).[4] In sum, the drive towards more ESG-focused shareholder preferences, the advantages of heightened institutional ownership, and the commitment from major investors to support WIN-affiliated firms provide strong incentives for companies to boost their gender diversity to secure a place in the WIN.[5]

Since MSCI only discloses inclusion in the WIN as a binary variable (and not the actual ranking of firms), we obtain workforce gender diversity data from MSCI and create ordinal ranks

[2] See also Lins, Roth, Servaes, and Tamayo (2024) who show that institutional investors increased their holdings in non-sexist firms after the Weinstein/#MeToo events in 2017, highlighting that changes in societal norms can permeating into capital markets and corporations.

[3] The GPIF introduced a new code in 2020 that specifically includes a focus on diversity and inclusion and requires firms to disclose gender statistics in line with the 2015 Act on Promotion of Women's Participation and Advancement in the Workplace. The GPIF is on record in 2017 to allocate ¥1 trillion towards investing in indices based on three ESG factors, one of which is the WIN.

[4] In addition, incremental buying pressure by investors might elevate prices for index members under the assumption of downward sloping demand curves. See, among others, Shleifer (1986) and Kaul, Mehrotra, and Morck (2000) for evidence supporting downward sloping demand curves for stocks.

[5] There is also the possibility that managers experience personal disutility from being excluded from the WIN. If exclusion from the index is associated with shame, firms may compete to be included (see also Chattopadhyay, Shaffer, and Wang, 2020).

for each firm in a given industry (MSCI GICS sector) and year.[6] We confirm that this synthetic ranking variable accurately predicts the actual WIN members with a correlation of 94%. Using these synthetic ranks, we identify *treated* firms as those that rank in the vicinity of the inclusion threshold (ranked between the 40th and 60th percentile), and *control* firms as those with a smaller chance of gaining inclusion (ranked between the 40th to 10th percentile). Our difference-in-differences approach compares the differences of various workforce gender diversity measures in these two groups between the years before the WIN's launch in July 2017 and the years after 2017.

We measure a firm's workforce gender diversity using data from the Toyo Keizai CSR Workforce database. Toyo Keizai, along with Nikkei, is among Japan's the top prominent publishers, having provided economic and business news for more than a century. Toyo Keizai compiles a panel of Japanese firms' workforce characteristics, containing detailed workforce data aggregated and broken down by gender—for example, the number of employees, employee turnover, number of employees by position in the workforce, and maternity/paternity leaves. We augment these data with financial and accounting data from Worldscope, Datastream, Bloomberg, and GPIF.

We begin our analysis by investigating whether the WIN induced changes in corporate social behavior by improving gender diversity within Japanese firms' workforces. Using our difference-in-differences design and controlling for firm characteristics and firm and time fixed effects, we find that treated firms, relative to control firms, significantly increased the proportion of women in the workforce in the post-WIN period. In terms of economic significance, depending on the specification, treated firms raised the proportion of women in their workforces by an additional 4.0% to 8.6% per year compared to control firms. Furthermore, a visual assessment of

[6] See MSCI (2019a) for a description of the detailed index methodology and MSCI (2019b) for a description of the workforce gender diversity database.

parallel trends and regressions in event time confirm that the observed change occurred during the post-WIN years. Consequently, the observed increase is not attributable to long-term secular trends, lending credibility to a directional interpretation of our results—specifically, that the WIN motivated firms to significantly improve their workforce gender diversity. These effects represent a novel contribution to the literature, highlighting the social impact of index design and creation.

We verify that our results are not driven by a reduction in the number of male employees while the women workforce remains unchanged. Instead, our findings confirm that firms actively recruit more women in the period following the implementation of the WIN. Further tests reveal that the increase in women employment is notably in leadership positions, rather than lower-level, non-managerial positions. Firms are not merely adding more women to their ranks to meet WIN inclusion criteria, but are taking meaningful strides towards gender diversity, which holds to potential for further improvements (see, e.g., Matsa and Miller, 2001). Additionally, we identify beneficial social impacts and a potential shift in firms' workplace culture towards greater gender inclusivity. For instance, we find that men employees in treated firms are more likely to take paternity leave during the post-WIN period, facilitating women's continued participation in the workforce. Additionally, we show that treated firms experience a reduction in both overtime hours and pay, suggesting a transition towards a more family-friendly corporate culture.

Next, we explore the incentives behind companies' increased workforce participation, focusing on both product and capital market motivations. Beginning with product market motives, we examine if firms operating in consumer facing sectors, those with higher advertising expenses, and a larger fraction of their sales in domestic markets, face greater local societal pressures to improve gender diversity within their workforce. Our findings confirm this to be the case. Regarding capital market motives, we investigate whether firms are driven by factors such as

executive 'shame', the extent of financial market internationalization, and prior investment by the GPIF. If exclusion from the WIN is associated with shame by top executives, we expect that treated firms with a higher potential for experiencing shame would show greater improvements in workplace diversity compared to other treated firms. We do not find any support for this hypothesis. Similarly, we find no evidence linking a firm's international market exposure and its workforce diversity efforts, consistent with the documented positive impact of a higher proportion of domestic sales. However, we find strong results when we examine firms' pre-existing GPIF ownership—treated firms with lower initial GPIF ownership improve their fraction of women in the workforce, as these firms stand to benefit the most from the GPIF's commitment increase their ownership in WIN firms.

In our final tests, we investigate whether WIN firms exhibit any changes in institutional ownership and firm performance. Our results indicate that WIN firms experience a significant increase in institutional ownership compared to non-WIN firms. The improvement is economically significant—WIN firms' total institutional ownership and ownership by the GPIF increased by 3.4 and 0.6 percentage points, respectively, consistent with firms' motivations to be included in the index. Our findings also indicate that improvements in gender diversity leading up to WIN inclusion do not adversely affect shareholder value, addressing concerns that investments to improve corporate social performance might detract from financial performance.[7]

Our paper makes several contributions to the literature. Our findings offer insights for investors, regulators, and academics interested in mechanisms than can drive change in corporate social behaviour. We identify one specific *channel*—the creation of a tournament-style equity index linked to gender diversity—as a motivating factor for firms to increase their female

[7] We recognize that improvements in firm performance may take longer to materialize (Grennan, 2019; Edmans, 2020; Lins et al., 2024).

workforce participation. We also contribute to the literature on gender diversity within corporations. Numerous studies have examined the impact of women in leadership roles on fostering more women-friendly cultures (Tate and Yang, 2015; Kunze and Miller, 2017), adopting more conservative investment and financing policies (Huang and Kisgen, 2013; Faccio, Marchica, and Mura, 2016), reducing litigation (Adhikari, Agrawal, and Malm, 2019), and enhancing valuations (Lins, Roth, Servaes, and Tamayo, 2024). While these studies predominantly focus on the *outcomes* associated with increased women leadership, we highlight a mechanism through which firms improve the participation of women in the workforce, including *leadership roles*, potentially contributing to the aforementioned effects.

Our findings also contribute to the literature on the factors driving improvements in firms' sustainability performance. Existing literature has documented the roles of institutional investors (Dyck, Lins, Roth, and Wagner, 2019; Krueger, Sautner, and Starks, 2020; Becht, Franks, Miyajima, and Suzuki, 2023), private engagements by investors (Dimson, Karakaş, and Li, 2015), governance mechanisms to renew the thinking of the board (Dyck, Lins, Roth, Towner, and Wagner, 2023), directors with foreign sustainability expertise (Iliev and Roth, 2023), legal environment (Liang and Renneboog, 2017; Ioannou and Serafeim. 2012), litigation (Freund, Nguyen, and Pham, 2023), propagation through the supply chain (Dai, Liang, and Ng, 2021; Schiller, 2018), and the influence of chief executives (Cronqvist and Yu, 2017). Many of these studies focus on *aggregate* sustainability performance measures, leaving uncertain whether specific *material* sustainability improvements are achieved. Our focus is on a specific, *well-defined outcome*—the participation of women in the workforce—and we document that a purposefully crafted equity index linking inclusion to the desired outcome incentivizes firms to improve their corporate social performance and enhance gender diversity.

We add to the literature on board gender diversity and board gender quotas as a regulatory force to improve gender equality in the board room (Adams and Ferreira, 2009; Adams and Funk, 2012; Ahern and Dittmar, 2012; Kim and Starks, 2016; Bertrand, Black, Jensen, and Lleras-Muney, 2019). Our results highlight a capital market channel through which firms are motivated to improve gender diversity above and beyond the board of directors.

Lastly, we extend the literature on index inclusion, which finds that inclusion in large equity indices increases institutional ownership and improves monitoring through capital inflows by large index funds that need to purchase newly added securities. We specifically contribute to the debate in Bebchuk and Hirst (2019), who argue that index funds are insufficient drivers of stewardship to improve governance. Our findings show that indices, specifically created to focus on one narrowly defined goal, can have a positive impact on firms' social behavior.

2. Institutional Details and Empirical Strategy

2.1. Institutional Details in Japan

Since the mid-2010s, the Government Pension Investment Fund of Japan (GPIF), the world's largest pension fund with ¥200 trillion (~$1.5 trillion) in assets under management in 2023, has substantially intensified its focus on investor stewardship and ESG. Initially, the GPIF endorsed the UN Principles for Responsible Investment (PRI) in September 2015.[8] Given the GPIF's large presence in the domestic market, Kawaguchi (2015) discusses a possible spillover effect that promotes ESG investments by other Japanese institutional investors. Subsequently, in October 2017, the GPIF revised its investment principles, with the new principle explicitly stating that its stewardship responsibilities include "the consideration of ESG (Environmental, Social, and Governance) factors" (GPIF, 2018).

[8] https://www.gpif.go.jp/en/investment/pdf/signatory_UN_PRI_en.pdf.

To further enhance the GPIF's stewardship role, the pension fund was at the forefront of adopting various ESG indices. In September 2016, the GPIF requested proposals for ESG indices of Japanese public equities, pleading significant investments in the chosen indices. Fourteen investment companies responded and proposed 27 indices, thereof the GPIF selected three indices to launch in July 2017: the FTSE Blossom Japan Index, MSCI Japan ESG Select Leaders Index, and MSCI Japan Empowering Women Index (WIN). While the FTSE Blossom Japan Index and MSCI Japan ESG Select Leaders Index are integrated indices based on broad ESG metrics, the WIN stands out as the only thematic index focused specifically on empowering women.

The GPIF's role as a long-term, substantial, and diversified owner of domestic companies in Japan necessitates a focus on mitigating economy-wide negative externalities. The pension fund states that through the creation of ESG indices, it seeks to enhance Japanese firms' ESG performance, stating: "We are expecting that the use of those selected ESG indices will provide an incentive for Japanese companies to enhance responses to ESG issues that lead to the improvement of their corporate value in the long term" (GPIF, 2018, p. 40). To that end, index managers are mandated to "publicly disclose how they conduct ESG evaluation and how they develop indices, and to proactively engage with companies" (GPIF, 2018, p. 41).

2.2. Gender Gap in the Labor Market in Japan

Despite ranking close to the top decile for human development, Japan ranks in the bottom quartile of all nations in gender equality.[9] In 2017, women held less than one out of 15 senior management positions in corporate Japan. The numbers improve at the middle and lower

[9] In 2020, Japan ranked 121 out of 153 countries on World Economic Forum's Global Gender Gap Index. This was worse than its ranking in 2017 when it ranked 114 out 144 countries. In contrast, Japan's rank in the UN Human Development Index was 20 out of the 183 countries in the 2020 survey.

management cadres, but remain at less than one out of 10 and one out of five positions, respectively.[10]

Part of the problem is structural and dates back to the post-war economic boom in Japan. For instance, the post-war emphasis by corporate Japan on employment protection and seniority-based compensation meant that employees who decided to leave the workforce, even temporarily, were de facto penalized in their careers (Crawford, 2021). Employees who chose to leave the regular work track faced the risk of losing their position in the lifetime employment track and often returned to non-regular work with lower pay and less protection from job termination. While this inefficiency could be overlooked in the post-war economic boom, the shifting demographics in the 1990s meant that the social cost of Japan's gender inequality started to rise. Crawford (2021) notes that the term *Womenomics* made its debut in 1999, with a clear mandate of closing the economic gender gap and boosting productivity. Politicians were quick to note the economic benefits, with ex-Prime Minister Shinzo Abe making Womenomics a key part of his pro-growth agenda. Despite its introduction in 1999, the gains in women's participation in the workplace have been unimpressive (Crawford, 2021). Part of the problem is that there were few mechanisms to enforce recommendations to improve workplace gender equality. Even when the government announced the availability of small grants to encourage hiring and promotion of women, there were few takers.

The WIN offers a unique opportunity to realize the recommendations by offering the chance of a reward for the included firms, and equally importantly, an opportunity loss for the firms that fail to make the index. The tournament structure of the index, where only half of the

[10] According to the 2017 Annual Report of the Ministry of Health, Labour, and Welfare, women held just 6.6% of senior management positions (department director or higher); 9.3% of middle management (section heads); and 18.6% of lower management (e.g., task unit supervisor) positions. Crawford (2021) writes that the issue of job status and pay ap for women in Japan is "[…] deeply structural and highly resistant to ordinary incremental inducements and exhortations (p. 7)."

firms in specific industry groups can gain membership, precludes a box-checking response where everyone can claim victory by suitably defining their firm's gender diversity scores. The emphasis on relative performance means that firms near the inclusion threshold find it incentive-compatible to expend effort to improve their gender diversity scores, assuming, of course, that WIN membership provides tangible benefits to the firm and its key stakeholders. Our interest is in determining if the creation of the WIN led to a shift in work for women, women's leadership roles, and firms' workplace culture in general.

2.3. Empirical Strategy

To examine whether indexation leads to improvements in corporate social performance, we take advantage of the MSCI Empowering Women Index (WIN). Each May and November, firms included in the MSCI Japan IMI Top 700 Index are ranked within their industry based on their MSCI Gender Diversity Score.[11] Companies with scores of zero or missing scores, REITs, and companies with ESG controversies are excluded from the universe of eligible companies. Using the eligible universe, companies with a gender diversity score in the top half all companies in the same industry are included in the WIN (for a detailed description, see, MSCI, 2019a).

MSCI introduced the Gender Diversity Score in July 2017 (MSCI, 2019b). The score assesses a company's overall practices to improve gender diversity in the workforce and ranges between zero and 10. It is calculated as the weighted average of the Gender Diversity Performance Score (with a weight of 75%) and the Gender Diversity Practices Score (weight of 25%). The former evaluates metrics related to the hiring, retention, and promotion of women, while the latter

[11] The MSCI Japan IMI Top 700 Index tracks the largest 700 companies in the Japanese market. At the start of the WIN in 2017, the applicable universe was the MSCI Japan IMI Top 500 Index. In 2019, MSCI revised the index methodology and moved to the larger MSCI Japan IMI Top 700 Index.

assesses policies and initiatives supporting workforce diversity. Adjustments are made for partial data disclosure by applying a discount.[12]

In our tests, we compare changes in firms' gender diversity measures for those that gain inclusion in the WIN or just miss it, vis-à-vis firms that rank sufficiently low, making inclusion in the index a near impossibility. Because MSCI only discloses inclusion in the WIN as a binary variable, we obtain the workforce gender diversity data from MSCI and assign ordinal ranks based on these scores for each firm in a given industry and year. Since the workforce gender diversity metrics are measured annually, we rank firms once a year in May, before the WIN's first annual rebalancing date. We identify *treated* firms as those that rank in the vicinity of the WIN inclusion threshold (ranked between the 40^{th} to 60^{th} percentile; the threshold is the median), and *control* firms as those with a lower likelihood of gaining inclusion (ranked between the 40^{th} to 10^{th} percentile). Given the tournament structure of the WIN, the identification assumption is that firms around the inclusion threshold have an incentive to improve their gender diversity performance to remain or to move into the WIN at the next rebalancing date, whereas firms farther away from the threshold have little chance of being included. Our empirical approach relies on a difference-in-differences specification that compares the differences of various workforce diversity measures in these two groups between the years before the inauguration of the WIN in July 2017 and the years after 2017.[13]

[12] MSCI (2019b) details the calculation of their Gender Diversity Score.

[13] In Appendix Table B1 we verify that firms' WIN inclusion and our own ordinal ranking of firms is accurate. To that end, we regress firms' WIN inclusion, a dummy variable equal to one if a firm is included in the WIN, and zero otherwise, on our ranking variables created following MSCI's WIN methodology and using MSCI's Gender Diversity Scores, and controls. Our results confirm that we predict firms' WIN inclusion almost perfectly.

Specifically, we estimate the following regression model:

$$Y_{i,t+1} = \alpha + \beta \times Treated_i \times Post_t + \theta X_{i,t} + \gamma_i + \mu_t + \varepsilon_{i,t}, \quad (1)$$

where $Y_{i,t+1}$ is a workplace measure (e.g., the proportion of women in the workforce) of firm *i* and time *t+1*. $Treated_i$ is a dummy variable that equals one for treated firms, and zero for control firms. $Post_t$ is a dummy variable that equals one for years 2018 and 2019, and zero for years 2013 to 2016 (the WIN inception year 2017 is excluded). $X_{i,t}$ is a set of time-varying firm-level control variables. We include firm (γ_i) and year (μ_t) fixed effects and allow for heteroscedastic error terms clustered by firm and time ($\varepsilon_{i,t}$). Treatment can happen in 2018 and 2019. To account for this (mild) staggered difference-in-differences specification (see, e.g., Baker, Larcker, and Wang, 2022), we ensure that treated firms are not control firms in other years. Additionally, we employ a 'stacked regression' approach as suggested in Baker, Larcker, and Wang (2022) to account for our (mild) staggered difference-in-differences specification (see, also, Gormley and Matsa, 2011). Specifically, for each treatment year, we construct a cohort of treated and never-treated (control) firms, pool (stack) the cohorts, and re-estimate Eq. 1 while interacting the firm and time fixed effects with the cohort indicator variable. Finally, we also estimate Eq 1. for each treatment cohort separately.

3. Sample and Summary Statistics

3.1. Toyo Keizai CSR Workforce Database

We obtain detailed workforce data for Japanese companies from the Toyo Keizai CSR Workforce database for the years 2013 to 2020 to measure firms' workforce gender diversity performance. The database covers a wide range of workforce-related data items. Toyo Keizai

compiles these data based on annual CSR surveys of listed companies and some large private companies since 2005.[14]

We use these data to create annual metrics reflecting women's participation in the workforce. The overall employment is assessed using two key metrics: *Women in the Workforce*, calculated as the number of women employees divided by the total number of employees, and *Women to Men in the Workforce*, defined as the ratio of the number of women to men employees. In addition, we measure changes in women (men) employees with *Change in Women (Men) Employees*, calculated as the difference in the number of women (men) employees between year *t* and *t*–1 divided by the number of women (men) employees in year *t*–1, and *Women (Men) Employee Turnover*, calculated as the number of women employees (men) leaving the company for reasons other than mandatory retirement over the year *t*–1 to year *t* divided by the number of women (men) employees in year *t*–1.

We create measures of the proportion of women in the workforce for positions held by women in the company, ranging from non-managerial to executive positions. In addition, to measure firms' workplace culture, we use the Toyo Keizai data to create measures of overtime and parental leaves. *Overtime Hours* is the average number of overtime working hours per employee and month and *Overtime Pay* is the average overtime pay per employee and month. *Women Taking Maternity Leaves* is measured with the number of women taking maternity leaves in year *t* divided by the number of women employees in year *t*–1, and *Men Taking Paternity Leaves* is calculated as the number of men employees taking paternity leaves in year *t* divided by the number of men employees in year *t*–1. We create additional versions for each of the two variables dividing women

[14]See Toyo Keizai's survey manual at http://www.toyokeizai.net/csr/pdf/ht_u/CSR_howtouse2018_1koyo.pdf. The Toyo Keizai database is widely used in Japan and highly regarded, not least owing to Toyo Keizai's century-old reputation as a prominent publisher. Toyo Keizai's covers 74% of all IMI 700 firms representing 90% of the IMI 700 firms' market capitalization.

(men) taking maternity (paternity) leaves by the number of employees that are less than 30, 40, or 50 (for men only) years old to account for the fact that older employees are less likely to take maternity/paternity leaves. All variables and their data sources are described in Appendix A.

3.2. Firm Characteristics

In all tests we control for time-variant firm characteristics that may affect firms' workforce performance directly. We obtain financial, accounting, and stock market data from the Worldscope and Datastream databases. We control for *Log (Total Assets)* (in ¥ billion), *Cash* (cash and cash equivalents divided by total assets), *Tangibility* (PP&E divided by total assets), *Leverage* (total debt divided by total assets), *ROA* (net income divided by total assets), and *Tobin's q* (market value of equity plus the book value of debt divided by total assets). Firm size may be related to workforce gender diversity because larger firms are better positioned to attract women—perhaps because smaller firms represent regional firms with different culture compared to national firms. Cash holdings and financial leverage are included as controls because financial constraints may prevent firms from prioritizing gender diversity initiatives. On the flip side, profitability and valuation are included because profitable and higher-valued firms may have an advantage in attracting more talented employees, including women who may have a preference to work at such firms. Since these variables are not directly affected by the WIN inclusion, we feel safe in including them as controls in our regression models. In addition to controlling for time-varying firm characteristics, we include a full set of firm and time fixed effects in all our models.

3.3. Summary Statistics

We study large Japanese firms included in the MSCI Japan IMI Top 700 Index, the parent index from which the WIN draws its constituents. Our sample consists of 723 firms with non-missing total assets, totaling 4,950 firm-year observations covering the 2013-2020 period. Panel

A of Table 1 reports summary statistics for the full sample. Unsurprisingly, average total assets are large at ¥2,272 billion (about $26.8 billion using the 2020 year-end exchange rate). Firms have average cash holdings of 17.9%, tangibility of 30.6%, financial leverage of 20.6%, and return on assets (ROA) of 4.7%. The average institutional ownership is 47.9%. In terms of employment characteristics, women employment is relatively low in Japanese companies. The average firm has 22.1% women among its workforce, with women relatively more represented at non-managerial positions at 28.8%. However, women in leadership roles are notable rare, comprising only 6.3% on average in general management positions and 2.2% in executive roles.

Panel B of Table 1 presents summary statistics for treated and control firms before and after the inception of the WIN. Firms' financial characteristics are similar to the overall sample and do not notably change in the years before and after the WIN. The fraction of women in the workforce in the pre-WIN years between then treated and control firms is comparable, with 17.7% and 16.9%, respectively. However, it increases for treated firms in the post-WIN period to 19.1% compared to control firms with 17.5%. A similar increase of women's participation in the workforce can be observed for managerial positions, with treated firms showing a greater increase in the fraction of women than control firms. In what follows, our difference-in-differences regressions will shed more light on the statistical differences between treated and control firms, while controlling for firm characteristics and firm and time fixed effects.

4. Results

4.1. Did the WIN Increase Women's Participation in the Workforce?

Our main inquiry focuses on examining if specially crafted equity indices drive change in firms' social performance, particularly regarding women's participation in the workforce. To that

end, in Panel A of Figure 1, we begin our analysis by comparing the proportion of women in the workforce for treated and control firms for the four years surrounding the WIN's inception in 2017.

As discussed above, to identify treated and control firms, we rank all firms based on their MSCI Gender Diversity Score within their respective industries. Firms ranked above the median in each industry are included in the WIN. We define treated firms as those that rank between the 40^{th} and 60^{th} percentiles of the gender diversity score. Control firms are defined as those ranking in the 10^{th} to the 40^{th} percentiles. Thus, control firms have little chance of being included in the WIN, whereas treated firms, by contrast, have a higher likelihood of being included, depending on their relative improvements in their gender diversity score.

Before the WIN's inception, treated and control firms have a similar average proportion of women in the workforce—18.1% compared to 17.0%. Post-WIN, treated firms show a notable increase in women employment, surpassing 20% by 2019, diverging significantly from the control group which remains largely unchanged. A similar pattern is observed when we plot the ratio of women to men in Panel B of Figure 1. Overall, these plots provide a strong basis for the parallel trend conditions for the difference-in-differences tests that follow in subsequent analysis—treated and control firms show a similar parallel trend in the two yeas before the WIN while treated firms compared to the control firms, show a larger change in the years after the WIN's inception.

While Figure 1 shows a graphical interpretation of our results, we next provide evidence from our baseline difference-in-differences regressions based on Eq. 1, in which we control for firm characteristics and unobserved heterogeneity across firms and time. Tabel 2 shows the results. In Panel A, the main dependent variable is the *Women in the Workforce*, and in Panel B, we re-estimate the regressions with *Women to Men in the Workforce* to account for different distributional properties of the two dependent variables. In each panel, columns 1 and 2 show

results for the full sample, and columns 3 and 4 show results separately for each of the 2018 and 2019 treatment cohorts, respectively. In columns 5, we stack the two treatment cohorts following Gormley and Matsa (2011) to account for potential issues stemming from staggered treatment effects. We include firm and time fixed effects in columns 1 through 4 and include firm and time fixed effects interacted with the cohort dummies in column 5. Finally, we double-cluster standard errors by firm and year.

The main variable of interest is *Treated* × *Post*, the treated firm indicator interacted with the post-WIN inclusion period indicator, which equals one for the years 2018 and 2019 and zero for the years 2013 to 2016 (the WIN inception year is excluded from the analysis). In all specifications of Panel A of Table 2, we find that the coefficient estimate on *Treated* × *Post* is statistically significant, suggesting that treated firms significantly increase the fraction of women employees relative to control firms in the two years following the creation of the WIN. This result obtains when we exclude controls (column 1), include firm controls (column 2), focus on each treatment cohort separately (columns 3 and 4), and stack treatment cohorts (column 5). The documented effects are also economically significant—treated firms improve their proportion of women in the workforce by about 4% per year compared to control firms.[15]

In Panel B of Table 2 we use *Women to Men in the Workforce* as dependent variable to account for differential distributional properties of the dependent variables. The coefficient estimates on the interaction term are again positive and statistically significant in all models. In terms of economic significance, the numbers are stronger than the Panel A estimates—treated

[15] Calculated as the coefficient estimate (column 2) divided by the average percentage of women in the workforce of treated firms before the WIN inception, i.e., 0.007 / 0.177 = 4%.

firms improve their women's participation in the workforce by about 8.6% compared to control firms.[16]

In Panel C of Table 2, we show regressions in event time to examine the time dynamics of the treatment effects. Specifically, we include time indicator variables denoting the years before and after the creation of the WIN and interact these time indicators with the treated indicator variable. Across all models, the analyses reveal that the significant treatment effects are confined to the post-WIN period, indicating a significant rise in women's workforce participation among treated firms relative to control firms after the WIN's establishment, with no significant differences observed prior to the WIN's inception.

The analysis of control variables across Panels A to C in Table 2 mostly yields coefficient estimates that are not significantly different from zero, without a discernible trend across the models. This outcome aligns with expectations given the fixed effects included in the models and the relatively narrow temporal frame surrounding the inception of the WIN under examination.

Overall, the results in Table 2 show that the fraction of a firm's workforce that is represented by women increased after the inception of the WIN for the treated firms relative to the control firms. The results highlight the power of equity indices in driving corporate social outcomes—in our setting, increasing women's participation in the workforce.

4.2. Decomposing the Increase in Women's Participation in the Workforce

Our main findings show an increase in women employees. While this is the intended outcome of the WIN, this result can be obtained by either increasing the number of women or, alternatively, by reducing the number of men employees (or a combination of both). Thus, it is

[16] Calculated as the coefficient estimate (column 2) divided by the average ratio of women to men employees of treated firms before the WIN inception, i.e., 0.021 / 0.245 = 8.6%.

important to understand whether our main finding is driven by a decreasing number of men[17] or by increasing the number of women in the workforce. To that end, in our next tests, we use as dependent variables the *Change in Women (Men) Employees* (the change of the number of women (men) employees divided by the total number of all employees (or alternatively, women (men) employees)) and the *Women (Men) Employee Turnover* (calculated as the number of women (men) employees *leaving* the company divided by the total number of women (men) employees).

In Table 3, we re-estimate the main Table 2 specifications using these four dependent variables. The variable of interest is again *Treated* × *Post*. That is, we are interested in examining whether treated firms experience an increase in the number of women employees or whether the fraction of women in the workforce is simply driven by changes in men employees—and thus, there was no real change in the number of women employed. Our results show that only columns 1 and 2 with the *Change in Women Employees* as dependent variable have a significantly positive coefficient estimate on *Treated* × *Post*, confirming that treated firms experience an increase in the number of women employees compared to control firms. The other models have also a positive coefficient estimate on *Treated* × *Post*; however, they do not obtain statistical significance, indicating that there is no significant change in the number of men employees or in the turnover of men or women employees. These results are inconsistent with the hypothesis that the increase in women employees comes at the expense of laying off (or not replacing retired) men employees. Instead, the results are consistent with treated firms actively pursuing increasing the number of women employees. The effect survives any secular trends that may have also affected the control group of firms and provides additional evidence that treated firms employ deliberate tactics to

[17] This could be obtained by replacing men for women in current positions, by hiring more women than men for newly created positions, or by not renewing retired positions held by men.

increase women's participation in the workforce to improve their odds of being included in the WIN.

Moreover, organizations can increase women representation within their workforce by employing women across various levels, ranging from entry-level roles to senior executive positions. Consequently, our subsequent analysis investigates whether treated firms actively augment the presence of women in leadership roles, or if their efforts to secure a position in the WIN are limited to merely boosting women participation in rank-and-file roles. An affirmative finding for the former would signal stronger future advancements in women workforce inclusion, as evidenced by Matsa and Miller (2001), who document a trickle-down effect of such policies. To this end, we categorize employment into non-management, general management, executive, and board of directors' roles, to assess whether these companies are making substantive strides in elevating the number of women to significant positions.

Table 4 presents the results. We begin with rank-and-file employees in column 1. Treated firms do not appear to experience a significant change in the number of non-management women employees—the coefficient estimate on *Treated* × *Post* is positive but not statistically significant. When we look at managerial and executive positions in columns 2 and 3, respectively, we get a different picture. The coefficient estimates on the interaction terms are positive and significant in both regressions, indicating that treated firms increase the fraction of women in these positions more than control firms do. In addition, we also examine board positions and find a marginally significant positive coefficient estimate. In terms of economic significance, for example, treated firms improve the proportion of women in general management positions, relative to control firms, by almost 20%.[18]

[18] Calculated as the coefficient estimate (column 2) divided by the average fraction of women in general management positions of treated firms before the WIN inception, i.e., 0.008 / 0.041 = 19.5%.

These results indicate that the WIN effects are not driven by augmenting women participation in the non-management and temporary workforce—rather, treatment firms appear to make meaningful improvements in the representation of women in regular and permanent jobs at leadership positions. We interpret these results as indicating that treated firms are genuinely striving for a change in workplace culture in tune with their desire to improve women's participation in decision making roles.

4.3. Changes in Firms' Workplace Culture

We explore changes in workplace culture directly by examining overtime and parental leave policies, as indicators of a more inclusive environment conducive to higher women participation. Implementing such policies is posited to alleviate the disruption caused by childbirth, thereby facilitating women's sustained engagement in the workplace. We expect treated firms as being more likely to lower overtime and encourage parental leaves under the assumption that they actively seek a change in culture in line with their desire to gain access to the WIN by improving women's participation in the workplace.

Table 5 shows the results. The first two columns use measures of overtime as dependent variables. For both models, the interaction term *Treated* × *Post* is negative and significant indicating that treated firms reduced overtime in the post-WIN period compared to control firms. A lower use of overtime work in treated firms is consistent with a more favorable work environment for women in the post-WIN period.

We next examine changes in the uptake of parental leaves, especially paternity leaves, for WIN firms. Columns 3 through 7 show results for measures of parental leave as dependent variables. We do not find any significant changes in the fraction of women taking maternity leaves, as documented in column 3 and 4 for women under 30 and 40 years of age, respectively. However,

we find strong evidence of men taking paternity leaves in columns 5 through 7—the coefficient estimates on *Treated* × *Post* are positive and significant indicating an increase in men taking leaves in the post-WIN period compared to control firms. This holds regardless of whether we look at men with ages under 30, 40, or 50 years old.

Overall, we find that the reduction in overtime and the higher uptake of parental leaves among male employees in treated firms marks a shift in corporate culture that is an outcome of the desire by treated firms to be included in the WIN. We contend that this is the first documented instance of a change in index design leading to a deliberate change in corporate culture.

4.4. Product Market and Capital Market Motives

In this section, we examine whether a firm's degree of direct consumer engagement heightens its visibility in the public eye leading to stronger demand for improved gender diversity in its workforce. Likewise, we examine whether capital market considerations are also linked to achieving gender diversity goals. We proxy for the former using the mean industry advertising expense, the presence of firms in consumer-facing sectors, involvement in the energy/materials/utilities sectors, and the proportion of domestic to total sales.

For capital market considerations, we examine three motives: whether firms are motivated by 'shame', the degree of financial market internationalization, and *ex-ante* GPIF ownership. If being excluded from the WIN is associated with 'shame' of top executives and directors, we anticipate that treated firms with a greater 'shame' potential (measured by whether a firm is a Nikkei 225 member; see also Chattopadhyay, Shaffer, and Wang, 2020) will improve their workplace diversity more compared to other treated firms. We measure financial market internationalization by whether a firm is cross listed on U.S. exchanges to gauge its dependence on local vs. foreign capital markets. Finally, we use the GPIF ownership before the WIN's

inception to assess the extent to which firms will benefit from additional ownership pledged by the GPIF if they get included in the WIN. The higher the GPIF ownership before the launch of the WIN, the less firms are motivated by any incremental GPIF ownership increase.

Table 6 shows the results. Columns 1 through 4 provide evidence for product market motives, and columns 5 through 6 show numbers for capital market motives. We are interested in the triple interaction term *Treated* × *Post* × *Motive*, where *Motive* is one of the seven product market and capital market motives. The triple interaction term estimates the differential impact of firms' motives for treated compared to control firms before and after the WIN inception.

We find that treated firms, compared to control firms, are in industries with greater advertisement expense and in consumer industries, have higher domestic sales, and tend to improve the fraction of women in the workforce more compared to other treated firms. The coefficient estimates on the triple interaction term are positive and significant. Conversely, treated firms in the energy/materials/utilities industries see a lesser improvement in workforce diversity compared to treated firms in other industries, as indicated by a negative and significant coefficient estimate on the triple interaction.

We find no support that the shame of being excluded from the WIN played a significant role in the treated firms' gender diversity improvements. We also do not find evidence that a greater degree of financial market internationalization is associated with greater improvements of workforce diversity, consistent with the documented positive effect of domestic sales results above. However, we find strong results when we examine firms' ex-ante GPIF ownership—especially treated firms with lower ex-ante GPIF ownership improve their fraction of women in the workforce as these are the firms that gain the most from the GPIF's pledge to increase their ownership in WIN firms.

Overall, firms' product market and capital market environments play a significant role in determining the degree to which firms improve their women's participation in the workforce following the WIN inception, with positive impacts observed when firms are closer to consumers in Japan and when they stand to benefit more from increased GPIF ownership.

4.5. Changes in Institutional Ownership and Firm Performance

In our final tests, we examine whether inclusion in the WIN is associated with increased institutional ownership and is followed by changes in firm performance. For instance, firms may desire WIN membership to attract greater institutional ownership (e.g., as pledged by the GPIF). Conversely, a shortage of qualified women in the labor pool may make it challenging and costly for firms to increase women's representation in the workforce, potentially impacting firm performance. To wit, we seek to examine if improvements in firms' social performance come at the expense of firm performance.

We first examine changes in institutional ownership following WIN inclusion. We run a difference-in-differences regression of institutional ownership measures on an interaction term, *WIN* × *Post*, between a firm's WIN membership and a post indicator that equals one for the years following the WIN inception, and zero otherwise. The coefficient estimate on the interaction term captures the differential change in institutional ownership of WIN firms compared to non-WIN firms before and after the WIN inception.

Table 7 displays the results. Across all measures of institutional ownership, the interaction term is significantly positive, indicating an increase in institutional ownership among WIN firms compared to non-WIN firms after the WIN's inception. The rise in institutional ownership is economically significant—WIN firms experience a 3.4 percentage point increase in overall institutional ownership (column 1) and a 0.5 percentage point increase in GPIF ownership (column

3). Overall, these results confirm a significant incentive for firms to pursue WIN inclusion—namely, gaining ownership from institutional investors.

In Table 8, we present results on the association between WIN inclusion and firms' performance. We use multiple measures of performance including operating income, sales, sales growth, Tobin's *q*, and stock returns. In all specifications, none of the interaction terms are significant, suggesting that WIN firms did not experience a significant change in firm performance compared to non-WIN firms following inclusion in the WIN index. These results do not support the notion that improving women's participation in the workforce adversely affect firm performance, consistent with Eckbo, Nygaard, and (2022), Bennedsen, Simintzi, Tsoutsoura, and Wolfenzon (2022), and Lins et al. (2024).

5. Conclusions

We use a unique setting in Japan to investigate the impact of equity market indexation on corporate social behavior. Specifically, we focus on the years surrounding the introduction of the MSCI Empowering Women Index (WIN), in which membership is based on a firm's gender diversity performance in the workforce. Employing a difference-in-differences regression framework, our study reveals that firms ranked close to the index inclusion threshold enhance their proportion of women in the workforce following the WIN inception compared to control firms that are distant from the inclusion threshold. Notably, these improvements are not accompanied by a reduction in male employees, indicating an affirmative decision to augment the number of women in the workforce.

Furthermore, we observe that the enhancement of women's representation in the workforce predominantly occurs in management positions, rather than at the rank-and-file positions, which remain largely unchanged. Additionally, there is evidence of a cultural shift within these firms, as

indicated by a reduction in overtime and a higher incidence of male employees taking parental leaves in the post-WIN period. Moreover, WIN firms experience an increase in institutional ownership without any discernible decline in firm performance or shareholder value, countering the common critique that corporate social investments negatively impact shareholder welfare.

Our findings underscore the significant role played by capital markets in driving changes in corporate social behavior. This discovery holds potential significance for regulators and sustainability-minded investors keen on enhancing the social performance of companies.

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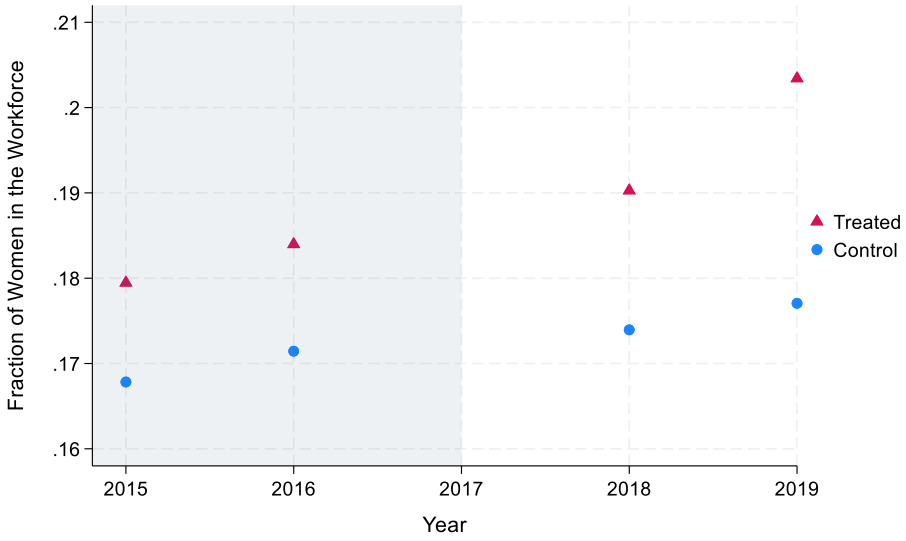
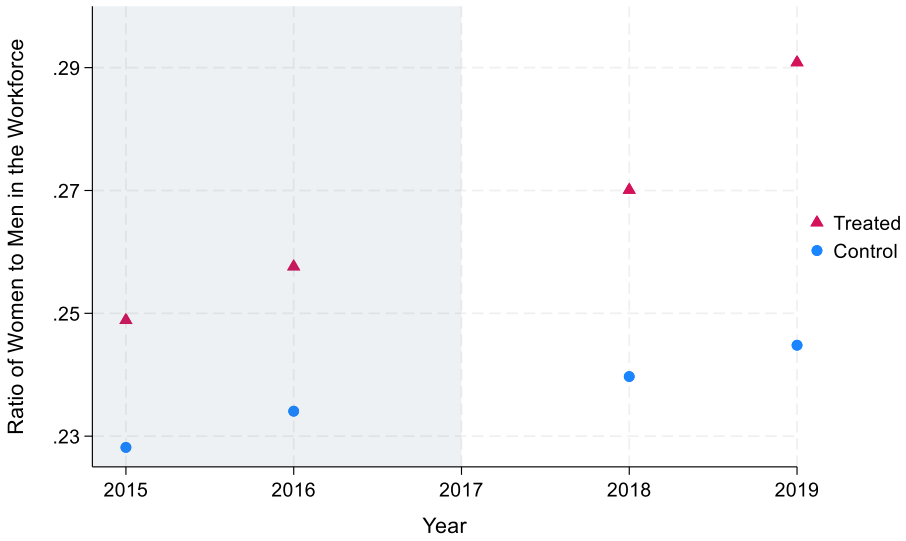
Figure 1
Women in the Workforce in Treated and Control Firms

This figure shows the fraction of women in the workforce and the ratio of women to men in the workforce for the two years surrounding the inception of the MSCI Japan Empowering Women Index (WIN). The figures plot average numbers for treated and control firms. We follow MSCI's WIN methodology, for each year after the inception of the WIN, we rank all firms within their GICS sector by their MSCI Gender Diversity Score. Treated firms are those that rank around the WIN inclusion cutoff (the median of the Gender Diversity Score in each GICS sector) and fall within the 40th and 60th percentile of the distribution of the Gender Diversity Score. Control firms are those that rank below the 40th and above (equal) the 10th percentile of the distribution of the Gender Diversity Score. In the years before the inception of the WIN (2015 and 2016), a firm is treated if it was treated in any of the years after the inception of the WIN, and a firm is a control firm if it was a control firm (and never treated) in any of the years after the inception of the WIN. The WIN inception year (2017) is excluded from the analysis. The data are from MSCI, Toyo Keizai, and Worldscope. All variables are defined in Appendix A.



Panel A: Women in the Workforce



Panel B: Women to Men in the Workforce

Table 1
Summary Statistics

This table shows summary statistics. The sample covers the 2013-2020 period. Panel A reports numbers for the full sample consisting of all firms included in the MSCI Japan IMI Top 700 Index with coverage in the Worldscope databases (723 firms with 4,950 firm-year observations). Panel B shows summary statistics for treated and control firms before and after the launch of the Japan Empowering Women (WIN) Index. We follow MSCI's WIN methodology, for each year after the inception of the WIN, we rank all firms within their GICS sector by their MSCI Gender Diversity Score. Treated firms are those that rank around the WIN inclusion cutoff (the median of the Gender Diversity Score in each GICS sector) and fall within the 40th and 60th percentile of the distribution of the Gender Diversity Score. Control firms are those that rank below the 40th and above (equal) the 10th percentile of the distribution of the Gender Diversity Score. The data are from Bloomberg, GPIF, MSCI, Toyo Keizai, and Worldscope. All continuous variables are winsorized at the 1st and 99th percentiles. All variables are defined in Appendix A.

Panel A: Full Sample

	Mean	Median	SD
A. Firm Characteristics			
Total Assets (in Billion ¥)	2,272	414	6,675
Cash	0.179	0.138	0.144
Tangibility	0.306	0.260	0.240
Leverage	0.206	0.166	0.181
ROA	0.047	0.040	0.040
Tobin's *q*	1.056	0.876	0.646
Operating Income	0.097	0.093	0.059
Sales	0.824	0.802	0.543
Sales Growth	0.063	0.042	0.135
Stock Returns	0.121	0.074	0.334
Total Institutional Ownership	0.479	0.475	0.186
Domestic Institutional Ownership	0.220	0.206	0.150
Ownership by the GPIF	0.047	0.055	0.029
B. Employment Characteristics			
Women in the Workforce	0.221	0.177	0.138
Women to Men in the Workforce	0.342	0.215	0.354
Change in Women Employees	0.009	0.004	0.028
Change in Men Employees	0.006	0.003	0.056
Women Employee Turnover	0.013	0.005	0.032
Men Employee Turnover	0.030	0.016	0.063
Women in the Workforce by Position			
Non-Management	0.288	0.228	0.185
General Management	0.063	0.040	0.068
Executives	0.022	0.000	0.049
Board	0.059	0.033	0.074
Overtime Hours	19.1	18.6	8.5
Overtime Pay (in Thousand ¥)	48.0	46.5	24.2
Women Taking Maternity Leaves			
All	0.016	0.008	0.037
Women Under 30	0.066	0.047	0.060
Women Under 40	0.028	0.019	0.031
Men Taking Paternity Leaves			
All	0.001	0.000	0.003
Men Under 30	0.008	0.002	0.017
Men Under 40	0.003	0.001	0.006
Men Under 50	0.002	0.001	0.004

Panel B: Averages for Treated and Control Firms

	Treated Firms		Control Firms	
	Pre-WIN	Post-WIN	Pre-WIN	Post-WIN
A. Firm Characteristics				
Total Assets (in Billion ¥)	2,236	2,545	2,254	2,396
Cash	0.150	0.163	0.164	0.167
Tangibility	0.293	0.280	0.284	0.286
Leverage	0.230	0.206	0.193	0.178
ROA	0.038	0.047	0.037	0.045
Tobin's *q*	0.902	1.003	0.831	0.907
Operating Income	0.093	0.100	0.095	0.101
Sales	0.883	0.866	0.882	0.878
Sales Growth	0.050	0.005	0.046	0.020
Stock Returns	0.170	0.160	0.181	0.149
Total Institutional Ownership	0.461	0.527	0.449	0.507
Domestic Institutional Ownership	0.198	0.250	0.193	0.240
Ownership by the GPIF	0.045	0.066	0.044	0.061
B. Employment Characteristics				
Women in the Workforce	0.177	0.191	0.169	0.175
Women to Men in the Workforce	0.245	0.270	0.235	0.240
Change in Women Employees	0.004	0.008	0.007	0.009
Change in Men Employees	-0.001	0.003	0.007	0.012
Women Employee Turnover	0.012	0.010	0.008	0.006
Men Employee Turnover	0.031	0.029	0.022	0.020
Women in the Workforce by Position				
Non-Management	0.235	0.250	0.214	0.221
General Management	0.041	0.054	0.039	0.047
Executives	0.007	0.017	0.006	0.008
Board	0.035	0.063	0.023	0.043
Overtime Hours	20.0	19.7	18.9	20.2
Overtime Pay (in Thousand ¥)	49.3	51.2	43.2	49.9
Women Taking Maternity Leaves				
All	0.017	0.014	0.009	0.009
Women Under 30	0.054	0.059	0.044	0.047
Women Under 40	0.022	0.025	0.019	0.018
Men Taking Paternity Leaves				
All	0.001	0.002	0.000	0.001
Men Under 30	0.005	0.012	0.002	0.006
Men Under 40	0.002	0.005	0.001	0.002
Men Under 50	0.001	0.003	0.001	0.001

Table 2
Treatment Effects: Women in the Workforce

This table shows regression estimates of measures of women in the workforce on *Treated* × *Post* and control variables. Women in the workforce is measured with *Women in the Workforce* (number of women employees divided by the number of total employees) and *Women to Men in the Workforce* (number of women employees divided by the number of men employees). We follow MSCI's Japan Empowering Women Index (WIN) methodology, for each year after the inception of the WIN, we rank all firms within their GICS sector by their MSCI Gender Diversity Score. Treated firms are those that rank around the WIN inclusion cutoff (the median of the Gender Diversity Score in each GICS sector) and fall within the 40th and 60th percentile of the distribution of the Gender Diversity Score. Control firms are those that rank below the 40th and above (equal) the 10th percentile of the distribution of the Gender Diversity Score. In the years before the inception of the WIN (2013-2016), a firm is treated if it was treated in any of the years after the inception of the WIN, and a firm is a control firm if it was a control firm (and never treated) in any of the years after the inception of the WIN. *Post* is a dummy variable equal to one for the years 2018 and 2019, and zero otherwise. All other variables are defined in Appendix A. In Panel A and B, the dependent variables are *Women in the Workforce* and *Women to Men in the Workforce*, respectively. In each panel, columns 1 and 2 show results for the full sample, columns 3 and 4 show estimates for the 2018 and 2019 treatment cohorts, respectively, and column 5 shows results when we stack the 2018 and 2019 cohorts in one regression. Panel C shows regression results of measures of women in the workforce on time dummies interacted with *Treated* and control variables. Each time dummy is equal to one for a particular year, and zero otherwise. The time dummy interaction for the first sample year (2013) is excluded from the regressions. The sample period is 2013 to 2020. The WIN inception year (2017) is excluded from the analysis. The data are from MSCI, Toyo Keizai, and Worldscope. All continuous variables are winsorized at the 1st and 99th percentiles. All right-hand side variables are lagged by one year. Standard errors are double clustered by firm and time and *t*-statistics are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Panel A: Women in the Workforce

	Women in the Workforce				
	Full Sample		2018 Cohort	2019 Cohort	Stacked Cohorts
	(1)	(2)	(3)	(4)	(5)
Treated × Post	0.007***	0.007**	0.004**	0.007*	0.006***
	(2.90)	(2.82)	(2.52)	(1.95)	(3.05)
Log (Total Assets)		-0.000	-0.004	0.009	0.002
		(-0.07)	(-0.58)	(1.32)	(0.27)
Cash		0.003	0.076*	-0.050	0.008
		(0.06)	(2.26)	(-1.15)	(0.21)
Tangibility		0.021	0.090**	-0.026	0.030
		(0.53)	(2.85)	(-0.69)	(0.84)
Leverage		0.017	0.019	0.018	0.017
		(1.14)	(1.73)	(1.06)	(1.41)
ROA		0.018	0.064*	0.003	0.025
		(0.59)	(1.86)	(0.10)	(0.97)
Tobin's *q*		-0.010	-0.019	0.005	-0.007
		(-0.95)	(-1.36)	(1.30)	(-0.90)
Firm FE	Yes	Yes	Yes	Yes	-
Time FE	Yes	Yes	Yes	Yes	-
Firm × Cohort FE	-	-	-	-	Yes
Time × Cohort FE	-	-	-	-	Yes
N	1,183	1,174	790	866	1,656
Adjusted R^2	0.972	0.972	0.977	0.977	0.976

Table 2 (continued)

Panel B: Women to Men in the Workforce

	Women to Men in the Workforce				
	Full Sample		2018 Cohort	2019 Cohort	Stacked Cohorts
	(1)	(2)	(3)	(4)	(5)
Treated × Post	0.021***	0.021**	0.013*	0.016**	0.018***
	(2.94)	(2.59)	(1.84)	(2.19)	(3.15)
Log (Total Assets)		-0.008	-0.013	0.018	-0.001
		(-0.40)	(-0.51)	(1.30)	(-0.05)
Cash		0.129	0.321*	-0.037	0.125
		(0.94)	(2.00)	(-0.45)	(1.14)
Tangibility		0.137	0.315**	0.002	0.148
		(1.32)	(2.45)	(0.03)	(1.61)
Leverage		0.059*	0.082**	0.064*	0.065**
		(1.73)	(2.33)	(1.85)	(2.22)
ROA		0.080	0.250	-0.043	0.079
		(0.69)	(1.41)	(-0.65)	(0.85)
Tobin's *q*		-0.055	-0.092	0.015*	-0.040
		(-1.01)	(-1.21)	(1.79)	(-0.95)
Firm FE	Yes	Yes	Yes	Yes	-
Time FE	Yes	Yes	Yes	Yes	-
Firm × Cohort FE	-	-	-	-	Yes
Time × Cohort FE	-	-	-	-	Yes
N	1,183	1,174	790	866	1,656
Adjusted R^2	0.928	0.929	0.920	0.975	0.942

Table 2 (continued)

Panel C: Parallel Trends

	Women in the Workforce		Women to Men in the Workforce	
	Full Sample	Stacked Cohorts	Full Sample	Stacked Cohorts
	(1)	(2)	(3)	(4)
Event Time Dummy Interactions				
Treated × D_{2014}	-0.001	0.000	0.000	0.001
	(-0.59)	(0.63)	(0.03)	(0.34)
Treated × D_{2015}	0.002	0.002	0.018	0.011
	(0.64)	(1.19)	(0.96)	(1.17)
Treated × D_{2016}	0.002	0.002	0.019	0.013
	(0.73)	(1.27)	(1.23)	(1.51)
Treated × D_{2018}	0.007*	0.006**	0.031*	0.023**
	(2.04)	(2.56)	(1.84)	(2.23)
Treated × D_{2019}	0.009*	0.009**	0.031*	0.026**
	(1.99)	(2.24)	(1.91)	(2.21)
Log (Total Assets)	-0.001	0.001	-0.009	-0.002
	(-0.10)	(0.21)	(-0.44)	(-0.14)
Cash	0.003	0.008	0.131	0.125
	(0.07)	(0.22)	(0.94)	(1.15)
Tangibility	0.022	0.031	0.144	0.154
	(0.54)	(0.86)	(1.34)	(1.61)
Leverage	0.017	0.018	0.065*	0.068**
	(1.19)	(1.42)	(1.95)	(2.34)
ROA	0.019	0.027	0.082	0.086
	(0.59)	(1.00)	(0.68)	(0.87)
Tobin's *q*	-0.010	-0.007	-0.054	-0.040
	(-0.95)	(-0.91)	(-1.01)	(-0.96)
Firm FE	Yes	-	Yes	-
Time FE	Yes	-	Yes	-
Firm × Cohort FE	-	Yes	-	Yes
Time × Cohort FE	-	Yes	-	Yes
N	1,174	1,656	1,174	1,656
Adjusted R^2	0.972	0.976	0.929	0.942

Table 3
Changes in Women and Men in the Workforce

This table shows regression estimates of measures of changes in women and men in the workforce on *Treated* × *Post* and control variables. Changes in women and men in the workforce are measured with the *Change in Women Employees* (change in the number of women employees divided by the lagged number of all employees (column 1) and the lagged number of women employees (column 2)), *Change in Men Employees* (change in the number of men employees divided by the lagged number of all employees (column 3) and the lagged number of men employees (column 4)), *Women (Men) Employee Turnover* (number of women (men) employees leaving the company for reasons other than mandatory retirement divided by the lagged number of women (men) employees). We follow MSCI's Japan Empowering Women Index (WIN) methodology, for each year after the inception of the WIN, we rank all firms within their GICS sector by their MSCI Gender Diversity Score. Treated firms are those that rank around the WIN inclusion cutoff (the median of the Gender Diversity Score in each GICS sector) and fall within the 40th and 60th percentile of the distribution of the Gender Diversity Score. Control firms are those that rank below the 40th and above (equal) the 10th percentile of the distribution of the Gender Diversity Score. In the years before the inception of the WIN (2013-2016), a firm is treated if it was treated in any of the years after the inception of the WIN, and a firm is a control firm if it was a control firm (and never treated) in any of the years after the inception of the WIN. *Post* is a dummy variable equal to one for the years 2018 and 2019, and zero otherwise. All other variables are defined in Appendix A. The sample period is 2013 to 2020. The WIN inception year (2017) is excluded from the analysis. The data are from MSCI, Toyo Keizai, and Worldscope. All continuous variables are winsorized at the 1st and 99th percentiles. All right-hand side variables are lagged by one year. Standard errors are double clustered by firm and time and *t*-statistics are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Change in Women Employees		Change in Men Employees		Women Employee Turnover	Men Employee Turnover
Calculated relative to:	All Employees	Women Employees	All Employees	Men Employees	Women Employees	Men Employees
	(1)	(2)	(3)	(4)	(5)	(6)
Treated × Post	0.007**	0.024*	0.008	0.010	0.005	0.003
	(2.36)	(1.76)	(1.16)	(1.20)	(0.65)	(0.69)
Log (Total Assets)	-0.021	-0.059	-0.043	-0.062	0.014	0.017
	(-1.69)	(-1.15)	(-1.14)	(-1.20)	(0.61)	(1.19)
Cash	0.048*	0.160	0.081	0.111	0.007	0.070
	(1.81)	(1.51)	(1.30)	(1.39)	(0.14)	(1.29)
Tangibility	0.017	-0.022	-0.005	0.025	0.086	0.096*
	(0.78)	(-0.21)	(-0.06)	(0.22)	(1.03)	(1.82)
Leverage	0.007	-0.060	-0.047	-0.060	0.014	0.011
	(0.50)	(-0.91)	(-1.39)	(-1.41)	(0.26)	(0.29)
ROA	0.098*	0.496*	0.200	0.228	-0.096	-0.136***
	(2.03)	(2.09)	(1.72)	(1.51)	(-1.35)	(-3.06)
Tobin's *q*	-0.002	-0.004	-0.007	-0.009	-0.008	-0.006
	(-0.33)	(-0.18)	(-0.83)	(-0.71)	(-1.27)	(-1.26)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes
N	1,089	1,089	1,089	1,089	1,007	1,011
Adjusted R^2	0.094	0.134	0.166	0.152	0.761	0.791

Table 4
Women in the Workforce by Position

This table shows regression estimates of measures of the fraction of women in the workforce grouped by their position on *Treated* × *Post* and control variables. We measure *Women in the Workforce by Position* for the following groups: non-management, general management, executives, and board (the number of women in a specific position divided by the number of all employees in a specific position). We follow MSCI's Japan Empowering Women Index (WIN) methodology, for each year after the inception of the WIN, we rank all firms within their GICS sector by their MSCI Gender Diversity Score. Treated firms are those that rank around the WIN inclusion cutoff (the median of the Gender Diversity Score in each GICS sector) and fall within the 40th and 60th percentile of the distribution of the Gender Diversity Score. Control firms are those that rank below the 40th and above (equal) the 10th percentile of the distribution of the Gender Diversity Score. In the years before the inception of the WIN (2013-2016), a firm is treated if it was treated in any of the years after the inception of the WIN, and a firm is a control firm if it was a control firm (and never treated) in any of the years after the inception of the WIN. *Post* is a dummy variable equal to one for the years 2018 and 2019, and zero otherwise. All other variables are defined in Appendix A. The sample period is 2013 to 2020. The WIN inception year (2017) is excluded from the analysis. The data are from MSCI, Toyo Keizai, and Worldscope. All continuous variables are winsorized at the 1st and 99th percentiles. All right-hand side variables are lagged by one year. Standard errors are double clustered by firm and time and *t*-statistics are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Women in the Workforce by Position			
	Non-Management	General Management	Executives	Board
	(1)	(2)	(3)	(4)
Treated × Post	0.001	0.008**	0.012***	0.013*
	(0.14)	(2.54)	(3.61)	(1.93)
Log (Total Assets)	0.013	0.001	-0.000	0.004
	(0.95)	(0.26)	(-0.04)	(0.18)
Cash	-0.020	0.063**	-0.028	-0.088*
	(-0.50)	(2.50)	(-1.02)	(-1.88)
Tangibility	0.027	0.031	0.001	0.058
	(0.65)	(1.09)	(0.05)	(1.03)
Leverage	-0.057**	0.028	0.006	-0.051
	(-2.21)	(1.66)	(0.27)	(-1.28)
ROA	0.016	-0.012	-0.027	-0.165*
	(0.29)	(-0.33)	(-0.65)	(-1.81)
Tobin's *q*	-0.015	-0.007	0.002	-0.002
	(-1.08)	(-0.88)	(0.56)	(-0.27)
Firm FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
N	1,086	1,149	1,020	1,057
Adjusted R^2	0.946	0.907	0.547	0.569

Table 5
Changes in Workplace Culture

This table shows regression estimates of measures of workplace culture on *Treated* × *Post* and control variables. We measure a firm's workplace culture with the logarithm of *Overtime Hours* (average number of overtime working hours per employee and month) and *Overtime Pay* (average overtime pay per employee and month in Thousand ¥), *Women Taking Maternity Leaves* (number of women employees taking maternity leaves divided by women employees younger than 30 or 40 years of age), and *Men Taking Paternity Leaves* (number of men employees taking paternity leaves divided by men employees younger than 30, 40, or 50 years of age). We follow MSCI's Japan Empowering Women Index (WIN) methodology, for each year after the inception of the WIN, we rank all firms within their GICS sector by their MSCI Gender Diversity Score. Treated firms are those that rank around the WIN inclusion cutoff (the median of the Gender Diversity Score in each GICS sector) and fall within the 40th and 60th percentile of the distribution of the Gender Diversity Score. Control firms are those that rank below the 40th and above (equal) the 10th percentile of the distribution of the Gender Diversity Score. In the years before the inception of the WIN (2013-2016), a firm is treated if it was treated in any of the years after the inception of the WIN, and a firm is a control firm if it was a control firm (and never treated) in any of the years after the inception of the WIN. *Post* is a dummy variable equal to one for the years 2018 and 2019, and zero otherwise. All other variables are defined in Appendix A. The sample period is 2013 to 2020. The WIN inception year (2017) is excluded from the analysis. The data are from MSCI, Toyo Keizai, and Worldscope. All continuous variables are winsorized at the 1st and 99th percentiles. All right-hand side variables are lagged by one year. Standard errors are double clustered by firm and time and *t*-statistics are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Overtime		Women Taking Maternity Leaves		Men Taking Paternity Leaves		
	Hours	Pay	Under 30	Under 40	Under 30	Under 40	Under 50
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treated × Post	-0.102**	-0.085*	-0.003	0.004	0.006***	0.002***	0.001**
	(-2.43)	(-1.85)	(-1.28)	(1.34)	(3.57)	(3.27)	(2.81)
Log (Total Assets)	-0.062	-0.110	-0.017	-0.011	-0.006	-0.002	-0.001
	(-0.62)	(-0.86)	(-1.44)	(-1.64)	(-1.45)	(-1.46)	(-1.31)
Cash	0.269	-0.058	0.014	0.008	0.007	0.000	0.000
	(0.76)	(-0.21)	(0.47)	(0.82)	(0.41)	(0.07)	(0.03)
Tangibility	0.147	-0.522	-0.010	0.002	-0.004	0.003	0.003
	(0.42)	(-1.29)	(-0.34)	(0.13)	(-0.18)	(0.31)	(0.41)
Leverage	-0.216	-0.174	0.040	0.019**	0.020*	0.006	0.003
	(-0.98)	(-0.63)	(1.38)	(2.23)	(1.83)	(1.66)	(1.61)
ROA	1.140***	0.775*	0.105	0.032	0.044	0.010	0.003
	(3.76)	(1.66)	(0.98)	(0.90)	(1.29)	(1.04)	(0.73)
Tobin's *q*	0.037	0.073	0.004	-0.004	0.002	0.001	0.001
	(0.74)	(1.54)	(1.05)	(-1.05)	(0.90)	(1.05)	(1.25)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1,009	744	952	969	902	910	907
Adjusted R^2	0.854	0.849	0.800	0.752	0.562	0.574	0.554

Table 6
Consumer, Product Market, and Capital Market Motives

This table shows regression estimates of *Women in the Workforce* (number of women employees divided by the number of total employees) on *Treated* × *Post* interacted with firms' product market and capital market measures and control variables. We measure a firm's consumer/product motives with *Industry Advertisement Expenses* (industry average of firms' advertisement expenses divided by sales over the years 2016 and 2017), *Consumer Industry* (dummy variable equal to one if a firm is operating in the consumer industry including the following GICS industries: Consumer Durables & Apparel, Consumer Services, Consumer Discretionary Distribution & Retail, Household & Personal Products, Consumer Staples Distribution & Retail, and Consumer Finance, and zero otherwise), *Energy/Materials/Utilities Industry* (dummy variable equal to one if a firm is operating in the energy, materials, or utilities including the following GICS industries: Energy, Material, and Utilities, and zero otherwise), and *Fraction Domestic Sales > 50%* (dummy variable equal to one if a firm's domestic sales is greater than 50% of total sales, and zero otherwise). We measure a firm's capital market motives with *Nikkei Member* (dummy variable equal to one if the firm was a member of the Nikkei 225 Index in 2017, and zero otherwise), *U.S. Cross-listed* (dummy variable equal to one if the firm was cross-listed on a US exchange or OTC (sponsored) in 2017, and zero otherwise), and *GPIF Ownership* (annual ownership held by the Government Pension Investment Fund of Japan). We follow MSCI's Japan Empowering Women Index (WIN) methodology, for each year after the inception of the WIN, we rank all firms within their GICS sector by their MSCI Gender Diversity Score. Treated firms are those that rank around the WIN inclusion cutoff (the median of the Gender Diversity Score in each GICS sector) and fall within the 40th and 60th percentile of the distribution of the Gender Diversity Score. Control firms are those that rank below the 40th and above (equal) the 10th percentile of the distribution of the Gender Diversity Score. In the years before the inception of the WIN (2013-2016), a firm is treated if it was treated in any of the years after the inception of the WIN, and a firm is a control firm if it was a control firm (and never treated) in any of the years after the inception of the WIN. *Post* is a dummy variable equal to one for the years 2018 and 2019, and zero otherwise. All other variables are defined in Appendix A. The sample period is 2013 to 2020. The WIN inception year (2017) is excluded from the analysis. The data are from MSCI, Toyo Keizai, GPIF, and Worldscope. All continuous variables are winsorized at the 1st and 99th percentiles. All right-hand side variables are lagged by one year. Standard errors are double clustered by firm and time and *t*-statistics are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively.

Table 6 (continued)

	Women in the Workforce						
	Product Market Motives				Capital Market Motives		
Motive:	Industry Advertisement Expenses	Consumer Industry	Energy/Materials/ Utilities Industry	Fraction Domestic Sales > 50%	Nikkei Member	U.S. Cross-listed	GPIF Ownership
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treated × Post × Motive	0.281**	0.017**	-0.010***	0.011**	-0.000	0.006	-0.159**
	(2.10)	(2.20)	(-2.92)	(2.46)	(-0.02)	(0.76)	(-2.11)
Treated × Post	0.005*	0.005*	0.008***	-0.001	0.007**	0.006**	0.018**
	(1.90)	(2.05)	(3.00)	(-0.18)	(2.10)	(2.45)	(2.68)
Log (Total Assets)	-0.002	-0.001	-0.002	-0.000	-0.001	-0.000	-0.001
	(-0.34)	(-0.08)	(-0.21)	(-0.06)	(-0.07)	(-0.01)	(-0.07)
Cash	0.002	-0.003	0.002	-0.000	0.003	0.003	0.002
	(0.03)	(-0.06)	(0.04)	(-0.01)	(0.07)	(0.07)	(0.04)
Tangibility	0.014	0.015	0.019	0.018	0.021	0.021	0.019
	(0.36)	(0.41)	(0.49)	(0.47)	(0.57)	(0.54)	(0.49)
Leverage	0.016	0.015	0.016	0.016	0.016	0.016	0.015
	(1.11)	(1.04)	(1.09)	(1.10)	(1.11)	(1.09)	(1.05)
ROA	0.019	0.018	0.021	0.024	0.018	0.020	0.018
	(0.59)	(0.59)	(0.68)	(0.82)	(0.59)	(0.64)	(0.57)
Tobin's *q*	-0.011	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010
	(-1.04)	(-0.99)	(-0.97)	(-0.95)	(-0.94)	(-0.95)	(-0.94)
GPIF Ownership							0.041
							(0.56)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1,146	1,174	1,174	1,174	1,174	1,174	1,174
Adjusted R^2	0.972	0.972	0.972	0.972	0.972	0.972	0.972

Table 7
WIN Inclusion and Institutional Ownership

This table shows regression estimates of measures of institutional ownership (in percent) on *WIN* × *Post* and control variables. We measure institutional ownership with *Total Institutional Ownership* (fraction of shares held by institutional investors), *Domestic Institutional Ownership* (fraction of shares held by domestic institutional investors), and *GPIF Ownership* (fraction of shares held by the Government Pension Investment Fund of Japan). The ownership data are from Bloomberg and GPIF. *WIN* is a dummy variable equal to one if the firm is included in the MSCI's Japan Empowering Women Index (WIN) in 2018 or 2019, and zero otherwise. *Post* is a dummy variable equal to one for the years 2018 and 2019, and zero otherwise. All other variables are defined in Appendix A. The sample period is 2013 to 2020. The WIN inception year (2017) is excluded from the analysis. The data are from MSCI, Bloomberg, GPIF, Nikkei, and Worldscope. All continuous variables are winsorized at the 1st and 99th percentiles. All right-hand side variables are lagged by one year. Standard errors are double clustered by firm and time and *t*-statistics are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Total Institutional Ownership	Domestic Institutional Ownership	GPIF Ownership
	(1)	(2)	(3)
WIN × Post	3.417**	5.312***	0.550**
	(2.66)	(4.00)	(2.38)
Log (Total Assets)	2.085	-1.825	-0.167
	(1.66)	(-1.14)	(-0.36)
Cash	-0.062	-3.743	-0.363
	(-0.02)	(-1.04)	(-0.65)
Tangibility	-20.224**	-16.327*	-4.543***
	(-3.36)	(-1.95)	(-4.15)
Leverage	-7.304*	6.359	-1.180
	(-1.98)	(1.36)	(-1.74)
ROA	-10.768	-28.113*	0.778
	(-0.84)	(-2.00)	(0.37)
Tobin's *q*	1.716**	0.990	-0.378
	(3.04)	(1.35)	(-1.52)
Firm FE	Yes	Yes	Yes
Time FE	Yes	Yes	Yes
N	3,865	3,865	3,865
Adjusted R^2	0.808	0.772	0.855

Table 8
WIN Inclusion and Firm Performance

This table shows regression estimates of measures of firms' operating and stock market performance on *WIN* × *Post* and control variables. We measure a firm's operating and stock market performance with *Operating Income* (earnings before interest, depreciation, and amortization divide by sales), *Sales* (sales divided by total assets), *Sales Growth* (growth in sales from the previous year), *Tobin's q* (market value of equity plus book value of debt divided by total book assets), and *Stock Return* (firm's annual stock return). *WIN* is a dummy variable equal to one if the firm is included in the MSCI's Japan Empowering Women Index (WIN) in 2018 or 2019, and zero otherwise. *Post* is a dummy variable equal to one for the years 2018 and 2019, and zero otherwise. All other variables are defined in Appendix A. The sample period is 2013 to 2020. The WIN inception year (2017) is excluded from the analysis. The data are from MSCI, Datastream, and Worldscope. All continuous variables are winsorized at the 1st and 99th percentiles. All right-hand side variables are lagged by one year. Standard errors are double clustered by firm and time and *t*-statistics are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	Operating Income	Sales	Sales Growth	Tobin's *q*	Stock Return
	(1)	(2)	(3)	(4)	(5)
WIN × Post	-0.004	-0.005	0.004	-0.001	0.012
	(-1.09)	(-0.53)	(0.69)	(-0.01)	(0.60)
Log (Total Assets)	-0.020	-0.064*	-0.127***	-0.163	-0.075**
	(-1.12)	(-1.78)	(-6.05)	(-1.09)	(-2.33)
Cash	0.058	-0.159***	-0.097	-0.650	-0.295**
	(1.70)	(-3.35)	(-1.14)	(-0.67)	(-2.10)
Tangibility	-0.047**	0.006	-0.045	0.207	-0.264
	(-2.27)	(0.13)	(-0.63)	(0.43)	(-1.52)
Leverage	-0.094***	-0.281***	0.187**	-0.010	0.228*
	(-3.45)	(-4.08)	(2.47)	(-0.18)	(1.98)
Firm FE	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes
N	3,835	3,977	3,976	3,948	3,937
Adjusted R^2	0.914	0.968	0.341	0.859	0.202

Appendix A
Variable Descriptions

This table shows variable descriptions and data sources.

Variables	Description
A. Firm Characteristics	
Total Assets	Total assets (in Billion ¥). *Source*: Worldscope.
Cash	Cash and short-term investments divided by total assets. *Source*: Worldscope.
Tangibility	Net property, plant, and equipment divided by total assets. *Source*: Worldscope.
Leverage	Total debt divided by total assets. *Source*: Worldscope.
ROA	Return on assets. *Source*: Datastream.
Tobin's *q*	Market value of equity plus book value of debt divided by total book assets. *Source*: Worldscope.
Operating Income	Earnings before interest, depreciation, and amortization divided by sales. *Source*: Worldscope.
Sales	Sales divided by total assets. *Source*: Worldscope.
Sales Growth	Sales growth relative to the previous year. *Source*: Worldscope.
Stock Return	Annual stock return. *Source*: Datastream.
Total Institutional Ownership	Fraction of shares held by institutional investors. *Source*: Bloomberg.
Domestic Institutional Ownership	Fraction of shares held by domestic institutional investors. *Source*: Bloomberg.
GPIF Ownership	Fraction of shares held by the Government Pension Investment Fund of Japan. *Source*: GPIF.
B. Employment Characteristics	
Women in the Workforce	The number of women employees divided by the number of total employees. *Source*: Toyo Keizai.
Women to Men in the Workforce	The number of women employees divided by the number of men employees. *Source*: Toyo Keizai.
Change in Women Employees	Change in the number of women employees divided by the lagged number of all employees (or women employees). *Source*: Toyo Keizai.
Change in Men Employees	Change in the number of men employees divided by the lagged number of all employees (or men employees). *Source*: Toyo Keizai.
Women Employee Turnover	The number of women employees leaving the company for reasons other than mandatory retirement divided by the lagged number of women employees. *Source*: Toyo Keizai.
Men Employee Turnover	The number of men employees leaving the company for reasons other than mandatory retirement divided by the lagged number of men employees. *Source*: Toyo Keizai.
Women in the Workforce by Positions	
Non-Management	The number of women general workers in non-supervisory and non- management positions divided by the number of all non-management employees. *Source*: Toyo Keizai.
General Management	The number of women with a general management position divided by the number of all general managers. *Source*: Toyo Keizai.
Executives	The number of women executive officers divided by the number of all executives. *Source*: Toyo Keizai.

Board	The number of women directors on the board of directors divided by the number of all board members. *Source*: Toyo Keizai.
Overtime Hours	Average number of overtime working hours per employee and month. *Source*: Toyo Keizai.
Overtime Pay	Average overtime pay per employee and month (in Thousand ¥). *Source*: Toyo Keizai.
Women Taking Maternity Leaves	The number of women employees taking maternity leaves divided by either all women employees or women employees younger than 30 or 40 years of age. *Source*: Toyo Keizai.
Men Taking Paternity Leaves	The number of men employees taking paternity leaves divided by either all men employees or men employees younger than 30, 40, or 50 years of age. *Source*: Toyo Keizai.

Appendix B
Additional Tests

Table B1
Predicting WIN Inclusion

This table shows regression estimates of *WIN*, a dummy variable equal to one if a firm is included in the MSCI's Japan Empowering Women Index (WIN) member, and zero otherwise, on rank measures based on MSCI's Gender Diversity Score, and control variables. We follow MSCI's WIN methodology, for each year after the inception of the WIN, we rank all firms within their GICS sector by their MSCI Gender Diversity Score. *Ranked* is an indicator variable that is equal to one if a firm has an above-median Gender Diversity Score compared to firms in the same GICS sector and year, and zero otherwise. *Quartiles 2*, *3*, and *4*, are indicator variables equal to one if a firm falls within the 2, 3, and 4, quartile, respectively, of the Gender Diversity Score in a given GICS sector and year. All other variables are defined in Appendix A. The sample period is 2018 to 2020. The WIN inception year (2017) is excluded from the analysis. The data are from MSCI, Toyo Keizai, and Worldscope. All continuous variables are winsorized at the 1st and 99th percentiles. All right-hand side variables are lagged by one year. Standard errors are double clustered by firm and time and *t*-statistics are reported in parentheses. ***, **, * denote statistical significance at the 1%, 5%, and 10% level, respectively.

	WIN			
	(1)	(2)	(3)	(4)
Ranked	0.925***	0.937***		
	(88.06)	(103.22)		
Quartile 2			0.016**	0.025***
			(2.90)	(4.19)
Quartile 3			0.933***	0.944***
			(75.90)	(71.30)
Quartile 4			0.933***	0.955***
			(70.19)	(98.79)
Log (Total Assets)		-0.024***		-0.025***
		(-3.45)		(-3.76)
Cash		-0.039		-0.035
		(-0.84)		(-0.75)
Tangibility		-0.000		-0.001
		(-0.00)		(-0.02)
Leverage		-0.002		-0.003
		(-0.05)		(-0.06)
ROA		0.140		0.150
		(1.64)		(1.65)
Tobin's *q*		0.001		0.000
		(0.14)		(0.01)
Industry FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
N	1,717	1,717	1,717	1,717
Adjusted R^2	0.865	0.867	0.865	0.868