

Capital Market Incentives and Corporate Gender Diversity

Finance Working Paper N° 979/2024

December 2025

Vikas Mehrotra

University of Alberta

Lukas Roth

University of Alberta and ECGI

Yusuke Tsujimoto

Waseda University

Yupana Wiwattanakantang

National University of Singapore and ECGI

© Vikas Mehrotra, Lukas Roth, Yusuke Tsujimoto and Yupana Wiwattanakantang 2025. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

This paper can be downloaded without charge from:
http://ssrn.com/abstract_id=4800375

www.ecgi.global/content/working-papers

ECGI Working Paper Series in Finance

Capital Market Incentives and Corporate Gender Diversity

Working Paper N° 979/2024

December 2025

Vikas Mehrotra
Lukas Roth
Yusuke Tsujimoto
Yupana Wiwattanakantang

We thank Radu Ciobanu, Shaun Davies, Robin Dottling, Andrew Ellul, Joseph Fan, Edith Ginglinger, Masaharu Hanazaki, Takeo Hoshi, Mark Huson, Yosuke Kimura, Kaoru Kobu, 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 University of Bristol, Development Bank of Japan, University of Glasgow, Kyoto University, Kyushu University, Manchester University, Monash University, University of Neuchatel, University of New South Wales, University of Sydney, and York University, and participants at the 2025 International Conference of the French Finance Association, 2024 Luxembourg Conference in Sustainable Finance, 2025 Exeter Sustainable Finance Conference, 2024 EFMA Conference, 2024 Women in Finance Conference, 2024 Society for Financial Market Research Conference, 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.

© Vikas Mehrotra, Lukas Roth, Yusuke Tsujimoto and Yupana Wiwattanakantang 2025. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

Abstract

We examine how capital market incentives can drive changes in corporate social behavior. Using the introduction of Japan's MSCI Empowering Women Index (WIN)—a thematic equity index endorsed by the Government Pension Investment Fund—we study whether firms competing for index inclusion improve corporate gender diversity. Employing a difference-in-differences design based on firms' proximity to the index inclusion threshold, we find that near-cutoff firms increase the proportion of women employees, particularly in managerial positions. These firms also reduce overtime hours and expand paternity leave, indicating a broader shift toward family-friendly workplace practices. Firms ultimately added to the index experience positive stock market reactions and higher institutional ownership. Our results demonstrate that purpose-driven financial instruments can alter corporate behavior by aligning market incentives with social objectives.

Keywords: Gender diversity, women in the workforce, corporate behavior, capital market incentives, thematic indices, Empowering Women Index, ESG

JEL Classifications: G30, G23, M14

Vikas Mehrotra

Professor of Finance
University of Alberta, School of Business
Edmonton, Alberta T6G 2R6
Canada
phone: 1-780-492-2976
e-mail: vmehrotr@ualberta.ca

Lukas Roth*

Professor of Finance
University of Alberta
2 -32E Business Building
Edmonton, Alberta T6G 2R6, Canada
phone: +1 780 492 4431
e-mail: lukas.roth@ualberta.ca

Yusuke Tsujimoto

Assistant Professor
Waseda University
1-6-1 Nishiwaseda
Shinjuku, Tokyo 1698050, Japan
phone:
e-mail: ytsujimoto@waseda.jp

Yupana Wiwattanakantang

Associate Professor
National University of Singapore Business School
Kent Ridge Drive
1192452-1, Singapore
e-mail: yupana@nus.edu.sg

*Corresponding Author

Capital Market Incentives and Corporate Gender Diversity

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

November 25, 2025

Abstract

We examine how capital market incentives can drive changes in corporate social behavior. Using the introduction of Japan's MSCI Empowering Women Index (WIN)—a thematic equity index endorsed by the Government Pension Investment Fund—we study whether firms competing for index inclusion improve corporate gender diversity. Employing a difference-in-differences design based on firms' proximity to the index inclusion threshold, we find that near-cutoff firms increase the proportion of women employees, particularly in managerial positions. These firms also reduce overtime hours and expand paternity leave, indicating a broader shift toward family-friendly workplace practices. Firms ultimately added to the index experience positive stock market reactions and higher institutional ownership. Our results demonstrate that purpose-driven financial instruments can alter corporate behavior by aligning market incentives with social objectives.

Keywords: Gender diversity, women in the workforce, corporate behavior, capital market incentives, thematic indices, Empowering Women Index, ESG

JEL Classification: G30, G23, M14

* 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 Radu Ciobanu, Shaun Davies, Robin Dottling, Andrew Ellul, Joseph Fan, Edith Ginglinger, Masaharu Hanazaki, Takeo Hoshi, Mark Huson, Yosuke Kimura, Kaoru Kobu, 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 University of Bristol, Development Bank of Japan, University of Glasgow, Kyoto University, Kyushu University, Manchester University, Monash University, University of Neuchâtel, University of New South Wales, University of Sydney, and York University, and participants at the 2025 International Conference of the French Finance Association, 2024 Luxembourg Conference in Sustainable Finance, 2025 Exeter Sustainable Finance Conference, 2024 EFMA Conference, 2024 Women in Finance Conference, 2024 Society for Financial Market Research Conference, 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.

1. Introduction

Sustainable investment, which focuses on environmental, social, and governance (ESG) considerations, has gained significant attention over the last decade. Within this landscape, gender diversity has emerged as a particularly salient dimension, given growing evidence of its economic and societal benefits. For example, the World Bank (2024) estimates that closing the gender gap in employment could raise global GDP by nearly 20%, while the International Monetary Fund (2024) highlights that greater women participation can lift both GDP levels and long-run growth rates, particularly in emerging economies. Yet, despite widespread attention, the effectiveness of initiatives designed to improve gender outcomes remains uncertain. A central question is whether capital markets—through their design and incentives—can act as a mechanism to drive such social change. In this paper, we examine whether the design of a purpose-driven financial instrument can influence firms’ behavior toward greater gender diversity.

We focus on a novel setting in Japan, where the introduction of the MSCI Japan Empowering Women Index (WIN) in 2017, supported by the Government Pension Investment Fund (GPIF), created a transparent, capital-market-based mechanism to reward firms for gender-diversity performance.¹ The WIN selects companies for inclusion based on their relative standing within industry-level gender diversity rankings. This design effectively establishes a tournament structure in which firms compete to improve their performance in order to be included in the index. The GPIF’s endorsement—as one of the world’s largest pension funds with roughly ¥200 trillion (~\$1.5 trillion) in assets under management—added credibility and scale to this initiative, making

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%).

the WIN an ideal setting to study how capital market incentives can motivate changes in corporate social behavior.

We employ a difference-in-differences approach to test whether firms positioned near the threshold for inclusion in the WIN improved their corporate gender diversity more than firms farther from the cutoff. Given the index's tournament-like design, the identification assumption is that firms around the inclusion threshold face stronger incentives to enhance gender diversity to qualify for future inclusion, whereas firms well below the threshold face weaker incentives. This structure provides a credible framework to evaluate whether capital-market incentives linked to index design can influence real corporate outcomes.

An obvious question is why firms would wait to increase women's participation in their workforce until they competed to be included in the WIN—if gender outcomes are welfare increasing, what incremental role could membership in the WIN play? We believe that the WIN has the potential to incent changes in corporate gender diversity for several reasons. First, changes in shareholder preferences towards ESG criteria may pressure companies to improve gender diversity. To the extent that the purposeful creation of the WIN reflects a shift in shareholder preferences, firms will respond by aligning their practices to it (see, e.g., Baker, Greenwood, and Wurgler, 2009; Lins, Roth, Servaes, and Tamayo, 2024). Second, 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,² potentially leading to increased institutional ownership after inclusion and greater stock market valuations (see, e.g., Pastor, Stambaugh, and Taylor, 2021; Pedersen, Fitzgibbons, and Pomorski, 2021). Third, since the WIN

² 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.

is backed by the GPIF, firms and executives may be motivated in striving for index inclusion due to the prestige associated with being a member. This notion is reinforced by public announcements and press releases issued by firms upon their inclusion in the WIN. And fourth, firms may be motivated to compete for index inclusion because of their customer awareness and/or to be an attractive employer for women employees. In sum, the drive towards more ESG-focused shareholder preferences, coupled with the benefits of increased institutional ownership, the commitment from major investors to support WIN-affiliated firms, and the prestige associated with the index, collectively provide strong incentives for firms to enhance their gender diversity to secure a place in the WIN.

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 for each firm in a given industry and year.³ We confirm that this synthetic ranking variable predicts the actual WIN members with a correlation of 94%. Using these synthetic ranks, we assign firms to *near-cutoff (treated)* and *control* groups at the time of treatment. Near-cutoff (treated) firms are those that rank in the vicinity of the inclusion threshold (ranked between the 40th and 60th percentile, with the median rank bestowing membership in WIN), and control firms are those with a smaller chance of gaining inclusion (ranked between the 40th and 10th percentile).⁴ Our difference-in-differences approach compares the change in various corporate gender diversity measure from before to after the WIN's launch in July 2017 for the near-cutoff and control firms. We recognize that this tournament structure is effective only if firms are aware of their ranking and can assess their proximity to inclusion in the WIN. This assumption is reasonable since MSCI

³ See MSCI (2019a) for a description of the detailed index methodology and MSCI (2019b) for a description of the workforce gender diversity data.

⁴ For robustness, we verify that our results hold when we also include the top-ranked firms as controls.

provides detailed information on its website and directly informs firms of their gender diversity scores.

We measure a firm's corporate gender diversity using unique data from the Toyo Keizai Workforce database. Toyo Keizai is among Japan's 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 in aggregate and more importantly, broken down by gender—for example, the number of employees, employee turnover, number of employees by position, and parental leaves. We augment these data with financial and accounting data from Worldscope, Datastream, Bloomberg, and GPIF.

We begin our analysis by examining whether the WIN launch prompted enhancement in gender diversity within Japanese firms. Using our difference-in-differences methodology, we find that near-cutoff firms, in comparison to control firms, significantly increase the proportion of women in the workforce in the post-WIN period. In terms of economic significance, depending on the specification, near-cutoff firms increase their women in the workforce by an additional 3.5% to 7.3% per year compared to control firms. This is a sizeable improvement considering that the *unconditional* average increase in the fraction of women was only 1.8% in the years prior to the WIN introduction from 2013 to 2016. We also examine the parallel trends assumption and confirm that the difference in women's workforce participation between near-cutoff and control firms widened only in the post-WIN years, suggesting the effects are not driven by long-term secular trends.

Our findings are robust to alternative specifications and tests. Importantly, we provide evidence that our results are *not* driven by institutional investors' engagement but rather by firms' incentives to be included in the WIN. The timing of our experiment—sorting firms into near-cutoff

and control groups *before* any are included in the WIN—is inconsistent with institutional investors driving our results. Controlling for both contemporaneous and future institutional ownership, excluding firms ultimately included in the WIN, and testing for effects on other environmental and social scores confirm that the effects persist independently of a potential institutional investor influence, indicating that the *prospect* of index inclusion drives improvements in firms’ gender diversity.

Overall, our findings suggest that the WIN initiative encouraged firms to make meaningful improvements in gender diversity. Our results add a new perspective to the literature by highlighting the social impact of capital market incentives and designing and implementing purpose-driven financial instruments.

Our study verifies that the observed results are not attributable to a reduction in the number of male employees while maintaining an unchanged women workforce. Instead, our findings indicate that firms actively recruit more women following the implementation of the WIN. Further tests reveal that the increase in women employment notably occurs in leadership positions, rather than in lower-level, non-managerial roles. This suggests that firms are not merely increasing the number of women employees to comply with WIN inclusion criteria, but genuinely advancing gender diversity, which has the potential for further positive outcomes (see, e.g., Matsa and Miller, 2011) and countering the notion of superficial compliance.

We identify beneficial social impacts and a potential shift in workplace culture towards greater gender inclusivity. For instance, our results show that male employees in near-cutoff firms are more likely to take paternity leaves during the post-implementation period, thereby supporting women’s continued workforce participation. Additionally, we observe that near-cutoff firms experience a reduction in both overtime hours and pay, indicating a move towards a more family-

friendly corporate environment. This finding is especially relevant for Japan (and likely other countries), as Goldin (2025) shows that a more equal division of household labor between women and men is positively associated with fertility—something the Japanese government has tried, unsuccessfully, to promote through various policies over the past decades. To the best of our knowledge, this is the first study documenting a corporate cultural change brought about by a purpose-fully designed equity index.

Next, we shed light on two potential motives driving companies to increase women’s workforce participation in pursuit of WIN inclusion. Membership in the WIN enhances the visibility of firms’ gender diversity performance. To the extent such visibility is valued, the first motive we examine is whether customer awareness incentivizes firms to improve gender diversity (see, e.g., Servaes and Tamayo, 2013). We hypothesize that near-cutoff firms with higher customer awareness, greater business-to-consumer activities, and a stronger focus on domestic markets will exhibit more significant improvements in women’s workforce participation post-WIN inception compared to other near-cutoff firms with less emphasis on such activities. Our findings confirm this hypothesis.

Our second motive we explore is whether firms are incentivised by greater *expected* future institutional ownership upon WIN inclusion. At the inception of the WIN, the GPIF—the public pension fund with unparalleled investment scale and influence in Japan’s institutional investment landscape—committed to increase its ownership stakes in WIN firms. Our results show that near-cutoff firms with lower *initial* GPIF ownership exhibit significant improvements in corporate gender diversity, as these firms stand to benefit the most from GPIF’s commitment to increasing ownership in WIN firms.

In our final analyses, we investigate whether WIN firms exhibit *real* changes in institutional ownership and whether index inclusion is associated with stock market reactions and operating performance. Our results indicate that WIN firms experience a significant increase in institutional ownership compared to non-WIN firms. The improvement is economically meaningful—WIN firms’ 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. We also find positive stock market reactions of 1.2% upon the announcement of WIN inclusion, supporting the notion that shareholders assign higher valuations to firms with greater gender diversity that join the WIN. Conversely, we document economically meaningful negative reactions of -0.9% when firms are excluded from the index. Our findings further indicate that improvements in corporate gender diversity leading up to WIN inclusion do not adversely affect firms’ short-term operating performance, addressing concerns that adjustment costs to change corporate social behavior might detract from operating performance (e.g., Bennedsen, Simintzi, Tsoutsoura, and Wolfenzon, 2022).

Our study makes several contributions to the literature. First, our findings provide valuable insights for investors, regulators, and academics interested in mechanisms that can enhance social goals such as women participation in labour markets. We identify one specific channel—the creation of a tournament-style index linked to gender diversity—as a motivating factor for firms to increase their women workforce participation.

We contribute to the literature on gender diversity within corporations. Liu, Makridis, Ouimet, and Simintzi (2023) show that firms use nonwage benefits to increase gender diversity. In our paper, we identify purpose-driven indexing as an external channel for advancing gender diversity. Other 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 et al., 2024). While these studies predominantly focus on the *outcomes* associated with increased women leadership, we highlight a *mechanism*—competition for inclusion in a thematic equity index—through which firms improve the participation of women in the workforce, including leadership roles, potentially supporting these 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 index linking inclusion to the desired outcome incentivizes firms to change their corporate behavior and enhance gender diversity.

We further add to the literature on board gender diversity and 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; Eckbo, Nygaard, and Thorburn, 2022). Our results highlight a capital market channel through which firms are motivated to improve gender diversity in a broader company-wide setting, beyond representation on the board of directors.

2. Institutional Details and Empirical Strategy

2.1. Institutional Details

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. 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).

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. 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.⁵

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 Japan

Despite ranking close to the top decile for human development, Japan ranks in the bottom quartile of all nations in gender equality.⁶ In 2017, women held less than one out of 15 senior management positions. The numbers improve at the middle and lower management cadres, but remain at less than one out of 10 and one out of five positions, respectively.⁷

Part of the problem is structural and dates 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

⁵ In robustness tests, replacing our corporate gender diversity measures with firms' ESG scores yields no significant results, suggesting that broader ESG indices such as the FTSE Blossom Japan and MSCI Japan ESG Leaders do not drive our findings.

⁶ In 2020, Japan ranked 121 out of 153 countries on World Economic Forum's Global Gender Gap Index. In contrast, Japan's rank in the UN Human Development Index was 20 out of the 183 countries in the 2020 survey.

⁷ 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 for women in Japan is "[...] deeply structural and highly resistant to ordinary incremental inducements and exhortations (p. 7)."

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. Despite its introduction in 1999, the gains in women's participation in the workplace have been unimpressive. Part of the problem is that there were few mechanisms to enforce recommendations to improve workplace gender equality.

The WIN offers a unique opportunity to operationalize these recommendations by offering potential rewards for firms included in the index—and, equally importantly, by imposing opportunity costs on firms that fail to qualify. The tournament structure of the index, where only half of the 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

We take advantage of the MSCI Japan Empowering Women Index (WIN) to examine whether capital market incentives through the adoption of a thematic equity index can have meaningful effects on corporate gender diversity. 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.⁸ 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 of 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 assesses policies and initiatives supporting workforce diversity. Adjustments are made for partial data disclosure by applying a discount.

In our tests, we compare 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 less likely. 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. The workforce gender diversity metrics are measured annually, and thus, we rank firms once a year in November, before the WIN's second annual rebalancing date and after the release of the most recent gender diversity data. We identify *near-cutoff* firms as those ranked in the vicinity of the WIN inclusion threshold (ranked between the 40th to 60th percentile), and *control* firms as those with a lower likelihood of gaining inclusion

⁸ 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.

(ranked between the 40th to 10th percentile).⁹ Given the tournament-style structure of the WIN, the identification assumption is that firms around the inclusion threshold have an incentive to improve their gender diversity 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.¹⁰

This tournament structure is effective only if firms are aware of their ranking and can gauge their proximity to WIN inclusion. This assumption is reasonable given that MSCI provides comprehensive information on their website, including firms' gender diversity scores and the list of WIN constituents, updated after each rebalancing date. In addition, MSCI annually informs firms of their gender diversity scores, solicits feedback, and stands ready to offer updates throughout the year.¹¹

Our empirical approach relies on a difference-in-differences specification that compares the changes in gender diversity measures between near-cutoff and control firms between the years before the inauguration of the WIN in July 2017. Specifically, we employ a 'stacked regression' framework following Baker, Larcker, and Wang (2022) to accommodate a staggered difference-in-differences specification (see also Gormley and Matsa, 2011; Iliev and Roth, 2023). We adopt this approach for two reasons: i) firms' exposure to the incentive to compete for WIN inclusion ('treatment') can occur at different points in time, and ii) the WIN universe expanded from the MSCI Japan IMI Top 500 to the Top 700 in 2019, which affects the composition of near-cutoff

⁹ In alternative specifications, we extend the sample of control firms to include firms that rank i) below the 40th and above the 10th percentile, and ii) above the 60th and below the 90th percentile of the distribution of the Gender Diversity Score and obtain similar results.

¹⁰ In Appendix Table B1, we verify that firms' WIN inclusion and our 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.

¹¹ See <https://www.msci.com/msci-japan-empowering-women-index-jp> and MSCI (2018).

and control firms and the relative size of these groups.¹² To that end, for each year following the WIN inception, we construct cohorts of near-cutoff and control firms, stack these cohorts, and estimate the following regression specification:

$$Y_{i,c,t+1} = \alpha + \beta \times \text{Near-cutoff}_{i,c} \times \text{Post}_{c,t} + \theta X_{i,c,t} + \gamma_{i,c} + \mu_{c,t} + \varepsilon_{i,c,t}, \quad (1)$$

where $Y_{i,c,t+1}$ is a workplace measure (e.g., the proportion of women in the workforce) of firm i in cohort c and time $t+1$ (the year following WIN-related exposure). $\text{Near-cutoff}_{i,c}$ equals one for firms close to the WIN inclusion threshold and zero for control firms farther away. $\text{Post}_{c,t}$ is a dummy variable that equals one for cohort c in years after the WIN inception, and zero otherwise. $X_{i,c,t-1}$ is a set of time-varying firm-level control variables. We include firm $\times$ cohort ($\gamma_{i,c}$) and cohort $\times$ year ($\mu_{c,t}$) fixed effects and allow for heteroscedastic error terms clustered by firm and time.

A potential threat to our identification assumption is the influence of other concurrent events around the inception of the WIN that might impact firms' gender diversity performance. While this possibility exists, we consider it unlikely. Any such event would need to align with our baseline results and cross-sectional findings. Specifically, it would need to affect near-cutoff firms differently than control firms, have a differential impact on women's participation across various workforce positions (in addition to all other cross-sectional tests we conduct), result in different stock market reactions, and coincide precisely with the timing of the WIN's inception. Additionally, although other integrated ESG-based indices were launched around the same time, we find no evidence that these concurrent introductions affect our results.

¹² For robustness, we also estimate pooled sample ('traditional') difference-in-differences regressions and find very similar results. This is not surprising given our relative short sample period.

3. Sample and Summary Statistics

3.1. Toyo Keizai Workforce Database

We obtain workforce data from the Toyo Keizai Workforce database for the years 2013 to 2020 to measure corporate gender diversity. The database covers a wide range of workforce-related data items in aggregate, and more importantly, reports many of the data items separately by gender. Toyo Keizai compiles these data based on annual surveys of listed companies and some large private companies since 2005.¹³

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 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.

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 Leave* is measured as the number of women taking maternity leave divided by the number of women employees under the age of 40, and *Men Taking Paternity Leave* is calculated as the number of men employees taking paternity leave divided by the number of men employees under the age of 40. We use employees under the age of 40 as the denominator to

¹³ 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. The database covers 74% of all IMI 700 firms representing 90% of the IMI 700 firms' market capitalization.

account for the lower likelihood of maternity or paternity leave among older employees. All variables are described in Appendix A.

3.2. Firm Characteristics

In our 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 gender diversity because larger firms are better positioned to attract women—perhaps because smaller firms represent regional firms with different cultures 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. 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 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 with 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 shows summary statistics for near-cutoff 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 near-cutoff and control firms is comparable, with 17% and 16.1%, respectively, and it increases for near-cutoff firms in the post-WIN period to 19.1% compared to control firms with 17.4%. A similar increase of the proportion of women can be observed, for example, for managerial positions, with near-cutoff firms showing a greater increase compared to control firms. In what follows, our difference-in-differences regressions will shed more light on the statistical differences between near-cutoff and control firms, while controlling for firm characteristics and firm and time fixed effects.

4. Main Results

4.1. Competition for WIN Inclusion and Corporate Gender Diversity

In our main tests, we examine whether competition for WIN inclusion has meaningful effects on corporate gender diversity performance. To that end, we estimate difference-in-differences regressions based on Eq. 1, in which we regress measures of corporate gender diversity on $Near-cutoff \times Post$ while controlling for firm characteristics and unobserved heterogeneity across firms and time. As discussed above, to identify near-cutoff and control firms, we follow

MSCI’s index methodology and rank firms based on their MSCI Gender Diversity Score within their respective industries. We define near-cutoff firms as those ranked between the 40th and 60th percentiles of their gender diversity score. Control firms are defined as those ranking in the 10th to the 40th percentiles. Firms near the WIN inclusion threshold have stronger incentives to improve gender diversity to gain or maintain inclusion, unlike those farther away from the cutoff, who have less chance of being included. Our main dependent variable is *Women in the Workforce* and for robustness, we re-estimate the regressions with *Women to Men in the Workforce* to allow for different distributional properties. To account for different treatment years, we employ a ‘stacked regression’ approach (Baker, Larcker, and Wang, 2022)—more specifically, for each year after the inception of the WIN, we construct a cohort of near-cutoff and control firms, stack the cohorts, and estimate the regressions. All specifications include firm $\times$ cohort and year $\times$ cohort fixed effects, and standard errors are double-clustered by firm and year.

Table 2 shows the results. The main variable of interest is *Near-cutoff* $\times$ *Post*, which captures the differential effect for near-cutoff firms compared to control firms before and after they compete for index inclusion. In columns 1 and 2, using *Women in the Workforce* as our main dependent variable, we find that the coefficient estimates on *Near-cutoff* $\times$ *Post* are positive and statistically significant, suggesting that near-cutoff firms significantly increase the fraction of women employees relative to control firms in the post years. The documented effects are economically significant—near-cutoff firms improve the fraction of women in the workforce by 3.5% per year compared to control firms.¹⁴ This is a sizeable improvement considering that the *unconditional* average annual increase in the fraction of women in the workforce was only 1.8% over the 2013 to 2016 period prior to the WIN.

¹⁴ Calculated as the coefficient estimate (column 2) divided by the average proportion of women in the workforce of near-cutoff firms before the WIN inception, that is, $0.006 / 0.17 = 3.5\%$.

To examine the time dynamics of these effects, we estimate regressions of corporate gender diversity measures on *Near-cutoff* $\times$ *Time Indicator*, control variables, and firm $\times$ cohort and year $\times$ cohort fixed effects. Each time indicator equals one for a particular year, and zero otherwise. Figure 1 plots the coefficient estimates for the *Near-cutoff* $\times$ *Time Indicator* interactions—the coefficient estimates are insignificant for the years prior to the WIN inception, and significantly positive for the years following the launch of the WIN. These results highlight that near-cutoff and control firms did not differ significantly in the pre-WIN period, but began to diverge only after the WIN’s introduction.

In columns 3 and 4 of Table 2, we confirm robustness when using an alternative dependent variable with different distributional properties—the proportion of women to men in the workforce. The effect remains statistically and economically significant with near-cutoff firms improving women’s workforce participation by about 7.3% relative to control firms. In terms of the control variables, they mostly yield 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 structure and the relatively narrow temporal frame surrounding the inception of the WIN under examination.

Our results are robust to alternative control groups and when we estimate the difference-in-differences tests with a pooled sample (i.e., when we do not stack the cohorts). Appendix Table B2 shows the results when we include the ‘top’ performers on gender diversity as controls. Specifically, control firms are those that rank between the 10th and 40th or 60th and 90th percentiles of the Gender Diversity Score distribution. The coefficient estimates on the interaction term are all positive and significant and of similar magnitude compared to our results in Table 2. In Appendix Table B3, we use a pooled sample (instead of stacking the cohorts) for the difference-

in-differences tests and find again similar results in magnitude and significance compared to our baseline tests in Table 2.

We provide additional evidence to verify that it is firms' incentives to be included in the WIN that drives firms' gender diversity and *not* institutional investors' engagement to improve firms' sustainability performance (see, e.g., Dyck et al., 2019). Panel A of Appendix Table B4 shows that our findings obtain when we control for contemporaneous institutional ownership and for *future* institutional ownership, measured with one-year-lead institutional ownership at $t+1$. While the coefficient estimates on institutional ownership is significant, the economic significance of the WIN effect is more than five times larger than the effect of institutional ownership on firms' workforce gender diversity.¹⁵

The timing of our tests is also inconsistent with the hypothesis that increased institutional ownership drives firms' gender diversity rather than firms' incentives to be included in the WIN at the next rebalancing date. In our tests, we sort firms into near-cutoff and control groups *before* some of them are eventually included in the WIN. Thus, if anything, institutional ownership would only increase in subsequent years, making it even less likely that our results are driven by an institutional investor channel. To further alleviate this concern, in Panel B of Appendix Table B4, we drop all firms that are eventually included in the WIN. This allows us to focus exclusively on near-cutoff firms that are motivated to improve their workforce gender diversity by the prospect of WIN inclusion but ultimately do not make it, and thus, do not benefit from any subsequent increase in institutional ownership. Again, our results hold.

¹⁵ The numbers are calculated based on the column 1 estimates: The WIN effect is 3.5% (coefficient estimate divided by the average proportion of women in the workforce of near-cutoff firms before the WIN inception = $0.006 / 0.17$). The effect of institutional ownership is 0.66% (coefficient estimate multiplied with the average percentage point increase in institutional ownership of WIN firms of 3.42 (see estimates in column 1 of Table 7) divided by the average proportion of women in the workforce of near-cutoff firms before the WIN inception = $0.033 \times 0.0342 / 0.17$).

Dyck et al. (2019) show that institutional investors drive firms' sustainability performance. If our effect captured such pressures, we would expect similar effects on firms' broader ESG commitments. To test this, we replace our gender diversity measures with firms' overall ESG scores from MSCI and LSEG (formerly Refinitiv). Appendix Table B5 shows the results. Across both ESG measures, the coefficient estimates on *Near-cutoff* $\times$ *Post* are insignificant, suggesting that our findings are likely not driven by an institutional investor channel. Moreover, two other ESG-based indices—the FTSE Blossom Japan Index and the MSCI Japan ESG Leaders Index—were introduced around the same time as the WIN. If investors had responded to these concurrent ESG index launches rather than to the WIN, we would expect near-cutoff firms—those relevant for WIN inclusion—to also improve their overall ESG scores. However, we find no such effects, further indicating that our results are specific to the WIN's focus on gender diversity rather than broader ESG considerations.

Overall, the results in this section show that firms' women participation in the workforce increased after the inception of the WIN for near-cutoff firms relative to control firms. Our findings are robust to alternative specifications and are not driven by subsequent increases in institutional ownership resulting from WIN inclusion. These results underscore the power of capital market incentives in driving corporate social outcomes—in our setting, through competition for inclusion in a thematic equity index, thereby enhancing gender diversity in the workforce.

4.2. Workforce Composition and Women in Leadership Positions

Our findings indicate an increase in the number of women employees, consistent with the stated goals of the WIN initiative. However, this increase can result from either an actual rise in the number of women employees or a reduction in the number of male employees, or a combination of both. Therefore, it is crucial to discern whether our main finding is driven by a

decrease in male employees or an increase in female employees. To address, we examine effects using as dependent variables the *Change in Women Employees* (the relative change of women employees) and *Men Employee Turnover* (the fraction of men employees *leaving* the company for reasons other than retirement).

In Table 3, we estimate the main Table 2 specifications using these dependent variables. The variable of interest is again $Near-cutoff \times Post$. That is, we are interested in examining whether near-cutoff firms experience an increase in the number of women employees or whether the fraction of women in the workforce is simply driven by a reduction in men employees. 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 $Near-cutoff \times Post$, confirming that near-cutoff firms experience an increase in the number of women employees compared to control firms. The other models have also a positive coefficient estimate on $Near-cutoff \times Post$; however, they do not obtain statistical and economical significance, indicating that there is no significant turnover of men employees. The results are also economically meaningful—based on the column 2 estimates, the fraction of women employees increased by about 2 percentage points more in near-cutoff firms compared to control firms in the post-WIN years.

These results suggest that near-cutoff firms are actively seeking to increase the number of women employees. The effect survives any concurrent trends that may have also impacted the control group of firms, and it provides additional evidence that near-cutoff firms employ deliberate tactics to increase women’s participation in the workforce to improve their chances of inclusion in the WIN.

Further, companies can increase women representation within their workforce by employing women across various levels, ranging from entry-level roles to senior executive

positions. Accordingly, our subsequent analysis examines whether near-cutoff firms are actively increasing the presence of women in leadership roles or if their efforts to secure a position in the WIN are confined to boosting women’s participation in non-managerial positions. An affirmative finding for the former would signal stronger future advancements in women workforce inclusion, as evidenced by Matsa and Miller (2011), 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 firms are making substantive progress in elevating women to significant positions.

Table 4 presents the results. We begin with rank-and-file employees in column 1. Near-cutoff firms do not appear to experience a significant change in the number of non-management women employees—the coefficient estimate on *Near-cutoff* $\times$ *Post* is positive but not statistically significant. When we look at managerial and executive positions in columns 2 and 3, we get a different picture. The coefficient estimates on the interaction terms are positive and significant, indicating that near-cutoff firms increase the fraction of women in these positions more than control firms do. In addition, we also examine board positions and find a significant positive coefficient estimate.¹⁶ In terms of economic significance, for example, near-cutoff firms improve the proportion of women in general management positions, relative to control firms, by almost 16%.¹⁷

Our findings show that the WIN effects are not driven by reducing the number of men employees or augmenting women employment in the non-management and temporary workforce—rather, treatment firms appear to make meaningful improvements in the representation

¹⁶ We mainly do this for completeness, as one component of the MSCI Gender Diversity Score depends on the presence of women on the board.

¹⁷ Calculated as the coefficient estimate (column 2) divided by the average proportion of women in general management positions of treated firms before the WIN inception, that is, $0.006 / 0.038 = 15.8\%$.

of women in regular and permanent jobs at leadership positions. We interpret these results as indicating that near-cutoff firms are genuinely striving for a change in workplace culture in tune with their desire to improve women’s participation in decision making roles.

4.4. Shift in Workplace Culture

We also investigate the possibility that the introduction of the WIN brought about a shift in workplace culture. We hypothesize that firms aiming for WIN inclusion modify workplace culture to be more accommodating to women and families, thereby creating a more appealing workplace to retain and attract women employees. To explore this, we examine the impact of the WIN on overtime work and parental leave policies, using these as indicators of a more inclusive environment conducive to higher women participation. Implementing such policies is posited to alleviate the disruption caused by childbirth (see, e.g., Fukai and Kondo, 2025; Okuyama, Murooka, and Yamaguchi, 2025), thereby facilitating women’s sustained engagement in the workplace. We expect near-cutoff firms to be more likely to reduce overtime work and promote paternity leave, reflecting their commitment to cultural changes that align with their goal of improving women’s participation and achieving WIN inclusion.

Table 5 shows the results of our tests. The first two columns use measures of overtime work, the logarithm of *Overtime Hours* and *Overtime Pay*, as dependent variables. For both models, the interaction term *Near-cutoff* $\times$ *Post* is negative and significant, indicating that near-cutoff firms reduced overtime work in the post-WIN period compared to control firms. The effect is also economically sizable—for example, based on the column 1 estimates, near-cutoff firms reduce overtime hours by about 9% compared to control firms.¹⁸ A lower use of overtime work in

¹⁸ Calculated as $e^{\text{coefficient estimate}} - 1 = e^{-0.092} - 1 = -8.8\%$.

near-cutoff firms is consistent with a more favorable work environment for women and a shift towards a more family-friendly workplace culture.

We also examine changes in the uptake of parental leaves, especially paternity leaves, around the introduction of the WIN. Columns 3 and 4 show results for measures of parental leaves. We do not find any significant changes in the fraction of women taking maternity leave, as documented in column 3. However, we find strong evidence of men taking paternity leave in column 4—the coefficient estimates on *Near-cutoff* $\times$ *Post* is positive and significant indicating an increase in men taking leaves in the post-WIN period compared to control firms. This result is again economically significant implying an increase in paternity leave of men of 67%.¹⁹ This is a large effect, yet reasonable as most sample firms had zero paternity leave takers in the years prior to the WIN.

Overall, we find that the reduction in overtime work and the increased uptake of parental leave by male employees in near-cutoff firms mark a shift in corporate workplace culture driven by the desire of near-cutoff firms to be included in the WIN. We contend that this is the first documented instance of a purposefully designed index resulting in a change in corporate culture.

5. Motives and Outcomes

Why do firms strive for inclusion in the WIN? In this section, we explore plausible motives why firms may enhance their gender diversity to qualify for WIN inclusion. We also examine firm outcomes associated with being included in the WIN, focusing on changes in institutional ownership and stock market reactions.

¹⁹ Calculated as the coefficient estimate divided by the average fraction of men taking paternity leave pre-WIN, that is, $0.002 / 0.003 = 67\%$.

5.1. Motives to Compete for WIN Inclusion

Firms are ranked based on their MSCI Gender Diversity Score, with only the top-half within their respective industries being included in the WIN. Thus, the WIN increases visibility regarding firms' gender diversity performance. This visibility is further amplified by firms' promoting their WIN membership on their websites, in sustainability reports, and through press releases.²⁰ Consequently, stakeholders can identify which firms excel in gender diversity vis-à-vis others.

We begin by examining whether a firm's customer awareness impacts its incentive to be included in the WIN. According to Servaes and Tamayo (2013), corporate sustainability activities are more value-enhancing for firms with higher customer awareness. Additionally, customers in the consumer industry may place greater importance on a firm's gender diversity performance and are more sensitive to this issue compared to customers in non-consumer industries, such as the energy sector. To measure firms' customer awareness and consumer focus, we use proxies such as the mean industry advertisement expense, whether a firm operates in consumer-facing sectors, the proportion of domestic sales to total sales, and whether a firm is involved in the energy, materials, or utilities sectors. We hypothesize that near-cutoff firms with higher customer awareness, more business-to-consumer activities, and a stronger focus on domestic markets will show a greater improvement in women's participation in the workforce post-WIN inception compared to other near-cutoff firms with a lesser focus on these activities.

To test whether firms are motivated by customer awareness, we repeat our baseline regression (column 2 of Table 2) and include a triple interaction term $Near-cutoff \times Post \times Motive$,

²⁰ For example, Mitsubishi Motors has mentioned their WIN membership in the annual sustainability report since 2018. In 2019, the company also issued a specific press release titled "MSCI Selects Mitsubishi Motors as a Constituent of the MSCI Japan Empowering Women Index (WIN) for the Second Consecutive Year" (https://www.mitsubishi-motors.com/en/newsroom/newsrelease/2019/20190703_1.html).

where *Motive* is one of the measures noted above. The triple interaction term estimates the differential impact within near-cutoff firms with and without such motives compared to control firms before and after the WIN inception. Columns 1 through 4 of Table 6 show the results. We find that near-cutoff firms that are in industries with greater advertisement expenses, in consumer industries, and firms with a higher proportion of domestic sales increase the fraction of women in their workforce more compared to near-cutoff firms without such motives—the coefficient estimates on the triple interaction term are positive and significant. Conversely, near-cutoff firms in the energy, materials, or utilities industries see a lesser improvement in workforce diversity compared to near-cutoff firms in other industries. The results are economically meaningful—for example, the results in column 2 show that near-cutoff firms in consumer-facing industries increase the fraction of women in their workforce by 1.5 percentage points more than near-cutoff firms in other industries.

The second motive we investigate is whether firms are incentivised by the prospect of increased institutional ownership upon WIN inclusion. At the onset of the WIN, the GPIF committed to increasing their ownership stakes in WIN firms. This pledge could motivate firms to strive for WIN inclusion. To measure this, we use a firm’s (lagged) GPIF ownership to evaluate the potential benefits from additional ownership pledged by the GPIF if the firm is included in the WIN. We hypothesize that firms with lower GPIF ownership will be more motivated by the prospect of an incremental increase in their GPIF ownership. Column 5 of Table 6 shows the results. The triple interaction term is negative and significant, suggesting that near-cutoff firms with lower GPIF ownership improve their fraction of women in the workforce relatively more, as these are the firms that gain the most from the GPIF’s pledge to increase their ownership in WIN firms.

Overall, we find that customer awareness and institutional ownership motives play a significant role in determining the degree to which firms improve their women’s workplace participation following the WIN inception, with greater impact observed when firms are closer to consumers and when they stand to benefit more from increased institutional ownership.

5.2. Institutional Ownership and Stock Market Reactions

Our previous findings show that firms are motivated by the prospect of *expected* increases in institutional ownership to compete for WIN inclusion. In this section, we test this hypothesis further by estimating a regression of *realized* institutional ownership on an interaction term, *WIN* $\times$ *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 surrounding the WIN inception.²¹

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 vis-à-vis non-WIN firms. 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).

In addition to ownership changes, we also examine firms’ stock market reactions to WIN inclusion (and exclusion) to gauge whether WIN membership impacts shareholder value. Several papers have documented positive stock market valuation effects upon firms’ addition to equity indices (e.g., Shleifer, 1986; Harris and Gurel, 1986; Kaul, Mehrotra, and Morck, 2000; Wurgler

²¹ In these regressions, we focus on firms’ actual inclusion in the WIN and any subsequent changes in ownership and performance, unlike in previous tests, where we examine changes in firms’ workforce performance driven by competition to gain WIN membership.

and Zhuravskaya, 2002; Chen, Noronha, and Singal, 2004; Chang, Hong, and Liskovich, 2015). More recently, Greenwood and Sammon (2025) show the index effects have generally declined over time—for example, abnormal returns associated with additions to the S&P 500 index declined from 5.2% in the 2000s to 0.8% in the 2010s.²²

For each of the five semi-annual rebalancing dates from 2017 to 2019, we identify the firms that were newly added or dropped from the WIN. MSCI communicates the WIN constituents generally nine business days before the rebalancing dates (MSCI, 2019a). However, press releases on Bloomberg show that MSCI announced the new WIN members up to seven business days before the effective rebalancing date ($t = 0$). Given this timing difference, we examine the stock market reaction to the announcement of WIN inclusion over the $[-11; -5]$ period—two days before the nine business days indicated by MSCI and two days after the seven days of recently observed press releases. In addition, we examine the stock market reaction for the two days surrounding the effective rebalancing dates $[-2; +2]$. For both event windows as well as for firms that are included and excluded from the WIN, we calculate cumulative abnormal returns (CARs) based on abnormal returns using market model residuals. The model parameters are estimated using daily returns over the $[-250; -20]$ period prior to the effective rebalancing dates, and market returns are proxied with the total return on the Tokyo Stock Price Index (TOPIX).²³ We use the test statistics of Boehmer, Masumeci, and Poulsen (1991) with the adjustment of Kolari and Pynnönen (2010) to gauge significance for average CARs, and we use the Wilcoxon signed-rank test to assess significance for medians.²⁴

²² For other indices, such as the Russell 1000/2000 and Nasdaq 100, the magnitude of the declines is generally smaller.

²³ The TOPIX is a market-capitalization-weighted index of all the companies listed on the First Section of the Tokyo Stock Exchange.

²⁴ The Boehmer, Masumeci, and Poulsen (1991) test statistic accounts for event-induced variance, which can lead to over-rejection of the null hypothesis. Because our event dates cluster around five rebalancing events, we also apply the Kolari and Pynnönen (2010) adjustment for cross-correlation in residuals. Compared to the Wilcoxon signed-rank test for medians, using the GRANK test (Kolari and Pynnönen, 2011) results in similar significance levels.

Table 8 presents the results. Panel A shows numbers for WIN inclusions. If WIN inclusion is beneficial for shareholders, for example, because such firms show greater gender diversity performance or WIN inclusion is followed by greater institutional ownership, we expect positive returns upon WIN inclusion announcements. Our results show exactly that—firms that are added to the WIN experience significantly positive average CARs of 0.62%. We also observe positive average CARs for the two days surrounding the effective rebalancing date. Overall, over the combined window from announcement to the effective rebalancing date, newly included WIN firms show average CARs of 1.19%. Similar, albeit somewhat smaller results are observed for median CARs. Overall, the results suggest a positive stock market reaction for firms added to the WIN index, supporting the notion that shareholders assign higher valuations to firms with greater gender diversity. These findings are also consistent with the previously documented increase in institutional ownership.

Panel B shows the results for WIN exclusion, that is, firms that initially were in the WIN but did not make it at the next rebalancing date. Consistent with the Panel A results, we find that WIN exclusions are associated with negative announcement returns. Focusing on the combined window of announcement of WIN constituents and actual rebalancing date, we find that firms that are excluded from the WIN experience average negative CARs of -0.93%. While the numbers are economically significant, they do not obtain statistical significance at customary levels.

Firms may face significant adjustment costs to elevate their women's representation in the workforce, for example, because of a shortage of qualified women in the labor pool making it costly to attract women talent. Thus, competition for qualified women could potentially impact firms' short-term operating performance. In Appendix Table B6, we show that WIN firms did not experience a significant change in operating performance compared to non-WIN firms following

inclusion in the WIN. Hence, our findings do not support the notion that the enhanced gender diversity in the workplace adversely affected firms' short-term operating performance, consistent with Eckbo, Nygaard, and Thorburn (2022), Bennedsen et al. (2022), and Lins et al. (2024).

Taken together, our results show that WIN firms experience an increase in institutional ownership. Around the announcement and rebalancing dates of the WIN index, firms newly added to the index exhibit positive stock market reactions, while firms excluded from the WIN experience a decline in stock price.

6. Conclusion

We examine whether capital market incentives embedded in a purpose-driven financial instrument can influence corporate behavior toward greater gender diversity. Using the introduction of the MSCI Japan Empowering Women Index (WIN) as a quasi-natural experiment, we find that firms near the inclusion threshold—those with the strongest incentives to compete for index membership—significantly increase women's participation in their workforce following the WIN's inception. These improvements are economically meaningful and not accompanied by a reduction in male employees, indicating a deliberate effort to expand the number of women in the workforce.

Furthermore, we find that the increase in women's representation occurs primarily in management positions, while rank-and-file positions remain largely unchanged. We also document a broader cultural shift within these firms, reflected in reduced overtime work and greater participation of male employees in paternity leave during the post-WIN period. Moreover, WIN firms experience higher institutional ownership and positive stock market reactions upon WIN inclusion, with no discernible decline in short-term operating performance—countering the common critique that social adjustments entail significant operating costs.

Taken together, our findings highlight the power of capital market incentives in advancing social objectives. By linking index inclusion to gender diversity outcomes, the WIN created a tournament structure that successfully motivated firms to compete on a measurable social dimension, demonstrating that well-designed financial instruments can foster meaningful corporate and societal change. These findings have important implications for regulators and sustainability-focused investors aiming to narrow gender gaps in employment.

References

- Adams, Renee, and Daniel Ferreira, 2009, Women in the boardroom and their impact on governance and performance, *Journal of Financial Economics* 94, 291-309.
- Adams, Renee, and Patricia Funk, 2012, Beyond the glass ceiling: Does gender matter, *Management Science* 58, 219-235.
- Adhikari, Binay, Anup Agrawal, and James Malm, 2019, Do women managers keep firms out of trouble? Evidence from corporate litigation and policies, *Journal of Accounting and Economics* 67, 202-225.
- Ahern, Kenneth, and Amy Dittmar, 2012, The changing of the boards: The impact on firm valuation of mandated female board representation, *Quarterly Journal of Economics* 127, 137-197.
- Baker, Andrew C., David F. Larcker, Charles C.Y. Wang, 2022, How much should we trust staggered difference-in-differences estimates?, *Journal of Financial Economics* 144, 370-395.
- Baker, Malcolm, Robin Greenwood, and Jeffrey Wurgler, 2009, Catering through nominal share prices, *Journal of Finance* 64, 2559-2590.
- Becht, Marco, Julian R. Franks, Hideaki Miyajima, and Kazunori Suzuki, 2023, Does paying passive managers to engage improve ESG performance?, Working paper, Solvay Brussels School of Economics and Management.
- Bennedsen, Morten, Elena Simintzi, Margarita Tsoutsoura, and Daniel Wolfenzon, 2022, Do firms respond to gender pay gap transparency?, *Journal of Finance* 77, 2051-2091.
- Bertrand, Marianne, Sandra Black, Sissel Jensen, and Adriana Lleras-Muney, 2019, Breaking the glass ceiling? The effect of board quotas on female labour market outcomes in Norway, *Review of Economic Studies* 86, 191-239.
- Boehmer, Ekkehart, Jim Masumeci, and Annette B. Poulsen, 1991. Event-study methodology under conditions of event-induced variance, *Journal of Financial Economics* 30, 253-272.
- Chang, Yen-Cheng, Harrison Hong, and Inessa Liskovich, 2015, Regression discontinuity and the price effects of stock market indexing, *Review of Financial Studies* 28, 212-246.
- Chen, Honghui, Gregory Noronha, Vijay Singal, 2004, The price response to S&P 500 index additions and deletions: Evidence of asymmetry and a new explanation, *Journal of Finance*, 59, 1901-1930.
- Crawford, Mark, 2021, Abe's Womenomics Policy, 2013-2020: Tokenism, Gradualism, or Failed Strategy? *Asia-Pacific Journal* 19, 1-16.

- Cronqvist, Henrik, and Frank Yu, 2017, Shaped by their daughters: Executives, female socialization, and corporate social responsibility, *Journal of Financial Economics* 126, 543-562.
- Dai, Rui, Hao Liang, and Lilian Ng, 2021, Socially responsible corporate customers, *Journal of Financial Economics* 142, 598-626.
- Dimson, Elroy, Oguzhan Karakaş, and Xi Li, 2015, Active ownership, *Review of Financial Studies* 28, 3225-3268.
- Dyck, Alexander, Karl V. Lins, Lukas Roth, and Hannes F. Wagner, 2019, Do institutional investors drive corporate social responsibility? International evidence, *Journal of Financial Economics* 131, 693-714.
- Dyck, Alexander, Karl V. Lins, Lukas Roth, Mitch Towner, and Hannes F. Wagner, 2023, Renewable governance: Good for the environment?, *Journal of Accounting Research* 61, 279-327.
- Eckbo, B. Espen, Knut Nygaard, and Karin S. Thorburn, 2022, Valuation effects of Norway's board gender-quota law revisited, *Management Science* 68, 3975-475.
- Faccio, Mara, Maria-Teresa Marchica, and Roberto Mura, 2016, CEO gender, corporate risk-taking, and the efficiency of capital allocation, *Journal of Corporate Finance* 39, 193-209.
- Freund, Steven, Nam H. Nguyen, and Hieu V. Phan, 2023, Shareholder litigation and corporate social responsibility, *Journal of Financial and Quantitative Analysis* 58, 512-542.
- Fukai, Taiyo, and Ayako Kondo, 2025, Parental earnings trajectories around childbirth in Japan: Evidence from local tax records. Working paper, Research Institute of Economy, Trade and Industry (RIETI).
- Goldin, Claudia, 2025, Babies and the macroeconomy, *Economica* 92, 675-700.
- Gormley, Todd A., and David A. Matsa, 2011, Growing out of trouble? Corporate responses to liability risk, *Review of Financial Studies* 24, 2781-2821.
- GPIF, 2018, *Annual Report Fiscal Year 2017*, https://www.gpif.go.jp/en/annual_report_fiscal_year_2017.pdf.
- Greenwood, Robin, and Marco Sammon, 2025, The disappearing index effect, *Journal of Finance* 80, 657-698.
- Harris, Lawrence and Eitan Gurel, 1986, Price and volume effects associated with changes in the S&P 500 list: New evidence for the existence of price pressures, *Journal of Finance* 41, 815-829.
- Huang, Jiekun, and Darren Kisgen, 2013, Gender and corporate finance: Are male executives overconfident relative to female executives, *Journal of Financial Economics* 108, 822-839.

- Iliev, Peter, and Lukas Roth, 2023, Directors and corporate sustainability, *Review of Finance* 27, 2085-2123.
- International Monetary Fund, 2024, *World Economic Outlook, Steady but Slow: Resilience amid Divergence*, April 2024.
- Ioannou, Ioannis, and George Serafeim, 2012, What drives corporate social performance? The role of nation-level institutions, *Journal of International Business Studies* 43, 834-864.
- Kaul, Aditya, Vikas Mehrotra, and Randall Morck, 2000, Demand curves for stocks do slope down: New evidence from an index weights adjustment, *Journal of Finance* 55, 893-912.
- Kawaguchi, Mariko, 2015, GPIF no kokuren sekinin toushi gensoku (RPI) shomei no inpakuto (authors' translation: impact of GPIF's signing the Principles for Responsible Investment (PRI) of the United Nations), Daiwa-Soken Column, October 2, 2015, https://www.dir.co.jp/report/column/20151002_010176.html.
- Kim, Daehyun, and Laura Starks, 2016, Gender diversity on corporate boards: Do women contribute unique skills? *American Economic Review, Papers & Proceedings* 106, 267-271.
- Kolari, James W., and Seppo Pynnönen, 2010, Event study testing with cross-sectional correlation of abnormal returns, *Review of Financial Studies* 23, 3996-4025.
- Kolari, James W., and Seppo Pynnönen, 2011, Nonparametric rank tests for event studies, *Journal of Empirical Finance* 18, 953-971.
- Krueger, Philipp, Zacharias Sautner, and Laura Starks, 2020, The importance of climate risks for institutional investors, *Review of Financial Studies* 33, 1067-1111.
- Kunze, Astrid, and Amalia Miller, 2017, Women helping women? Evidence from private sector data on workplace hierarchies, *Review of Economics and Statistics* 99, 769-755.
- Liang, Hao, and Luc Renneboog, 2017, On the foundations of corporate social responsibility, *Journal of Finance* 72, 853-910.
- Lins, Karl V., Lukas Roth, Henri Servaes, and Ane Tamayo, 2024, Sexism, culture, and firm value: Evidence from the Harvey Weinstein scandal and the #MeToo movement, *Journal of Accounting Research* 62, 1989-2035.
- Liu, Tim, Christos A. Makridis, Paige Ouimet, Elena Simintzi, 2023, The distribution of nonwage benefits: Maternity benefits and gender diversity, *Review of Financial Studies* 36, 194-234.
- Matsa, David, and Amalia Miller, 2011, Chipping away at the glass ceiling: Gender spillovers in corporate leadership, *American Economic Review, Papers & Proceedings* 101, 635-639.
- MSCI, 2018, *MSCI nihon josei katsuyaku shisuu (WIN) kigyo muke FAQ* (MSCI Japan WIN Index FAQ for Corporate Issuers), MSCI ESG Issuer Communications Team.

- MSCI, 2019a, *MSCI Japan Empowering Women (WIN) Index Methodology*.
- MSCI, 2019b, *MSCI Workforce Gender Diversity Data Methodology*, MSCI ESG Research.
- Okuyama, Yoko, Takeshi Murooka, and Shintaro Yamaguchi, 2025, Unpacking the child penalty using personnel data: How promotion practices widen the gender pay gap. Working paper, IZA.
- Pastor, Lubos, Robert F. Stambaugh, and Lucian A. Taylor, 2021, Sustainable investing in equilibrium, *Journal of Financial Economics* 142, 550-571.
- Pedersen, Lasse H., Shaun Fitzgibbons, and Lukasz Pomorski, 2021, Responsible investing: The ESG-efficient frontier, *Journal of Financial Economics* 142, 572-597.
- Schiller, Christoph, 2018, Global supply-chain networks and corporate social responsibility, Working paper, Arizona State University.
- Servaes, Henri, and Ane Tamayo, 2013, The impact of corporate social responsibility on firm value: The role of customer awareness, *Management Science* 59, 1045-1061.
- Shleifer, Andrei, 1986, Do demand curves for stocks slope down?, *Journal of Finance* 41, 579-590.
- Tate, Geoffrey, and Liu Yang, 2015, Female leadership and gender equity: Evidence from plant closure, *Journal of Financial Economics* 117, 77-97.
- World Bank, 2024, *Women, Business, and the Law 2024*, Washington D.C., World Bank.
- Wurgler, Jeffrey, and Ekaterina Zhuravskaya, 2002, Does arbitrage flatten demand curves for stocks?, *Journal of Business* 75, 583-608.

Figure 1
Proximity to the WIN Inclusion Cutoff and Corporate Gender Diversity: Time Dynamics

This figure shows time dynamics of the effects of firms' incentives to be included in the MSCI Japan Empowering Women Index (WIN) on corporate gender diversity around the WIN launch. The figure plots the *Near-cutoff* $\times$ *Time Indicator* coefficient estimates of regressions of corporate gender diversity measures on *Near-cutoff* $\times$ *Time Indicator*, control variables, and firm $\times$ cohort and year $\times$ cohort fixed effects. Each time indicator equals one for a particular year, and zero otherwise. The dependent variable is *Women in the Workforce* (number of women employees divided by the number of total employees). We create cohorts for the years 2018 and 2019 and then stack the cohorts (Baker, Larcker, and Wang; 2022; Gormley and Matsa, 2011). We follow MSCI's index methodology, and for each treatment year, we rank firms within their GICS sector by their MSCI Gender Diversity Score. Near-cutoff firms are those ranked 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 ranked below the 40th and above the 10th percentile of the distribution of the Gender Diversity Score. All 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 clustered by firm and time. The vertical blue lines indicate 95% confidence bands around the coefficient estimates.

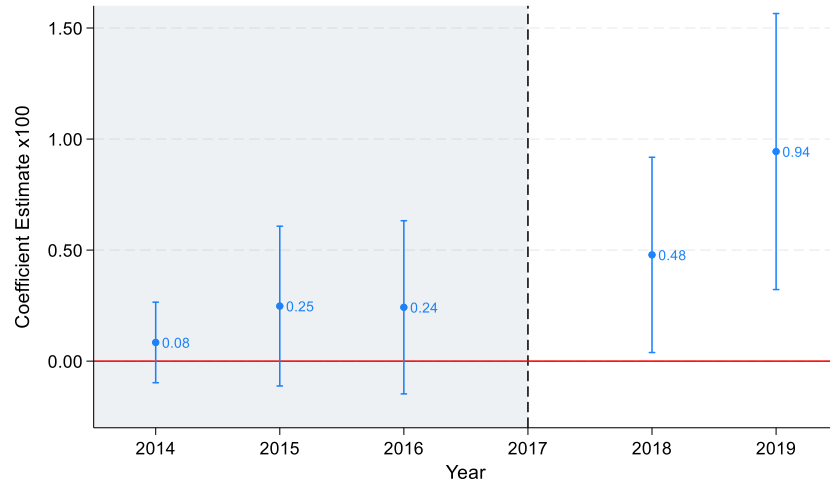


Table 1
Summary Statistics

This table shows summary statistics for the universe of firms considered to be included in the MSCI Japan Empowering Women Index (WIN) for the 2013 to 2020 period. The sample consists of 723 firms with 4,950 firm-year observations. Panel A shows numbers for the full sample, and Panel B reports numbers for near-cutoff and control firms before and after the launch of the WIN. We follow MSCI's index methodology, for each year after the inception of the WIN, we rank firms within their GICS sector by their MSCI Gender Diversity Score. Near-cutoff firms are those ranked 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 ranked below the 40th and above 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
Institutional Ownership	0.479	0.475	0.186
Domestic Institutional Ownership	0.220	0.206	0.150
GPIF Ownership	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 (to Women)	0.041	0.027	0.110
Men Employee Turnover (to Men)	0.039	0.020	0.086
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 Leave	0.099	0.090	0.046
Men Taking Paternity Leave	0.004	0.001	0.008

Panel B: Means for Near-cutoff and Control Firms

	Near-cutoff Firms		Control Firms	
	Pre-WIN	Post-WIN	Pre-WIN	Post-WIN
A. Firm Characteristics				
Total Assets (in Billion ¥)	2,223	2,247	2,251	2,367
Cash	0.151	0.173	0.158	0.172
Tangibility	0.292	0.275	0.291	0.284
Leverage	0.230	0.201	0.203	0.174
ROA	0.038	0.054	0.036	0.050
Tobin's q	0.897	1.069	0.835	0.960
Institutional Ownership	0.467	0.545	0.455	0.514
Domestic Institutional Ownership	0.202	0.268	0.196	0.247
Ownership by the GPIF	0.046	0.067	0.044	0.061
B. Employment Characteristics				
Women in the Workforce	0.170	0.191	0.161	0.174
Women to Men in the Workforce	0.232	0.268	0.221	0.238
Change in Women Employees (to Women)	0.022	0.054	0.045	0.060
Men Employee Turnover (to Men)	0.034	0.032	0.025	0.026
Women in the Workforce by Position				
Non-Management	0.226	0.245	0.204	0.220
General Management	0.038	0.056	0.037	0.047
Executives	0.007	0.018	0.004	0.011
Board	0.033	0.066	0.024	0.049
Overtime Hours	20.1	19.3	18.8	20.7
Overtime Pay (in Thousand ¥)	49.6	49.5	43.3	51.4
Women Taking Maternity Leave	0.094	0.099	0.092	0.087
Men Taking Paternity Leave	0.003	0.007	0.001	0.003

Table 2
Proximity to the WIN Inclusion Cutoff and Corporate Gender Diversity

This table shows regression estimates of measures of corporate gender diversity on *Near-cutoff* $\times$ *Post*, control variables, and firm $\times$ cohort and year $\times$ cohort fixed effects. The dependent variables are *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 create cohorts for the years 2018 and 2019 and then stack the cohorts (Baker, Larcker, and Wang; 2022; Gormley and Matsa, 2011). We follow MSCI's index methodology, for each year after the inception of the WIN, we rank firms within their GICS sector by their MSCI Gender Diversity Score. Near-cutoff firms are those ranked 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 ranked below the 40th and above the 10th percentile of the distribution of the Gender Diversity Score. *Post* is a dummy variable equal to one for treatment years, and zero otherwise. All 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 clustered by firm and time, and *p*-values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

	Women in the Workforce		Women to Men in the Workforce	
	(1)	(2)	(3)	(4)
Near-cutoff $\times$ Post	0.006*** (0.00)	0.006*** (0.00)	0.017*** (0.00)	0.017*** (0.00)
Log (Total Assets)		0.003 (0.50)		0.003 (0.83)
Cash		0.012 (0.70)		0.122 (0.20)
Tangibility		0.040 (0.21)		0.163* (0.06)
Leverage		0.015 (0.13)		0.059** (0.02)
ROA		0.028 (0.28)		0.079 (0.41)
Tobin's <i>q</i>		-0.007 (0.40)		-0.033 (0.39)
Firm $\times$ Cohort FE	Yes	Yes	Yes	Yes
Time $\times$ Cohort FE	Yes	Yes	Yes	Yes
N	1,879	1,864	1,879	1,864
Adjusted <i>R</i> ²	0.977	0.977	0.946	0.947

Table 3
Changes and Turnover in the Workforce

This table shows regression estimates of measures of changes and turnover in the workforce on *Near-cutoff* $\times$ *Post*, control variables, and firm $\times$ cohort and year $\times$ cohort fixed effects. The dependent variables are *Change in Women Employees* (change in the number of women employees divided by the lagged number of all (women) employees) and *Men Employee Turnover* (number of men employees leaving the company for reasons other than mandatory retirement divided by the lagged number of all (men) employees). We create cohorts for the years 2018 and 2019 and then stack the cohorts (Baker, Larcker, and Wang; 2022; Gormley and Matsa, 2011). We follow MSCI's index methodology, for each year after the inception of the WIN, we rank firms within their GICS sector by their MSCI Gender Diversity Score. Near-cutoff firms are those ranked 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 ranked below the 40th and above the 10th percentile of the distribution of the Gender Diversity Score. *Post* is a dummy variable equal to one for treatment years, and zero otherwise. All 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 clustered by firm and time, and *p*-values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

Calculated relative to:	Change in Women Employees		Men Employee Turnover	
	All Employees	Women Employees	All Employees	Men Employees
	(1)	(2)	(3)	(4)
Near-cutoff $\times$ Post	0.005** (0.02)	0.016* (0.07)	-0.000 (0.98)	0.000 (0.93)
Log (Total Assets)	-0.016* (0.09)	-0.044 (0.29)	0.003 (0.61)	0.006 (0.57)
Cash	0.025 (0.25)	0.066 (0.39)	0.030 (0.33)	0.052 (0.23)
Tangibility	0.014 (0.45)	-0.045 (0.66)	0.051* (0.07)	0.078** (0.05)
Leverage	0.000 (0.98)	-0.102 (0.14)	0.018 (0.33)	0.020 (0.42)
ROA	0.093** (0.02)	0.436** (0.04)	-0.108*** (0.00)	-0.123*** (0.00)
Tobin's <i>q</i>	0.000 (0.99)	-0.001 (0.95)	-0.001 (0.73)	-0.002 (0.54)
Firm $\times$ Cohort FE	Yes	Yes	Yes	Yes
Time $\times$ Cohort FE	Yes	Yes	Yes	Yes
N	1,751	1,751	1,751	1,751
Adjusted <i>R</i> ²	0.115	0.132	0.777	0.762

Table 4
Women in the Workforce by Position

This table shows regression estimates of measures of corporate gender diversity grouped by their position on *Near-cutoff* $\times$ *Post*, control variables, and firm $\times$ cohort and year $\times$ cohort fixed effects. The dependent variables are *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 create cohorts for the years 2018 and 2019 and then stack the cohorts (Baker, Larcker, and Wang; 2022; Gormley and Matsa, 2011). We follow MSCI's index methodology, for each year after the inception of the WIN, we rank firms within their GICS sector by their MSCI Gender Diversity Score. Near-cutoff firms are those ranked 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 ranked below the 40th and above the 10th percentile of the distribution of the Gender Diversity Score. *Post* is a dummy variable equal to one for treatment years, and zero otherwise. All 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 clustered by firm and time, and *p*-values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

	Women in the Workforce by Position			
	Non-Management	General Management	Executives	Board
	(1)	(2)	(3)	(4)
Near-cutoff $\times$ Post	0.002 (0.58)	0.006** (0.04)	0.011*** (0.00)	0.012** (0.02)
Log (Total Assets)	0.013 (0.16)	0.004 (0.32)	-0.008 (0.32)	-0.002 (0.89)
Cash	-0.038 (0.18)	0.055*** (0.01)	-0.001 (0.95)	-0.114*** (0.01)
Tangibility	0.019 (0.60)	0.046* (0.06)	0.009 (0.74)	0.050 (0.25)
Leverage	-0.052*** (0.00)	0.028** (0.03)	0.014 (0.42)	-0.025 (0.34)
ROA	-0.029 (0.55)	-0.008 (0.76)	0.008 (0.82)	-0.147** (0.03)
Tobin's <i>q</i>	-0.011 (0.29)	-0.005 (0.38)	-0.000 (0.89)	0.001 (0.89)
Firm $\times$ Cohort FE	Yes	Yes	Yes	Yes
Time $\times$ Cohort FE	Yes	Yes	Yes	Yes
N	1,740	1,827	1,647	1,692
Adjusted <i>R</i> ²	0.952	0.914	0.582	0.566

Table 5
Shift in Workplace Culture

This table shows regression estimates of overtime and parental leave measures on *Near-cutoff* $\times$ *Post*, control variables, and firm $\times$ cohort and year $\times$ cohort fixed effects. The dependent variables are 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 Leave* (number of women employees taking maternity leave divided by the number of women employees under the age of 40), and *Men Taking Paternity Leave* (number of men employees taking parental leave divided by the number of men employees under the age of 40). We create cohorts for the years 2018 and 2019 and then stack the cohorts (Baker, Larcker, and Wang; 2022; Gormley and Matsa, 2011). We follow MSCI's index methodology, for each year after the inception of the WIN, we rank firms within their GICS sector by their MSCI Gender Diversity Score. Near-cutoff firms are those ranked 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 ranked below the 40th and above the 10th percentile of the distribution of the Gender Diversity Score. *Post* is a dummy variable equal to one for treatment years, and zero otherwise. All 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 clustered by firm and time, and *p*-values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

	Overtime		Women Taking Maternity Leave	Men Taking Paternity Leave
	Hours	Pay		
	(1)	(2)	(3)	(4)
Near-cutoff $\times$ Post	-0.092*** (0.00)	-0.079** (0.03)	0.001 (0.88)	0.002*** (0.01)
Log (Total Assets)	-0.044 (0.60)	-0.190* (0.07)	-0.017 (0.13)	-0.001 (0.69)
Cash	0.211 (0.43)	-0.265 (0.23)	-0.014 (0.54)	0.005 (0.47)
Tangibility	-0.166 (0.57)	-0.806** (0.02)	0.030 (0.41)	0.004 (0.64)
Leverage	-0.304* (0.06)	-0.194 (0.38)	0.079** (0.02)	0.010** (0.03)
ROA	0.830*** (0.00)	0.289 (0.44)	0.080 (0.36)	0.019 (0.13)
Tobin's <i>q</i>	0.032 (0.37)	0.074* (0.07)	0.006 (0.37)	0.002** (0.03)
Firm $\times$ Cohort FE	Yes	Yes	Yes	Yes
Time $\times$ Cohort FE	Yes	Yes	Yes	Yes
N	1,606	1,183	1,535	1,449
Adjusted <i>R</i> ²	0.856	0.826	0.488	0.529

Table 6
Motives for Index Inclusion and Corporate Gender Diversity: Customer Awareness and Institutional Ownership

This table shows regression estimates of measures of corporate gender diversity on *Near-cutoff* $\times$ *Post* interacted with measures of firms' motives for index inclusion, control variables, and firm $\times$ cohort and year $\times$ cohort fixed effects. The dependent variable is *Women in the Workforce* (number of women employees divided by the number of total employees). We measure firms' motives for index inclusion with i) customer awareness: *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), *Fraction Domestic Sales > 75%* (dummy variable equal to one if a firm's domestic sales is greater than 75% of total sales, and zero otherwise), and *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 ii) institutional ownership motives: *GPIF Ownership* (fraction of shares held by the GPIF). We create cohorts for the years 2018 and 2019 and then stack the cohorts (Baker, Larcker, and Wang; 2022; Gormley and Matsa, 2011). We follow MSCI's index methodology, for each year after the inception of the WIN, we rank firms within their GICS sector by their MSCI Gender Diversity Score. Near-cutoff firms are those ranked 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 ranked below the 40th and above the 10th percentile of the distribution of the Gender Diversity Score. *Post* is a dummy variable equal to one for treatment years, and zero otherwise. All 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 clustered by firm and time, and *p*-values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

Motive:	Women in the Workforce				
	Customer Awareness and Consumer Focus				Institutional Ownership
	Industry Advertisement Expenses	Consumer Industry	Fraction Domestic Sales > 75%	Energy/Materials/Utilities Industry	GPIF Ownership
	(1)	(2)	(3)	(4)	(5)
Near-cutoff $\times$ Post $\times$ Motive	0.217** (2.22)	0.015** (2.39)	-0.009*** (-3.47)	0.009** (2.44)	-0.131** (-2.19)
Near-cutoff $\times$ Post	0.005** (2.22)	0.005** (2.39)	0.007*** (3.69)	0.002 (0.71)	0.015*** (2.84)
Log (Total Assets)	0.002 (0.42)	0.004 (0.72)	0.003 (0.55)	0.004 (0.74)	0.003 (0.66)
Cash	0.012 (0.36)	0.009 (0.27)	0.012 (0.37)	0.011 (0.35)	0.011 (0.37)
Tangibility	0.031 (1.02)	0.037 (1.21)	0.040 (1.26)	0.039 (1.27)	0.039 (1.26)
Leverage	0.012 (1.38)	0.014 (1.50)	0.014 (1.54)	0.012 (1.32)	0.014 (1.54)
ROA	0.026 (1.01)	0.028 (1.09)	0.029 (1.13)	0.029 (1.14)	0.027 (1.09)
Tobin's <i>q</i>	-0.007 (-0.90)	-0.007 (-0.89)	-0.007 (-0.87)	-0.006 (-0.85)	-0.006 (-0.86)
GPIF Ownership					0.025 (0.42)
Firm $\times$ Cohort FE	Yes	Yes	Yes	Yes	Yes
Time $\times$ Cohort FE	Yes	Yes	Yes	Yes	Yes
N	1,821	1,864	1,864	1,864	1,864
Adjusted <i>R</i> ²	0.978	0.977	0.977	0.977	0.977

Table 7
WIN Inclusion and Institutional Ownership

This table shows regression estimates of measures of institutional ownership (in percent) on $WIN \times Post$ and control variables. The dependent variables are *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). *WIN* is a dummy variable equal to one if the firm is included in the MSCI 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, 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 *p*-values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

	Institutional Ownership	Domestic Institutional Ownership	GPIF Ownership
	(1)	(2)	(3)
WIN $\times$ Post	3.417** (0.03)	5.312*** (0.01)	0.550** (0.05)
Log (Total Assets)	2.085 (0.14)	-1.825 (0.29)	-0.167 (0.73)
Cash	-0.062 (0.99)	-3.743 (0.33)	-0.363 (0.54)
Tangibility	-20.224** (0.01)	-16.327* (0.09)	-4.543*** (0.00)
Leverage	-7.304* (0.09)	6.359 (0.22)	-1.180 (0.13)
ROA	-10.768 (0.43)	-28.113* (0.09)	0.778 (0.72)
Tobin's <i>q</i>	1.716** (0.02)	0.990 (0.22)	-0.378 (0.17)
Firm FE	Yes	Yes	Yes
Time FE	Yes	Yes	Yes
N	3,865	3,865	3,865
Adjusted <i>R</i> ²	0.808	0.772	0.855

Table 8
Stock Market Reactions

This table shows cumulative abnormal returns around the MSCI Japan Empowering Women Index (WIN) rebalancing announcements and effective dates for inclusions and exclusions in the WIN. MSCI communicates the WIN constituents generally nine business days before the rebalancing dates. Recent press releases show that MSCI announced the new WIN members up to seven business days before the rebalancing date. We define the announcement date window as $[-11; -5]$ and the effective rebalancing date window as $[-2; +2]$, where $t=0$ is the effective rebalancing date. Abnormal returns are computed as market-model residuals. The model parameters are estimated using daily returns over the $[-250; -20]$ period prior to the effective rebalancing dates, and benchmark returns are measured with total returns of the TOPIX. The sample consists of five semi-annual rebalancing events of the WIN index from 2017 to 2019. The data are from MSCI and Datastream. KP-adjusted BMP test statistics are used for means (Boehmer, Masumeci, and Poulsen, 1991; Kolari and Pynnönen, 2010) and Wilcoxon signed-rank tests for medians. p -values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

	Window Relative to the Effective Rebalancing Date	Cumulative Abnormal Return (CAR)	
		Mean	Median
	(1)	(2)	(3)
A. Additions			
Announcement	$[-11; -5]$	0.616%** (0.03)	0.314%** (0.02)
Effective	$[-2; +2]$	0.459% (0.11)	0.340%*** (0.01)
Combined	$[-11; +2]$	1.187%*** (0.01)	0.678%*** (0.00)
B. Exclusions			
Announcement	$[-11; -5]$	-0.930% (0.23)	-0.652%** (0.04)
Effective	$[-2; +2]$	0.037% (0.98)	-0.079% (0.73)
Combined	$[-11; +2]$	-0.925% (0.23)	-0.099% (0.13)

Appendix A Variable Definitions

This table shows variable descriptions and data sources.

Variables	Description
A. Firm Characteristics	
Total Assets	Total assets (in Billion ¥). <i>Source:</i> Worldscope.
Cash	Cash and short-term investments divided by total assets. <i>Source:</i> Worldscope.
Tangibility	Net property, plant, and equipment divided by total assets. <i>Source:</i> Worldscope.
Leverage	Total debt divided by total assets. <i>Source:</i> Worldscope.
ROA	Return on assets. <i>Source:</i> Worldscope.
Tobin's q	Market value of equity plus book value of debt divided by total book assets. <i>Source:</i> Worldscope.
Institutional Ownership	Fraction of shares held by institutional investors. <i>Source:</i> Bloomberg.
Domestic Institutional Ownership	Fraction of shares held by domestic institutional investors. <i>Source:</i> Bloomberg.
GPIF Ownership	Fraction of shares held by the Government Pension Investment Fund of Japan. <i>Source:</i> GPIF.
B. Employment Characteristics	
Women in the Workforce	The number of women employees divided by the number of total employees. <i>Source:</i> Toyo Keizai.
Women to Men in the Workforce	The number of women employees divided by the number of men employees. <i>Source:</i> Toyo Keizai.
Change in Women Employees	Change in the number of women employees divided by the lagged number of all employees (or women employees). <i>Source:</i> 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. <i>Source:</i> Toyo Keizai.
Women in the Workforce by Positions	
Non-Management	Number of women in non-supervisory and non-management positions divided by the number of all non-management employees. <i>Source:</i> Toyo Keizai.
General Management	Number of women with a general management position divided by the number of all general managers. <i>Source:</i> Toyo Keizai.
Executives	Number of women executive officers divided by the number of all executives. <i>Source:</i> Toyo Keizai.
Board	Number of women directors on the board of directors divided by the number of all board members. <i>Source:</i> Toyo Keizai.
Overtime Hours	Average number of overtime working hours per employee and month. <i>Source:</i> Toyo Keizai.
Overtime Pay	Average overtime pay per employee and month (in Thousand ¥). <i>Source:</i> Toyo Keizai.
Women Taking Maternity Leave	Number of women employees taking maternity leave divided by the number of women employees under the age of 40. <i>Source:</i> Toyo Keizai.
Men Taking Paternity Leave	Number of men employees taking paternity leave divided by the number of men employees under the age of 40. <i>Source:</i> 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 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 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 *p*-values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

	WIN			
	(1)	(2)	(3)	(4)
Ranked	0.925*** (0.00)	0.937*** (0.00)		
Quartile 2			0.016** (0.01)	0.025*** (0.00)
Quartile 3			0.933*** (0.00)	0.944*** (0.00)
Quartile 4			0.933*** (0.00)	0.955*** (0.00)
Log (Total Assets)		-0.024*** (0.00)		-0.025*** (0.00)
Cash		-0.039 (0.42)		-0.035 (0.47)
Tangibility		-0.000 (1.00)		-0.001 (0.98)
Leverage		-0.002 (0.96)		-0.003 (0.95)
ROA		0.140 (0.13)		0.150 (0.12)
Tobin's <i>q</i>		0.001 (0.89)		0.000 (0.99)
Industry FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
N	1,717	1,717	1,717	1,717
Adjusted <i>R</i> ²	0.865	0.867	0.865	0.868

Table B2
Alternative Control Groups

This table shows regression estimates of measures of corporate gender diversity on *Near-cutoff* $\times$ *Post*, control variables, and firm $\times$ cohort and year $\times$ cohort fixed effects. The dependent variables are *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 create cohorts for the years 2018 and 2019 and then stack the cohorts (Baker, Larcker, and Wang; 2022; Gormley and Matsa, 2011). We follow MSCI's index methodology, for each year after the inception of the WIN, we rank firms within their GICS sector by their MSCI Gender Diversity Score. Near-cutoff firms are those ranked 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 the 10th percentile or above the 60th and below the 90th percentile of the distribution of the Gender Diversity Score. *Post* is a dummy variable equal to one for treatment years, and zero otherwise. All 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 clustered by firm and time, and *p*-values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

	Women in the Workforce		Women to Men in the Workforce	
	(1)	(2)	(3)	(4)
Near-cutoff $\times$ Post	0.004** (0.03)	0.004** (0.04)	0.011** (0.05)	0.012* (0.08)
Log (Total Assets)		0.005 (0.36)		0.000 (0.99)
Cash		0.039 (0.19)		0.167* (0.08)
Tangibility		0.063** (0.04)		0.268*** (0.00)
Leverage		0.022** (0.04)		0.109*** (0.00)
ROA		0.042 (0.19)		0.127 (0.12)
Tobin's <i>q</i>		-0.010 (0.11)		-0.049 (0.13)
Firm $\times$ Cohort FE	Yes	Yes	Yes	Yes
Time $\times$ Cohort FE	Yes	Yes	Yes	Yes
N	3,216	3,187	3,216	3,187
Adjusted <i>R</i> ²	0.974	0.974	0.947	0.949

Table B3
Pooled Sample

This table replicates the specifications of Table 2 using a difference-in-differences approach with a pooled sample. It shows regression estimates of measures of corporate gender diversity on *Near-cutoff* $\times$ *Post*, control variables, and firm and year fixed effects. The dependent variables are *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 the MSCI 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. Near-cutoff firms are those ranked 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 ranked below the 40th and above the 10th percentile of the distribution of the Gender Diversity Score. *Post* is a dummy variable equal to one for treatment years, and zero otherwise. All 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 clustered by firm and time, and *p*-values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

	Women in the Workforce		Women to Men in the Workforce	
	(1)	(2)	(3)	(4)
Near-cutoff $\times$ Post	0.007*** (0.01)	0.007** (0.01)	0.021*** (0.01)	0.021** (0.02)
Log (Total Assets)		-0.000 (0.95)		-0.008 (0.70)
Cash		0.003 (0.95)		0.129 (0.36)
Tangibility		0.021 (0.60)		0.137 (0.20)
Leverage		0.017 (0.27)		0.059* (0.10)
ROA		0.018 (0.56)		0.080 (0.50)
Tobin's <i>q</i>		-0.010 (0.36)		-0.055 (0.33)
Firm FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
N	1,183	1,174	1,183	1,174
Adjusted <i>R</i> ²	0.972	0.972	0.928	0.929

Table B4
Controlling for Institutional Ownership Effects

This table shows various robustness tests considering the effects of institutional ownership. Panel A displays regression estimates of measures of corporate gender diversity on *Near-cutoff* $\times$ *Post* while controlling for measures of institutional ownership. Panel B shows regression estimates of measures of corporate gender diversity on *Near-cutoff* $\times$ *Post* while dropping any firms that are eventually included in the WIN. All regressions include control variables and firm $\times$ cohort and year $\times$ cohort fixed effects. The dependent variables are *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 create cohorts for the years 2018 and 2019 and then stack the cohorts (Baker, Larcker, and Wang; 2022; Gormley and Matsa, 2011). We follow MSCI's index methodology, for each year after the inception of the WIN, we rank firms within their GICS sector by their MSCI Gender Diversity Score. Near-cutoff firms are those ranked 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 ranked below the 40th and above the 10th percentile of the distribution of the Gender Diversity Score. *Post* is a dummy variable equal to one for treatment years, and zero otherwise. *Institutional Ownership* is measured with the fraction of shares held by institutional investors, and *Future Institutional Ownership* is measured with one-year-ahead institutional ownership. All 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 clustered by firm and time, and *p*-values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

Panel A: Controlling for Institutional Ownership

	Women in the Workforce		Women to Men in the Workforce	
	(1)	(2)	(3)	(4)
Treated $\times$ Post	0.006*** (0.00)	0.006*** (0.00)	0.016*** (0.00)	0.016*** (0.01)
Institutional Ownership	0.033*** (0.00)		0.081** (0.03)	
Future Institutional Ownership		0.019*** (0.01)		0.047** (0.04)
Log (Total Assets)	0.003 (0.60)	0.004 (0.47)	0.002 (0.89)	0.005 (0.77)
Cash	0.007 (0.84)	0.010 (0.77)	0.108 (0.27)	0.116 (0.25)
Tangibility	0.041 (0.22)	0.040 (0.23)	0.162* (0.07)	0.159* (0.07)
Leverage	0.017* (0.08)	0.012 (0.21)	0.067** (0.01)	0.054** (0.04)
ROA	0.032 (0.22)	0.030 (0.27)	0.092 (0.38)	0.087 (0.42)
Tobin's <i>q</i>	-0.008 (0.33)	-0.007 (0.40)	-0.036 (0.36)	-0.034 (0.39)
Firm $\times$ Cohort FE	Yes	Yes	Yes	Yes
Time $\times$ Cohort FE	Yes	Yes	Yes	Yes
N	1,834	1,834	1,834	1,834
Adjusted <i>R</i> ²	0.977	0.977	0.947	0.946

Panel B: Dropping WIN Firms

	Women in the Workforce	Women to Men in the Workforce
	(1)	(2)
Treated $\times$ Post	0.008*** (0.01)	0.020** (0.03)
Log (Total Assets)	0.005 (0.40)	0.002 (0.90)
Cash	0.004 (0.93)	0.107 (0.41)
Tangibility	0.027 (0.43)	0.117 (0.21)
Leverage	0.014 (0.36)	0.057* (0.07)
ROA	0.038 (0.21)	0.082 (0.42)
Tobin's q	-0.013 (0.22)	-0.053 (0.32)
Firm $\times$ Cohort FE	Yes	Yes
Time $\times$ Cohort FE	Yes	Yes
N	1,292	1,292
Adjusted R^2	0.975	0.927

Table B5
WIN Inclusion Incentives and ESG Performance

This table shows regression estimates of measures of firms' ESG performance on *Near-cutoff* $\times$ *Post*, control variables, and firm $\times$ cohort and year $\times$ cohort fixed effects. The dependent variables are the overall ESG scores obtained from MSCI and LSEG (formerly Refinitiv and Thomson Reuters). The MSCI score ranges from 0 to 10, and the LSEG score from 0 to 100, with higher values indicating better ESG performance. We create cohorts for the years 2018 and 2019 and then stack the cohorts (Baker, Larcker, and Wang; 2022; Gormley and Matsa, 2011). We follow MSCI's index methodology, for each year after the inception of the WIN, we rank firms within their GICS sector by their MSCI Gender Diversity Score. Near-cutoff firms are those ranked 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 ranked below the 40th and above the 10th percentile of the distribution of the Gender Diversity Score. *Post* is a dummy variable equal to one for treatment years, and zero otherwise. All 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, Worldscope, and LSEG. All continuous variables are winsorized at the 1st and 99th percentiles. All right-hand side variables are lagged by one year. Standard errors are clustered by firm and time, and *p*-values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

	MSCI ESG Score	LSEG ESG Score
	(1)	(2)
Near-cutoff $\times$ Post	0.039 (0.44)	0.670 (0.35)
Log (Total Assets)	-0.492** (0.04)	2.037 (0.49)
Cash	0.252 (0.59)	4.637 (0.47)
Tangibility	-1.778*** (0.01)	13.213 (0.23)
Leverage	0.041 (0.94)	-2.938 (0.70)
ROA	-0.078 (0.90)	4.459 (0.57)
Tobin's <i>q</i>	0.240*** (0.00)	0.671 (0.61)
Firm $\times$ Cohort FE	Yes	Yes
Time $\times$ Cohort FE	Yes	Yes
N	1,489	1,343
Adjusted <i>R</i> ²	0.773	0.898

Table B6
WIN Inclusion and Firms' Operating Performance

This table shows regression estimates of measures of firms' operating performance on $WIN \times Post$ and control variables. We measure a firm's operating 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), and *Productivity* (natural logarithm of the ratio of sales to net PP&E). *WIN* is a dummy variable equal to one if the firm is included in the MSCI 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 *p*-values are reported in parentheses. *, **, and *** indicate significance at 10%, 5%, and 1%, respectively.

	Operating Income	Sales	Sales Growth	Productivity
	(1)	(2)	(3)	(4)
WIN $\times$ Post	-0.004 (0.29)	-0.005 (0.60)	0.004 (0.50)	-0.031 (0.22)
Log (Total Assets)	-0.020 (0.27)	-0.064* (0.09)	-0.127*** (0.00)	-0.214** (0.02)
Cash	0.058 (0.10)	-0.159*** (0.00)	-0.097 (0.27)	0.135 (0.41)
Tangibility	-0.047** (0.03)	0.006 (0.90)	-0.045 (0.53)	-0.951*** (0.01)
Leverage	-0.094*** (0.00)	-0.281*** (0.00)	0.187** (0.02)	-0.192 (0.14)
Firm FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
N	3,835	3,977	3,976	3,977
Adjusted R^2	0.914	0.968	0.341	0.975

about ECGI

The European Corporate Governance Institute has been established to improve *corporate governance through fostering independent scientific research and related activities*.

The ECGI will produce and disseminate high quality research while remaining close to the concerns and interests of corporate, financial and public policy makers. It will draw on the expertise of scholars from numerous countries and bring together a critical mass of expertise and interest to bear on this important subject.

The views expressed in this working paper are those of the authors, not those of the ECGI or its members.

ECGI Working Paper Series in Finance

Editorial Board

Editor	Nadya Malenko, Professor of Finance, Boston College
Consulting Editors	Renée Adams, Professor of Finance, University of Oxford Franklin Allen, Nippon Life Professor of Finance, Professor of Economics, The Wharton School of the University of Pennsylvania Julian Franks, Professor of Finance, London Business School Mireia Giné, Associate Professor, IESE Business School Marco Pagano, Professor of Economics, Facoltà di Economia Università di Napoli Federico II
Editorial Assistant	Asif Malik, Working Paper Series Manager

Electronic Access to the Working Paper Series

The full set of ECGI working papers can be accessed through the Institute's Web-site (www.ecgi.global/content/working-papers) or SSRN:

Finance Paper Series	http://www.ssrn.com/link/ECGI-Fin.html
Law Paper Series	http://www.ssrn.com/link/ECGI-Law.html