

Empower Women by Index Membership: Evidence from a Unique Japanese Experiment

Vikas Mehrotra | Lukas Roth | Yusuke Tsujimoto | Yupana Wiwattanakantang



GCGC Conference, Seoul National University

June 15, 2023

The focus of the paper:



The role of **finance** in improving corporate sustainability.



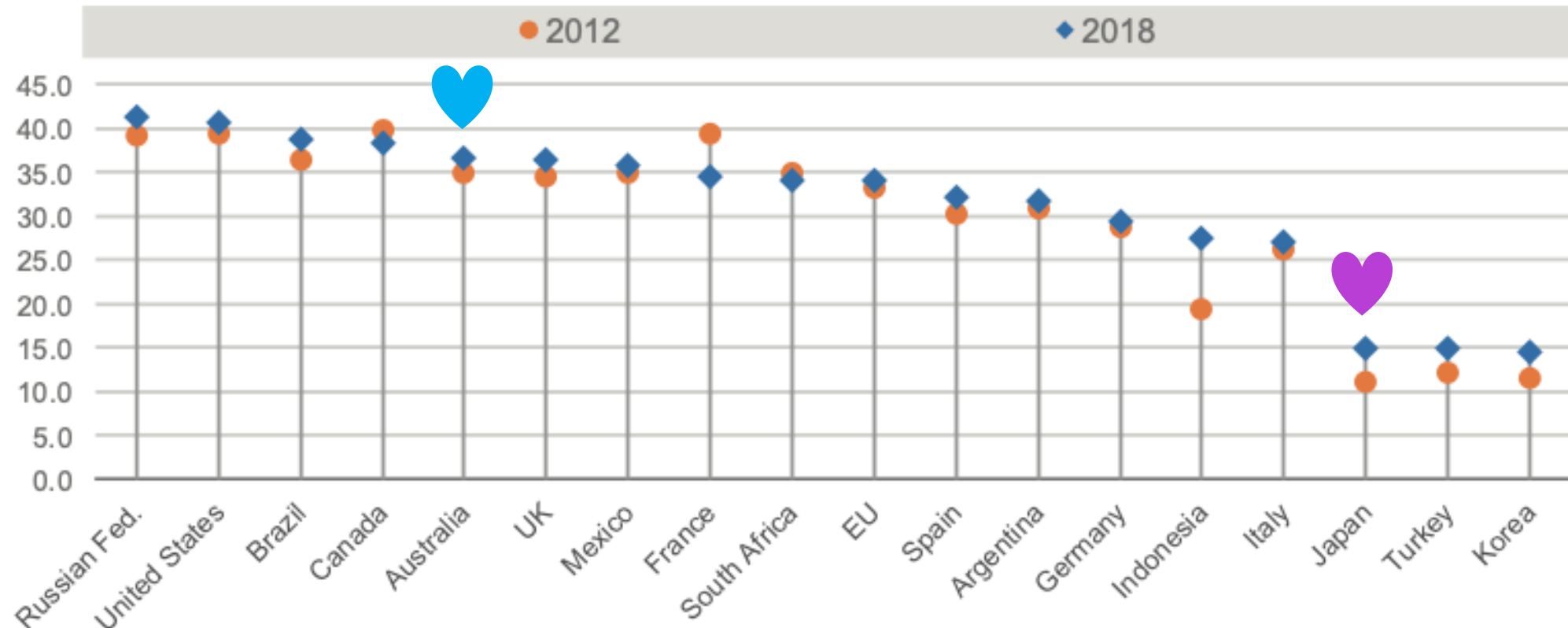
Can finance (via creating a Women index) help empower women in the workforce?

Why studying gender diversity in Japan?



G20: Women's share of employment in managerial jobs: 2012 & 2018

Women in leadership roles are still rare in many countries.

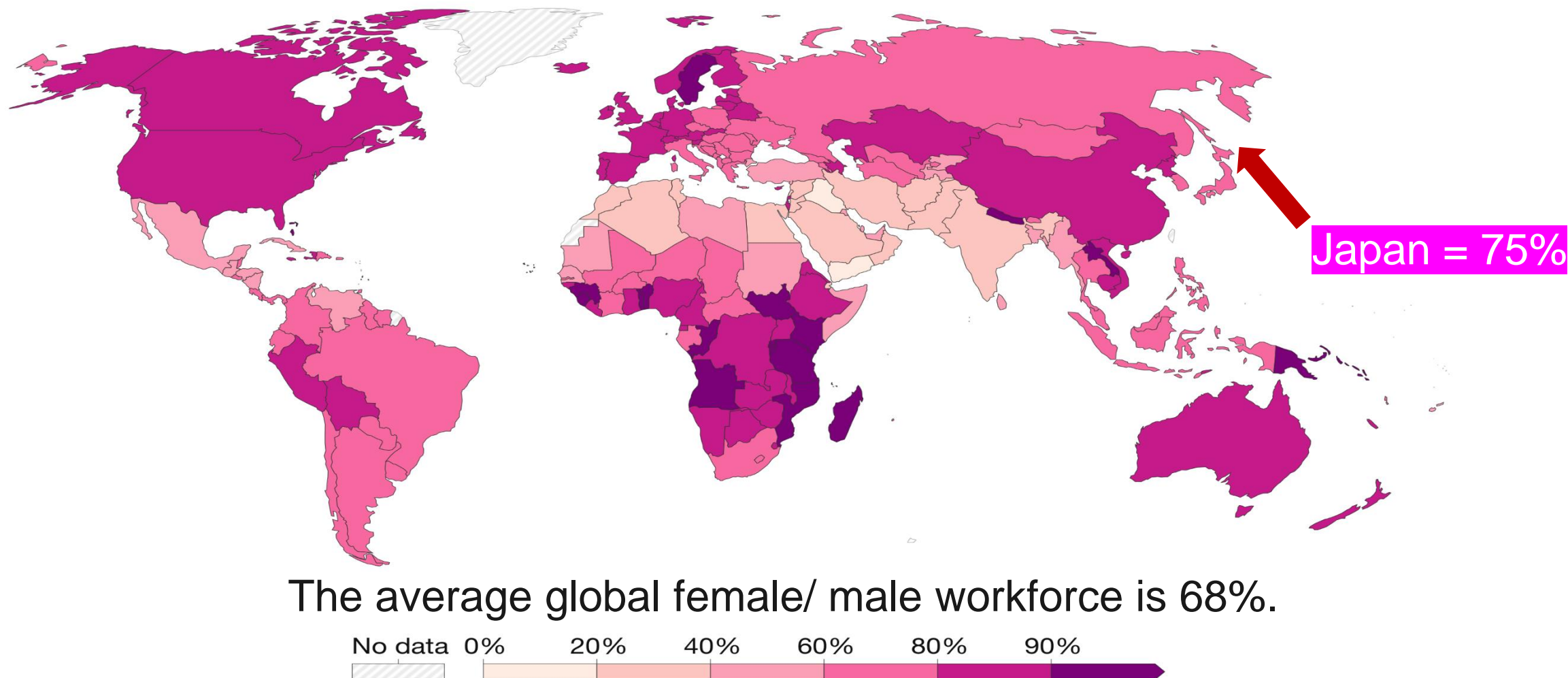


Note: 2012 refers to 2013 for Korea and Mexico. 2018 refers to 2017 for Canada and Russia. Because of breaks in the series, the change in the shares between 2012 and 2018 should be interpreted with caution in France, Indonesia and Russia.

Source: ILOSTAT and OECD estimates based on national labour force surveys.

Ratio of female to male labor force participation rates, 2021

This ratio is calculated by dividing the labor force participation rate among women, by the corresponding rate for men. The labor force participation rate is the proportion of the population aged 15 years and older that is economically active.



UN SDGs call for greater gender equality

- **Gender gaps in the workforce is an emerging crisis.**
 - The global labore force participation rate for women is just over 50%, compared to 80% for men.
 - Women are less likely to work in formal employment and have fewer opportunities for business expansion or career progression (World Economic Forum, Global Gender Gap Report 2022).
- “It will take another 132 years to achieve gender equality based on the current rate of progress.” (World Economic Forum, 2022, Global Gender Gap Report 2022, p.5).

“It will take another 100 years to achieve gender equality based on the current rate of progress.”
(World Economic Forum, 2020, Global Gender Gap Report 2020)

Gender Diversity in the Workforce: The “women helping women” effect

There is a positive externality of having women in leadership on the labour market outcomes.

- **Mitigate discrimination in resources allocation** (e.g., Egan, Matvos and Seru 2022).
- **The role models:** Seeing successful women may lessen stereotype threat (Kunze and Miller, 2017); change women’s beliefs about the likelihood of internal promotion. (Tate and Yang, 2015).
- **Trickle-down effect in hiring:** Firms with female directors are more likely to recruit female executives (Matsa and Miller, 2001).
- **Better pay:** Women top executives earn more in female-led firms (Bell, 2005; Matsa and Miller, 2011; Tate and Yang, 2015).
- **Cultivating more female-friendly corporate culture** which promotes the attractiveness of the firm for women.
 - Instituting family-friendly workplace policies (FFWP), e.g., onsite day care, working schedule flexibility, childcare flexibility, childcare subsidy, WfH, paid parental leave, etc.(e.g., (Tate and Yang, 2015).

How to improve gender diversity in workforce?

- As a start towards gender equality, **how to improve workforce gender diversity in a corporation?**
 - At all levels; entry, management, and top executive positions.

Some plausible channels to improve firms' gender diversity

- **Institutions** enhancing female friendly working environments
 - Better childcare systems, flexible work policies, part time job opportunities, paid maternity/ paternity leaves.
- **Changing social norms:** Society pushes firms to consider diversity.
- **Investor demand for diversity:** Big 3, Norges Bank Investment Management
- **Laws and regulation**
 - Law mandates gender equality (e.g., hiring, pay.), pay gap disclosure, etc.
 - Quotas: Female director quotas have been implemented in many countries.
 - Trickle-down effect is expected.
 - Likely challenging to implement gender quotas on the entire workforce.



Japanese Corporate Culture

Women talk too much and are unproductive.



Major challenges: Status quo habits or corporate culture are difficult to change. Perhaps some external nudge (a catalyst) may expedite change (e.g., Thaler and Sunstein, 2008).

Ex PM Yoshiro Mori, Tokyo Olympic Chief, addressed efforts to increase female representation on the Olympic panel by expressing concern that women would make its meetings get longer.



Japan implemented a capital market channel to make “women shrine” (Womenomics Policy, 2013).

Government Pension Investment Fund (GPIF)



Wake up the sleepy & passive fund giant with USD\$1.2T assets under management.

May 2014: GPIF initiated the policy with strong commitments to [investor stewardship](#) and [ESG](#)

Nov 2014: Appointment a new MD, who soon acted like an ESG activist.

2015:

- Established “Investment Principles” → Stewardship activities in investment (March)
- Signed the UN Principles for Responsible Investment (PRI) in September
- Joined the diversity movement: the UK 30% Club (Nov 2016) & the US Thirty Percent Coalition (2019).

2017:

- Established “Stewardship Principles” and “Proxy Voting Principles.”
→ Requested compliance from asset managers for equity investment.
- Revised its Investment Principles in October.
 - “4. By fulfilling our stewardship responsibilities (including the consideration of ESG (Environmental, Social, and Governance) factors), we shall continue to maximize medium- to long-term investment returns for the benefit of pension recipients.”

Japan's giant Government Pension Investment Fund signs up to PRI

Move will impact external managers of world's largest pension fund

Vibeka Mair - 28 September 2015

Share A+ 100%



Government Pension Investment Fund



Japan's Prime Minister Shinzō Abe announced this weekend that the country's \$1.2trn (€1trn) Government Pension Investment Fund, the largest asset owner in the world, has signed up to the United Nations-supported Principles for Responsible Investment (PRI) – the move will mean it will ask its external managers whether they are

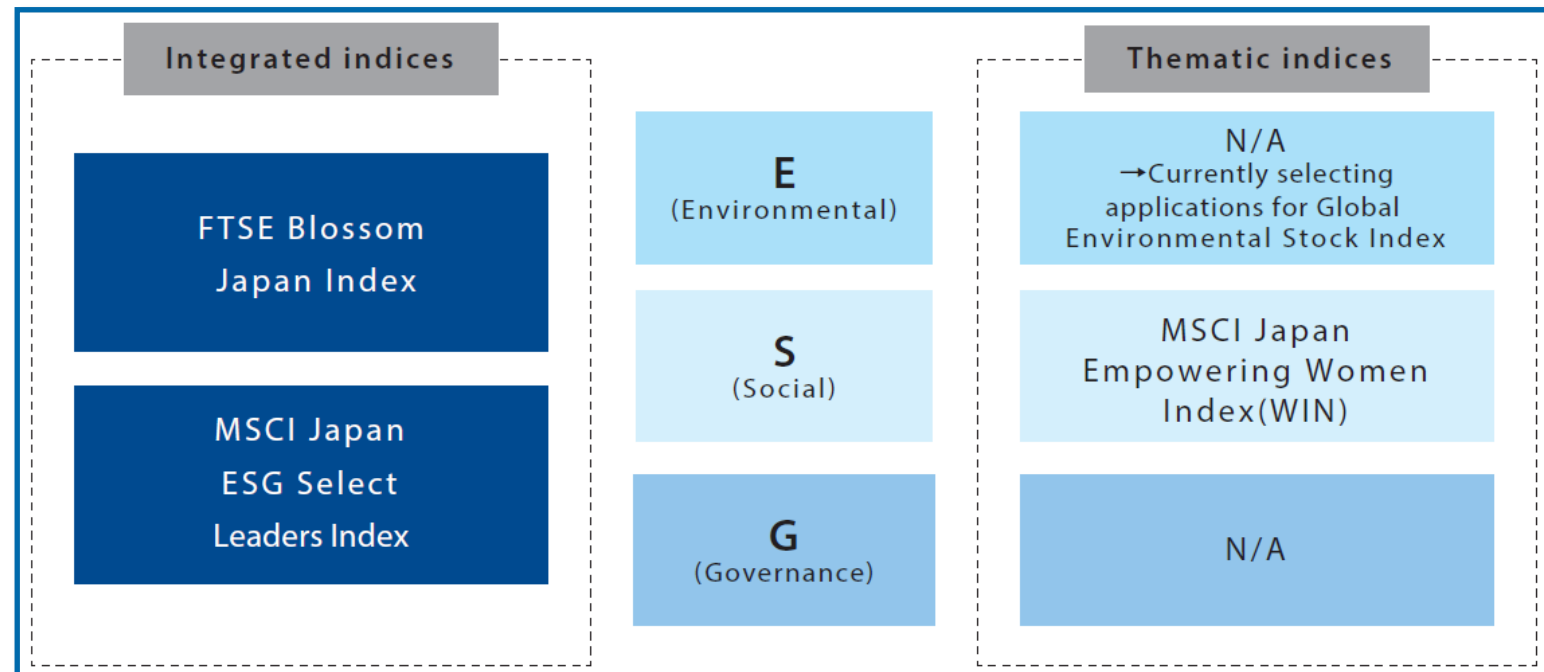
also signed up.

The fund has a large number of external investment managers including a host of the world's largest international asset managers such as Invesco Asset Management, Goldman Sachs Asset Management, Schroder Investment Management, BlackRock, State Street Global Advisors and PIMCO to name a few. It also has assets with leading domestic players too.

GPIF (with \$1.2 T fund) advocates for ESG has a big impact on other institutional investors to incorporate ESG in their investment.

Government Pension Investment Fund calls for ESG indices

- July - Sept 2016: GPIF calls for ESG indices of Japanese equities
 - 14 companies proposed 27 indices
- July 2017: **3 Indices were launched.**



“GPIF expects that the selected ESG indices incentivize Japanese companies to improve their ESG evaluations and enhance enterprise values in the long term.”

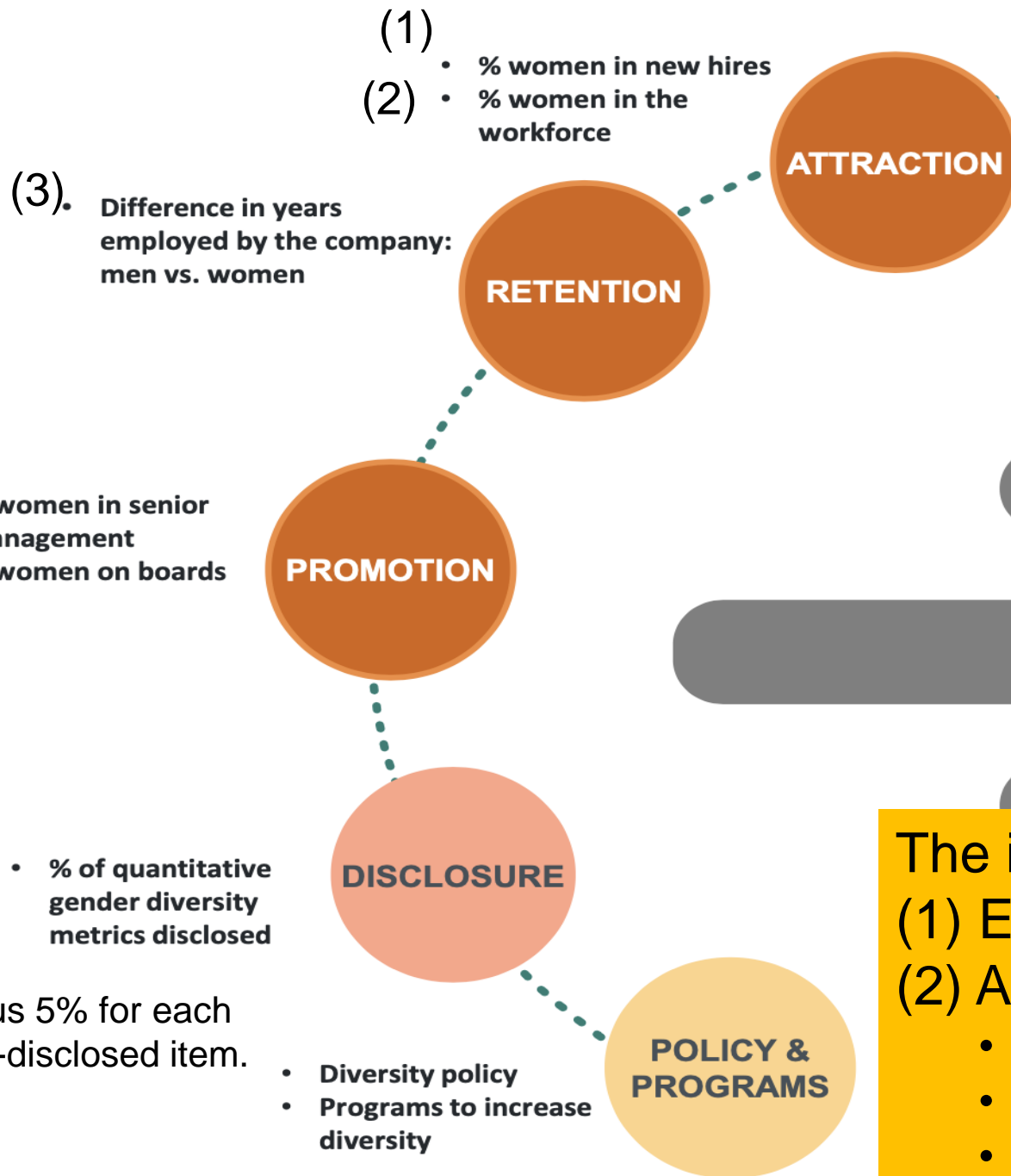
The MSCI Empower Women Index (WIN index)

- The WIN index aims to include companies that lead their respective GICS sector groups in terms of **supporting women's participation and advancement in the workforce and adopting diversity policies** → or Gender Diversity Score.
- **Universe:** MSCI Japan IMI Top 500 (revised to Top 700 in Nov 2019; ranked by free float market cap)
- **Inclusion:** Companies that are ranked in the top half of their respective GICS sector based on the MSCI **Gender Diversity Score**
 - Companies with ESG controversies/ missing data are excluded
- **Number of index members:** 212 (expanding to 297 in Nov 2020)
- **Rebalancing:** Beginning of May and November

MSCI gender diversity assessment framework

The intention to promote diversity

- (1) Explicit quantitative diversity targets
- (2) At least 2 policies with material benefits, e.g.,
 - Paid maternity / parental leaves
 - Childcare services
 - Flexible working hours



[Targets and examples of key initiatives to promote women's participation]

1. Creation and implementation of a General Employers Action Plan based on the Act on Promotion of Women's Participation

During the three years from April 1, 2021, to March 31, 2024, the company will work on the following two targets.


- (1). Increase the ratio of female assistant managers (pre-management) to 15 percent
- (2). Increase the rate of male employees taking childcare leave to 10 percent or more (per annum)

2. Support to balance work and child/nursing care

Promote an environment in which diverse employees can demonstrate their abilities to the fullest, by introducing flextime and remote work programs in addition to systems supporting child and nursing care. Also established in-house daycare facilities, support desk which employees can consult how to balance their work and life, and more.

MSCI gender diversity assessment framework & Score

A metrics score is 0 to 10, which 10 indicates the best performance.

Gender Diversity Score (GDS)		
Performance Score (weight: 75%)		Practices Score (weight: 25%)
Interim Performance Score:  <i>Average of 5 performance metrics score</i>	Disclosure Discount: <i>Deduction to Interim Performance Score based on availability of 5 metrics</i>	Practices Score: <i>Average of 2 policies and programs metrics scores</i>

Research Question

- Can specifically crafted equity indices (here: WIN index) bring about **real changes in corporate social behavior**?
- I. Greater gender diversity performance**
- 1.1 Women in the workforce
 - Number of female/ total employees, The ratio of female/ male employees
 - 1.2 Women in leadership
 - General management, Executive officers, and Board of directors
- II. More female (or family) friendly corporate culture**
- Shorter overtime (OT): Number of Overtime (OT) hours & OT pay
 - Employees taking paid parental leave:
 - Proportion of male & female taking leaves

Do firms care to be on the WIN Index?

Panasonic's 'External Recognition' webpage (Nov 2017)

MSCI ESG Indexes

Panasonic Corporation has been a constituent of the MSCI ESG Leaders Indexes (formerly MSCI Global Sustainability Indexes), one of the world's leading indexes for ESG investment that values enterprises focusing on environmental, social and governance factors, for 7th consecutive years. The company has been also named to the MSCI SRI Indexes (formerly MSCI Global SRI Indexes) for 6th consecutive years. These are the indexes of MSCI Inc. of the United States.

In addition to the above, Panasonic has become a constituent of the MSCI Japan ESG Select Leaders Index and the MSCI Japan Empowering Women Index (WIN) since their inception in July 2017.

[MSCI website](#)



2017 Constituent
MSCI ESG
Leaders Indexes



2017 Constituent
MSCI SRI Indexes



2017 Constituent
MSCI Japan ESG
Select Leaders Index



2017 Constituent
MSCI Japan Empowering
Women Index (WIN)

Mitsubishi Motors Added to the MSCI Japan Empowering Women Index (WIN) for Five Consecutive Years

PUBLISHED

JUL 19, 2022 5:09AM EDT



TOKYO, Jul 19, 2022 - (JCN Newswire) - - Mitsubishi Motors Corporation has been added for five consecutive years to the MSCI Japan Empowering Women Index (WIN) in recognition of the company's initiatives in promoting women's participation. WIN was developed by Morgan Stanley Capital International (MSCI) for environmental, society and governance (ESG) investing.

WIN selects companies that demonstrate gender diversity and are expected to grow sustainably in a long term for its index by scoring from disclosed information based on the Act on Promotion of Women's Participation and Advancement in the Workplace, on initiatives aimed at hiring of women, their ratio of management positions, and diversity. The index has been adopted as one of the indexes for ESG investing by the Government Pension Investment Fund (GPIF).

Incentives: Why do firms care to be on the WIN Index?

❖ Visibility to “Social” Investors

- Increasing in institutional investor attention for firms with greater social performance (Bialkowski and Starks, 2016, Heath et al., 2021).
- The MSCI WIN index firms have the gender diversity status, which is certified by GPIF and MSCI.
- **WIN investments by the influencers: GPIF & the Bank of Japan.** BOJ invests in WIN as part of the list of “ETFs to Support Firms Proactively Investing in Physical and Human Capital.”
- ❑ Win firms might attract diversity/ ESG-focused funds and lead to greater institutional investor ownership, in particular GPIF.
- **Benefits:** Institutional investor ownership might lead to a higher liquidity, lower cost of capital, or better governance (e.g., Pastor, Stambaugh, and Taylor, 2021; Liang and Vansteenkiste, 2022 on Norges Bank Investment Management).

The Empirical Analysis

Our experiment

- We examine firms' gender diversity performance of treated vs. control firms before and after their WIN inclusion (diff-in-diff).
- **Treated firms**: Firms around the inclusion threshold [0.4;0.6].
- **Control firms**: Firms farther away from inclusion threshold [0.1;0.4].
- Identification assumption
 - Tournament-like structure
 - Firms around the threshold have an incentive to improve their gender diversity performance to be included in the WIN index at the next rebalancing date.
 - Firms farther away from the threshold have little chance of being included.

Our identification strategy

- For each GICS sector, we rank firms based on their MSCI Gender Diversity Score (GDS)
- Example: GICS Sector **Health Care**, Dec 2019

Company	GDS	Relative Rank	WIN Predicted
[...]			
MEDIPAL HOLDINGS CORP	7.00	0.65	1
NIPPON SHINYAKU CO	6.97	0.63	1
MITSUBISHI TANABE PHARMA	6.70	0.60	1
CHUGAI PHARMACEUTICAL CO	6.70	0.58	1
HOYA CORP	6.68	0.56	1
M3	6.62	0.54	1
KAKEN PHARMACEUTICAL CO	6.58	0.52	1
TAISHO PHARM HOLDINGS CO	6.53	0.50	0
SOSEI GROUP CORP	6.38	0.48	0
TERUMO CORP	6.10	0.46	0
PARAMOUNT BED HLDGS CO	5.92	0.44	0
NIHON KOHDEN CORP	5.78	0.42	0
TSUMURA & CO	5.70	0.40	0
SUZUKEN CO	5.42	0.38	0
OLYMPUS CORP	5.35	0.35	0
ONO PHARMACEUTICAL CO	5.33	0.33	0
MOCHIDA PHARMACEUTICAL	5.22	0.31	0
AS ONE CORP	5.17	0.29	0
TOHO HLDGS CO	5.03	0.27	0
HISAMITSU PHARMACEUTICAL	4.80	0.25	0
KISSEI PHARMACEUTICAL CO	4.12	0.23	0
KYORIN HOLDINGS	4.00	0.21	0
PEPTIDREAM	3.87	0.19	0
MENICON	3.60	0.17	0
JAPAN LIFELINE CO	3.27	0.15	0
HOGY MEDICAL CO	2.86	0.13	0
ASAHI INTECC CO	2.83	0.10	0
NIPRO CORP	1.60	0.08	0
NAKANISHI	1.25	0.06	0
[...]			

Cutoff (GICS median) = 6.55

Treated [0.4;0.6]

Diff-in-diff
Treated vs. Control
before & after
WIN inclusion

Control [0.1;0.4)

Data

- ❖ **Period:** Pre WIN Index period (2014 – 2016) vs Post WIN Index period (2018 -2019)
- MSCI:
 - MSCI Japan IMI Membership (Top 500 & Top 700)
 - MSCI Gender Diversity Score (GDS)
- Toyo Keizai CSR Annual Survey Data
 - CSR Workforce
 - Rich coverage of Japanese firms' workforce characteristics
- Worldscope, Datastream, Bloomberg
 - Financial data

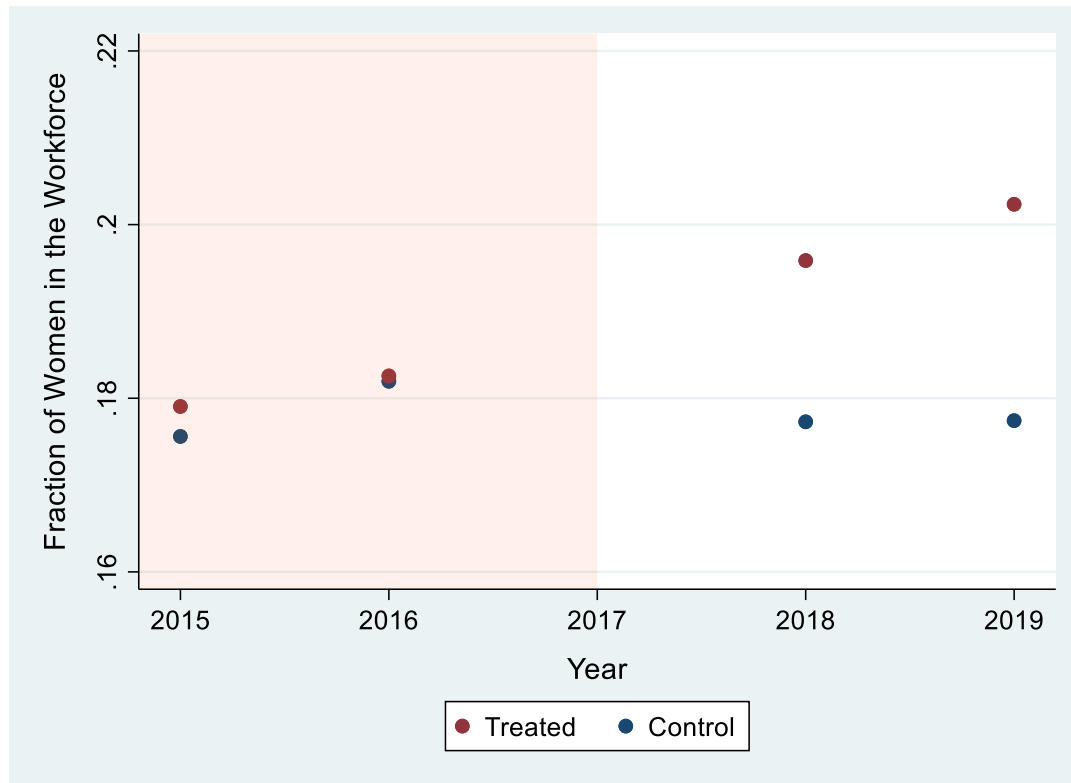
Summary statistics: Full Sample (2013 – 2020)

	Mean	Median	SD
Fraction of Women in the Workforce	0.18	0.14	0.112
Ratio of Women to Men Employees	0.25	0.162	0.238
Fraction of Women in Workforce in:			
(1) Board (<i>torishimari yaku & kansa yaku</i>)	0.04	0	0.063
(2) Executives (<i>shikko-yakuin</i>)	0.009	0	0.027
(3) General Management (<i>kanri-shoku</i>)	0.044	0.026	0.052
(4) Non Management	0.232	0.179	0.16

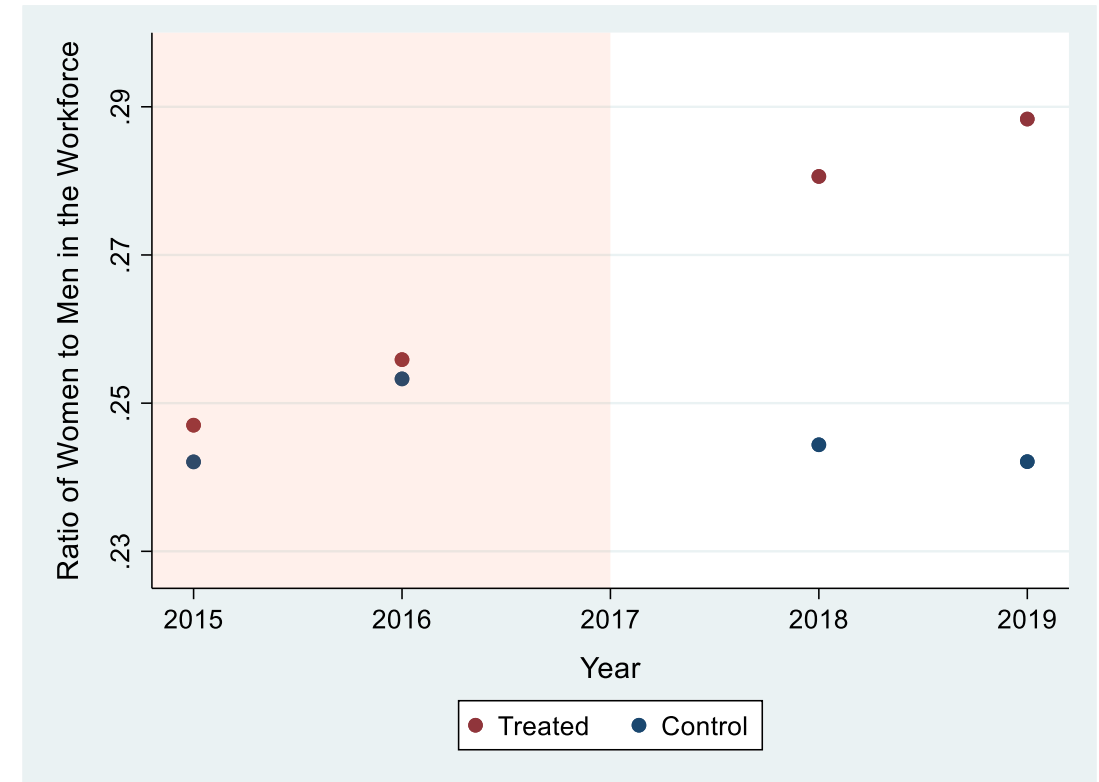
Sample: 723 firms & 5,613 firm-year observations.

Women in the workforce for treated vs. control firms: Pre vs. Post WIN Index (Figure 1)

Fraction of Women in the Workforce



The Ratio of Women to Men



The parallel trends assumption seems to hold:

The treatment and control groups were similar in the pre-WIN period.

The difference in the women ratio shows a remarkable divergence in the post-WIN period.

	Fraction of Women in the workforce		Ratio of Women in the workforce	
	(1)	(2)	(3)	(4)
Treated \times Post	0.007** (2.69)	0.006** (2.5)	0.020** (2.52)	0.020** (2.25)
Treated	0.001 (0.37)	0.001 (0.49)	-0.002 (-0.25)	-0.001 (-0.11)
Log (Total Assets)		0.001 (0.1)		-0.003 (-0.18)
Cash		0.034 (0.68)		0.18 (1.39)
Tangibility		0.027 (0.77)		0.135 (1.59)
Leverage		0.015 (1.33)		0.057* (2.03)
ROA		0.029 (0.95)		0.097 (0.79)
Tobin's q		-0.009 (-0.93)		-0.047 (-0.99)
Firm FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
N	1,335	1,324	1,335	1,324
Adjusted R^2	0.973	0.973	0.932	0.934

The Treatment Effects

Treatment effects

	Fraction of Women in the Workforce	Ratio of Women to Men in the Workforce	Effects in Event Time	
			Fraction of Women in the Workforce	Ratio of Women to Men in the Workforce
Treated × Post	0.006** (2.50)	0.020** (2.25)		
Event Time Dummy Interactions				
Treated × D ₂₀₁₄			-0.000 (-0.06)	-0.003 (-0.47)
Treated × D ₂₀₁₅			0.004 (1.57)	0.017 (1.14)
Treated × D ₂₀₁₆			0.003 (1.45)	0.016 (1.46)
Treated × D ₂₀₁₈			0.007** (2.84)	0.023** (2.47)
Treated × D ₂₀₁₉			0.008** (2.47)	0.022** (2.32)
Controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
N	1,324	1,324	1,324	1,324
Adjusted R ²	0.973	0.934	0.973	0.934

Economic significance

Treated firms **increase** the Fraction of Women in the Workforce by **0.7-0.8 percentage points** (= 4-5%) after treatment compared to control firms.

More Women in Leadership Positions in Treated Firms

	Board	Executives	General Management	Non Management
	(1)	(2)	(3)	(4)
Treated \times Post	0.015 [*] (2.06)	0.013 ^{***} (4.27)	0.008 ^{**} (2.11)	0.000 (-0.02)
Treated	-0.004 (-0.49)	-0.003 (-0.81)	-0.003 (-1.06)	0.005 [*] (1.96)
Controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
N	1,202	1,164	1,302	1,224
Adjusted R^2	0.567	0.567	0.912	0.956

Changes in Workplace Culture: More Women Friendly

	Overtime (OT)		Parental Leaves					
			Men			Women		
	Log (OT Hours)	Log (OT Pay)	All	Under 30	Under 40	All	Under 30	Under 40
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treated × Post	-0.095** (-2.06)	-0.086* (-1.69)	0.001** (2.56)	0.007*** (3.85)	0.002*** (3.35)	0.002 (0.91)	-0.004 (-1.27)	0.004 (1.23)
Treated	-0.003 (-0.05)	0.014 -0.21	-0.001* (-1.79)	-0.004* (-2.00)	-0.001 (-1.37)	-0.002 (-0.96)	-0.003 (-0.86)	-0.005 (-1.67)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	1,139	1,004	1,130	1,023	1,031	1,202	1,081	1,098
Adjusted R^2	0.851	0.808	0.611	0.575	0.586	0.93	0.808	0.756

What are the incentives to improve gender diversity in workplace?

Post WIN Inclusion: Increasing in Institutional Investor Ownership

	Institutional Ownership			Top Ten Shareholders
	All	Domestic	GPIF	
	(1)	(2)	(3)	(4)
WIN × Post	3.248** (2.99)	5.365*** (4.46)	0.536** (2.31)	1.164** (2.57)
Controls	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
N	4,551	4,551	4,551	4,096
Adjusted R^2	0.804	0.77	0.854	0.925

Economic Significant:
Increasing in institutional investor ownership post WIN (2 years)

All	Domestic	GPIF	Top Ten Shareholders
6.50%	22.30%	11%	2.70%

Are more females bad for the firm?



Ex PM Yoshiro Mori addressed efforts to increase female representation on the Olympic panel by expressing concern that its meetings would get longer.

Shareholder value & Profitability: No (negative) effect

	Operating Income/ Assets	Sales/ Total Assets	Sales Growth	Tobin's q	Annual Stock Returns
	(1)	(2)	(3)	(4)	(5)
WIN \times Post	-0.004	-0.01	0.006	0.012	0.017
	(-0.90)	(-0.99)	(0.94)	(0.16)	(0.81)
Controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes	Yes
N	3,781	3,781	3,781	3,781	3,781
Adjusted R^2	0.919	0.971	0.31	0.87	0.201

Gender diversity policy & firm value

- ❖ Greenwashing policy
- ❖ Corporate sustainability/ ESG investment is materialized over a long-term (e.g., Edmans, 2020).
 - Changes in corporate culture (e.g., diversity) might be materialized on the firm value over a longer time horizon.

Recent papers:

- Mandatory disclosure of gender pay in Denmark: While transparency reduces the pay gap, it does not affect firm profitability (Bennedsen et al (JF 2022)).
- Norway's board gender-quota law has no valuation effect (Eckbo, et al., 2022).

Conclusion

- We explore a unique Japanese example: **Indexation based on firms' workforce gender diversity performance**.
 - Creates demand from institutional investors and forces/incentivizes firms to improve their gender diversity.
- Treated firms improve the fraction of women in the workforce compared to control firms.
 - Increase of **5%**.
 - Improvements at general management/executive officer level.
- Incentives: Increasing in institutional ownership
- No evidence of decline in shareholder value.
- ❖ Indexation can lead to changes in corporate social behavior.

Incentives: Why do firms care to be on the WIN Index?



出る釘は打たれる。

Trouble comes from not fitting in.