ONLINE SUPPLEMENT TO "BOARD GENDER DIVERSITY REFORMS AROUND THE WORLD: THE IMPACT ON CORPORATE INNOVATION"

Appendix A. Characteristics of Board Gender Diversity Reforms

Table A1. Major board gender diversity reforms

	Country	(1) Reform Effective Year	(2) Enforcement Type
1.	Australia	2013	Rule-based
2.	Austria	2009	Comply-or-explain
3.	Belgium	2012	Rule-based
4.	Denmark	2013	Comply-or-explain
5.	Finland	2010	Comply-or-explain
6.	France	2011	Rule-based
7.	Greece	2013	Comply-or-explain
8.	Hong Kong	2013	Comply-or-explain
9.	Iceland	2013	Rule-based
10.	Ireland	2012	Comply-or-explain
11.	Italy	2011	Rule-based
12.	Luxembourg	2009	Comply-or-explain
13.	Malaysia	2011	Comply-or-explain
14.	Netherlands	2013	Comply-or-explain
15.	Norway	2006	Rule-based
16.	Poland	2010	Comply-or-explain
17.	Singapore	2012	Comply-or-explain
18.	Spain	2007	Rule-based
19.	Sweden	2004	Comply-or-explain
20.	Thailand	2011	Comply-or-explain
21.	United Kingdom	2012	Comply-or-explain

Table A2. First board gender diversity reforms

	Country	(1) Reform Effective Year	(2) Enforcement Type
1.	Australia	2010	Comply-or-explain
2.	Austria	2009	Comply-or-explain
3.	Belgium	2009	Comply-or-explain
4.	Denmark	2008	Comply-or-explain
5.	Finland	2010	Comply-or-explain
6.	France	2010	Comply-or-explain
7.	Greece	2013	Comply-or-explain
8.	Hong Kong	2013	Comply-or-explain
9.	Iceland	2010	Rule-based
10.	Ireland	2012	Comply-or-explain
11.	Italy	2011	Rule-based
12.	Luxembourg	2009	Comply-or-explain
13.	Malaysia	2011	Rule-based
14.	Netherlands	2009	Comply-or-explain
15.	Norway	2003	Rule-based
16.	Poland	2010	Comply-or-explain
17.	Singapore	2012	Comply-or-explain
18.	Spain	2006	Comply-or-explain
19.	Sweden	2004	Comply-or-explain
20.	Thailand	2011	Comply-or-explain
21.	United Kingdom	2010	Comply-or-explain

Notes. This table reports the characteristics of board gender diversity reforms for countries that implemented such reforms during the sample period. Column 1 presents the year in which the reform becomes effective. Columns 2 reports the types of enforcement (i.e., comply-or-explain versus rule-based). Tables A1 and A2 describe the major reforms and first reforms, respectively. For countries that implement only one reform, we classify the reform as both the first and major reform.

Appendix B. Variable Definitions and Data Sources

Variable	Definition	Data Source
Dependent variables		
Patent counts	The natural logarithm of 1 plus firm *i*'s total number of patents filed (and eventually granted) in the year.	Orbis
Patent citations	The natural logarithm of 1 plus the total number of citations received for the firm's patents filed (and eventually granted) in the year.	Orbis
Female representation	The ratio of female directors without major committee (audit, compensation, nomination, and governance) roles to the total number of directors in a given year.	BoardEx
Female empowerment	The ratio of female directors with major committee (audit, compensation, nomination, and governance) roles to the total number of directors in a given year.	BoardEx
Female empowerment _chair	The ratio of female directors who serve as chairs on major committee (audit, compensation, nomination, and governance) roles to the total number of directors in a given year.	BoardEx
Female empowerment _member	The ratio of female directors who serve as members on major committee (audit, compensation, nomination, and governance) roles to the total number of directors in a given year.	BoardEx
Key variables of interest		
After reform	Indicator variable that equals 1 starting from the year in which a board gender diversity reform becomes effective in the country, and 0 otherwise.	Own construction
Reform country	Indicator variable that equals 1 if a firm's listing country implements board gender diversity reforms, and 0 otherwise.	Own construction
ΔFemale representation$_{(2\ years\ post\text{-}reform)}$	The average *Female representation* over the two years after reform, less the average *Female representation* over the five years before the reform, divided by the average *Female representation* over the two years before the reform.	Own construction
ΔFemale empowerment$_{(2\ years\ post\text{-}reform)}$	The average *Female empowerment* over the two years after reform, less the average *Female empowerment* over the five years before the reform, divided by the average *Female empowerment* over the two years before the reform.	Own construction
ΔFemale empowerment_ chair$_{(2\ years\ post\text{-}reform)}$	The average *Female empowerment_chair* over the two years after reform, less the average *Female empowerment_chair* over the five years before the reform, divided by the average *Female empowerment* over the two years before the reform.	Own construction
ΔFemale empowerment_ member$_{(2\ years\ post\text{-}reform)}$	The average *Female empowerment_member* over the two years after reform, less the average *Female empowerment_member* over the five years before the reform, divided by the average *Female empowerment* over the two years before the reform.	Own construction
Year -3	Indicator variable that equals 1, indicating 3 years before implementation of the board gender diversity reform.	Own construction
Year -2	Indicator variable that equals 1, indicating 2 years before implementation of the board gender diversity reform.	Own construction
Year -1	Indicator variable that equals 1, indicating 1 year before implementation of the board gender diversity reform.	Own construction
Year 0	Indicator variable that equals 1, indicating the year of implementation of the board gender diversity reform.	Own construction
Year 1	Indicator variable that equals 1 in the first year after implementation of the board gender diversity reform.	Own construction
Year 2	Indicator variable that equals 1 in the second year after implementation of the board gender diversity reform.	Own construction

Year 3+	Indicator variable that equals 1 in the third and subsequent years after implementation of the board gender diversity reform.	Own construction
After reform_pseudo1	Indicator variable that equals one starting from the year in which a pseudo board gender diversity reform (3 years prior to the actual reform year) becomes effective in the country, and 0 otherwise.	Own construction
After reform_pesudo2	Indicator variable that equals one starting from the year in which a pseudo board gender diversity reform (5 years prior to the actual reform year) becomes effective in the country, and 0 otherwise.	Own construction
Comply	Indicator variable that equals 1 if the comply-or-explain reform (rule-based reform) is implemented in the country.	Own construction
High_supply	Indicator variable that equals 1 if the firm is in a country where the average proportion of female employment in senior and middle management positions in non-reform period is above than the sample country median, and 0 otherwise.	The United Nations
High_GII	Indicator variable that equals 1 if the firm is in a country where the average Gender Inequality Index in non-reform period above the sample country median, and 0 otherwise.	The United Nations
Other variables		
Firm size	The natural logarithm of total assets (in millions of U.S. dollars).	Worldscope
R&D expenditure	Research and development expenditure scaled by sales.	Worldscope
Returns on assets	Net income before extraordinary items scaled by beginning total assets.	Worldscope
Sales growth	Annual change in net sales scaled by beginning total assets.	Worldscope
Leverage	Total liabilities scaled by total assets.	Worldscope
K/L	The natural logarithm of the ratio of net property, plant, and equipment (in thousands) to the number of employees.	Worldscope
Capital expenditure	The ratio of a firm's total capital expenditures to total assets.	Worldscope
Cash holding	Cash holding scaled by total assets.	Worldscope
Foreign sales	Foreign sales scaled by total sales.	Worldscope
Insider ownership	The total number of closely held shares as a percentage of the total number of shares outstanding.	Worldscope
Institutional ownership	The percentage of a firm's shares held by all types of institutional investors.	FactSet
HHI	Industry Herfindahl–Hirschman Index based on all firms within each country, with industries defined by the 3-digit standard industrial classification code.	Worldscope
HHI^2	The squared term of *HHI*.	Worldscope
GDP per capital	The natural logarithm of gross domestic product per capita.	World Bank
CEO compensation	The natural logarithm of the sum of all CEO compensation: salary, bonus, equity-linked, pension and other.	BoardEx
CEO female	Indicator variable that equals 1 if the firm's CEO is female and 0 otherwise.	BoardEx

Appendix C. Assessing the Parallel Trends Assumption

Table C1. Dynamic effect of board gender diversity reforms

	(1)	(2)	(3)	(4)
Dep. Var.	*Patent counts*$_t$	*Patent citations*$_t$	*Female representation*$_t$	*Female empowerment*$_t$
Sample	Full	Full	BoardEx	BoardEx
Year -3 × Reform country	-0.004	0.004	0.001	-0.003
	(0.731)	(0.862)	(0.785)	(0.151)
Year -2 × Reform country	-0.000	0.008	0.002	-0.002
	(0.993)	(0.738)	(0.532)	(0.529)
Year -1 × Reform country	0.003	0.003	0.005	0.001
	(0.858)	(0.910)	(0.275)	(0.835)
Year 0 × Reform country	0.038*	0.055*	0.010**	0.003
	(0.058)	(0.061)	(0.036)	(0.389)
Year 1 × Reform country	0.070**	0.072**	0.016***	0.006*
	(0.011)	(0.024)	(0.003)	(0.063)
Year 2 × Reform country	0.123***	0.106***	0.022***	0.012***
	(0.001)	(0.004)	(0.000)	(0.001)
Year 3+ × Reform country	0.155***	0.136***	0.029***	0.017***
	(0.001)	(0.004)	(0.000)	(0.000)
Controls	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Observations	325,388	325,388	43,192	43,192
R^2	0.860	0.808	0.706	0.677

Table C2. Placebo tests

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Dep. Var.	*Patent counts*$_{t+1}$	*Patent citations*$_{t+1}$	*Female representation*$_t$	*Female empowerment*$_t$	*Patent counts*$_{t+1}$	*Patent citations*$_{t+1}$	*Female representation*$_t$	*Female empowerment*$_t$
Sample	Pre-reform							
After reform_pseudo1 × Reform country	0.006	0.006	-0.001	0.003				
	(0.231)	(0.397)	(0.929)	(0.375)				
After reform_pseudo2 × Reform country					-0.013	0.020	-0.002	0.004
					(0.674)	(0.722)	(0.676)	(0.188)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	283,930	283,930	30,381	30,381	283,930	283,930	30,381	30,381
R^2	0.831	0.808	0.741	0.655	0.831	0.808	0.741	0.655

Notes. This table presents the regression results for assessing the parallel trends assumption embedded in our DID design. All control variables in Equation 1 are included in the regressions but their results are not tabulated for brevity. All variables are defined in Online Appendix A. *p*-values based on robust standard errors adjusted for clustering by firm are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.10$ (two-tailed tests).

Appendix D. Supplementary Analyses

Table D1. Tests on possible non-linear effects

Dep. Var.	(1) *Patent counts*$_{t+1}$	(2) *Patent citations*$_{t+1}$	(3) *Patent counts*$_{t+1}$	(4) *Patent citations*$_{t+1}$	(5) *Patent counts*$_{t+1}$	(6) *Patent citations*$_{t+1}$	(7) *Patent counts*$_{t+1}$	(8) *Patent citations*$_{t+1}$
Sample	0 female director		1 female director		2 female directors		>=3 female directors	
After reform × *Reform country*	0.084***	0.093***	0.123***	0.096*	0.122***	0.105**	0.092**	0.139**
	(0.000)	(0.000)	(0.000)	(0.026)	(0.000)	(0.001)	(0.036)	(0.026)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	28,747	28,747	7,756	7,756	4,630	4,630	2,059	2,059
R^2	0.841	0.836	0.857	0.874	0.838	0.838	0.891	0.869

Notes. This table reports the results of tests on possible non-linear effects. All control variables in Equation 1 are included in the regressions but their results are not tabulated for brevity. All variables are defined in Online Appendix A. *p*-values based on robust standard errors adjusted for clustering by firm are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.10$ (two-tailed tests).

Table D2. Other reform characteristics

Dep. Var.	(1) *Female empowerment*$_t$	(2) *Female empowerment*$_t$	(3) *Patent counts*$_{t+1}$	(4) *Patent citations*$_{t+1}$	(5) *Patent counts*$_{t+1}$	(6) *Patent citations*$_{t+1}$
Sample	BoardEx	BoardEx	Full	Full	Full	Full
After reform × *Reform country*	0.010***	0.010***	0.187***	0.133***	0.171***	0.124***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
After reform × *Reform country* × *Penalty*	-0.023***		-0.058***	-0.042***		
	(0.000)		(0.000)	(0.000)		
After reform × *Reform country* × *Quota*		-0.003**			-0.041***	-0.035***
		(0.037)			(0.000)	(0.008)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	43,192	43,192	325,388	325,388	325,388	325,388
R^2	0.79	0.676	0.824	0.803	0.824	0.803

Notes. This table reports the regression results estimating the role of other reform characteristics (i.e., existence of penalty and quota) in the effects of board gender diversity reforms on firm innovation. All control variables in Equation (1) are included in the regressions but their results are not tabulated for brevity. All variables are defined in Online Appendix A. *p*-values based on robust standard errors adjusted for clustering by firm are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.10$ (two-tailed tests)

Appendix E. Alternative DID Specifications

Recent studies suggest that including already-treated firms in the control group in the staggered DID model may yield biased DID estimators in the presence of time-varying treatment effects (Callaway and Sant'Anna 2021; Baker et al. 2022). Given the lack of consensus on a standard approach to assessing the bias in the staggered DID design, we perform a series of robustness tests recommended by Baker et al. (2022) to alleviate this concern. First, we re-estimate Equation (1) without including control variables to ensure that the inclusion of post-treatment covariates from already-treated firms does not influence the main results. The findings, reported in Table E1, indicate that our main inferences remain unchanged.

Second, following recent research (e.g., Choi et al. 2023; Lai et al. 2024), we specify a traditional 2×2 DID design, employing the stacked regression approach based on a cohort-matched sample and excluding already-treated firms from the control group. Specifically, we use firms from countries that adopted reforms in each reform year (a reform cohort) as the treatment group, and firms from countries that did not implement such reforms during our sample period as the control group. We assign a pseudo-reform year to all firms in the control group based on the actual reform year of the treatment firms. We repeat this procedure for each cohort and stack all cohorts together. To make our treatment and benchmark firms more comparable on the observable covariates, we match each treatment firm to a benchmark firm using the nearest neighbor matching technique without replacement on all firm-level control variables in the year prior to the reform. Untabulated results show that our PSM procedure effectively reduces differences between our treatment and benchmark firms prior to the reform. The regression results are reported in Table E2. We find that the coefficient on the interaction term *After reform* × *Reform country* is consistently positive and significant across the patent and citation models.

Third, we conduct a DID analysis for each of the eight cohorts identified in the stacked regression test. Tables E3 and E4 summarize the results of this annual DID analysis for the patent and citation models, respectively. We find a significant increase in firm innovation following the implementation of board gender diversity reforms in all eight reform years.[1]

Table E1. Regressions without controls

	(1)	(2)
Dep. Var.	*Patent counts*$_{t+1}$	*Patent citations*$_{t+1}$
Sample	Full	Full
After reform × *Reform country*	0.131***	0.082***
	(0.000)	(0.000)
Year fixed effects	Yes	Yes
Firm fixed effects	Yes	Yes
Observations	325,388	325,388
R^2	0.819	0.798

Table E2. Stacked regressions using a PSM matched sample

	(1)	(2)
Dep. Var.	*Patent counts*$_{t+1}$	*Patent citations*$_{t+1}$
Sample	Cohort-matched	Cohort-matched
After reform	-0.034***	-0.037***
	(0.000)	(0.000)
After reform × *Reform country*	0.097***	0.100***
	(0.000)	(0.000)
Controls	Yes	Yes
Cohort × Year fixed effects	Yes	Yes
Cohort × Firm fixed effects	Yes	Yes
Observations	159,106	159,106
R^2	0.823	0.803

Table E3. Summary of results from yearly DID models (Dep. Var: *Patent counts*$_{t+1}$)

Reform Year	Coef. of *After reform* × *Reform country*	# of treatment countries	# of benchmark countries	# of obs. in treatment countries	# of obs. in benchmark countries

[1] During our sample period, there are eight cohorts of reform: 2004 (Sweden), 2006 (Norway), 2007 (Spain), 2009 (Luxembourg), 2010 (Finland and Poland), 2011 (France, Italy, Malaysia, and Thailand), 2012 (Austria, Belgium, Ireland, Singapore, and the United Kingdom), and 2013 (Australia, Denmark, Greece, Hong Kong, Iceland, and the Netherlands).

2004	0.048**	1	34	5,621	206,907
2006	0.063**	1	34	2,148	206,907
2007	0.144***	1	34	1,795	206,907
2009	0.116***	2	34	1,611	206,907
2010	0.162***	2	34	6,265	206,907
2011	0.164***	4	34	31,265	206,907
2012	0.264***	4	34	29,051	206,907
2013	0.287***	6	34	40,725	206,907

Table E4. Summary of results from yearly DID models (Dep. Var: *Patent citations*$_{t+1}$)

Reform Year	Coef. of *After reform* × *Reform country*	# of treatment countries	# of benchmark countries	# of obs. in treatment countries	# of obs. in benchmark countries
2004	0.091***	1	34	5,621	206,907
2006	0.061**	1	34	2,148	206,907
2007	0.253***	1	34	1,795	206,907
2009	0.152***	2	34	1,611	206,907
2010	0.198***	2	34	6,265	206,907
2011	0.205***	4	34	31,265	206,907
2012	0.263***	4	34	29,051	206,907
2013	0.261***	6	34	40,725	206,907

Notes. This table presents the results of alternative difference-in-differences specifications. Table E1 presents the results without the inclusion of the control variables. Table E2 presents the results using a stacked regression approach using a PSM matched sample based on all firm-level controls in the year prior to the reform. Table E3 and Table E4 report the summary of year-by-year difference-in-differences regression results estimating the effect of board gender diversity reforms on innovation for firms in countries with reforms implemented in year *t* (the treatment countries), relative to firms in countries without reforms implemented during our sample period (the benchmark countries). The regression specified in Tables E2, E3 and E4 is: $Patent\ counts_{t+1}/Patent\ citations_{t+1} = \beta_0 + \beta_1 After\ reform + \beta_2 Reform\ country + \beta_3 After\ reform \times Reform\ country + \sum \beta_m Controls + \sum \beta_k Year\ fixed\ effects + \sum \beta_n Firm\ fixed\ effects + \varepsilon$. All control variables in Equation 1 are included in the regressions but their results are not tabulated for brevity. All variables are defined in Online Appendix B. *p*-values based on robust standard errors adjusted for clustering by firm are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.10$ (two-tailed tests).

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Appendix F. Other Robustness Checks

Prior research finds that gender diversity at the C-suite level (e.g., Huang and Kisgen 2013; Faccio et al. 2016) and other executive characteristics such as CEO compensation (Sanders and Hambrick 2007) may also affect firms' strategic decisions. To address the concern that our results may be driven by these executive characteristics, we re-estimate our main analysis by including two additional control variables: *CEO female*, an indicator variable that equals 1 if the firm's CEO is female and 0 otherwise, to capture gender diversity at the C-suite level (Datta et al. 2021),[2] and *CEO compensation*, calculated as the natural logarithm of the sum of all CEO compensation (salary, bonus, equity-linked, pension, and other). Since the data on constructing these two variables are sourced from BoardEx, we perform this analysis using the *BoardEx* sample. The results (reported in Table F1) show that our inference remains unchanged.[3]

As with other studies on firm innovation (i.e., Zhong 2018; Moshirian et al. 2021; Tsang et al. 2021), our main sample includes many firms that have zero patents. Additionally, we exclude U.S. firms from our main sample to mitigate potential large sample bias. To ensure our results are not sensitive to these sample selection choices, we repeat our main analysis by (1) excluding firms that have never filed patent applications during our sample period (Table F2) and (2) including U.S. firms in our sample (Table F3). We find the results similar to our main findings in both tests.[4]

In our main analyses, we identify treatment firms based on their country of incorporation. It is plausible that some firms in our control group, while incorporated in countries that did not implement board gender diversity reforms, may conduct operations in countries that did, potentially subjecting them to the effects of these reforms. While such cases would bias against our finding of a significant effect of the reforms, we conduct an additional analysis by excluding multinational firms, defined as firms with non-zero foreign sales following Denis et al. (2002), and find consistent results (Table F4).

To address concerns regarding the impact of potentially confounding changes in national institutions, we control for other broad corporate governance reforms identified in the literature. These include corporate board reforms aimed at enhancing board independence and monitoring (Fauver et al. 2017), the mandatory adoption of International Financial Reporting Standards (IFRS) to improve the quality, comparability, and transparency of financial reporting (Hong et al 2014), and merger and acquisition law reforms to strengthen the market for corporate control (Lel and Miller 2015). Specifically, we generate indicator variables *After reform_Board independece*, *After reform_IFRS*, and *After reform_M&A law* to denote the periods following the implementation of each of these reforms, respectively. We then add the interaction term between each of these variables with *Reform country* in Equation (1). Table F5 presents the results, which show a significant positive impact of board gender diversity reforms on firm innovation, after controlling for other reforms.

Furthermore, our primary measure of female empowerment does not differentiate between chair and member roles within major committees, as our goal is to capture the overall influence of women in leadership and decision-making for key corporate strategies. Concerns may arise that female directors' committee memberships could still be subject to tokenism, serving as symbolic diversity without real influence. However, we argue that tokenism is unlikely in our study for two main reasons. First, the lack of reform mandates requiring female representation on major committees reduces the risk of compliance-driven tokenism. Second, the prestige and authority of major board committees, along with the increased scrutiny from stakeholders (Zhu et al., 2014; Knippen et al., 2019; Field et al., 2020), further mitigate the possibility of symbolic roles. Nevertheless, to address this concern, we conduct an additional analysis distinguishing between the effects of serving as a chair versus a member of these

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[2] We also employ an alternative measure of C-suite gender diversity, *Female executives*, which is an indicator variable set to 1 if the firm's C-suite (CEO, CFO, and COO) includes at least one female member, and 0 otherwise. Our inference remains unchanged with this measurement.

[3] Our results indicate there is no significant relationship between female CEO and innovation. Taken together with our main findings, board gender diversity demonstrates a more systemic impact on fostering innovation than gender diversity in the C-suite does.

[4] As the U.S. has not adopted board gender diversity reforms during our sample period, we are not able to examine the effect of the reforms on innovation for U.S. firms. Nevertheless, we find that increased women board representation and empowerment leads to increased patent counts and citations for U.S. firms when using a change model: $\Delta Patent\ counts\ (\Delta Patent\ citations) = \beta_0 + \beta_1 \Delta Female\ representation\ (\Delta Female\ empowerment) + \sum \beta_m \Delta Control\ variables + \sum \beta_k Year\ fixed\ effects + \sum \beta_l Firm\ fixed\ effects + \varepsilon$

key committees. As shown in Table F6, we find that board gender diversity reforms significantly enhance female empowerment in both capacities. Moreover, the reform-driven empowerment stemming from participation in major committees, regardless of the specific role, contributes substantially to improving a firm's innovative capacity. These findings suggest that while serving as chair of a major committee may confer greater influence, membership in a major committee is itself a meaningful form of empowerment. It allows female directors to engage in critical decision-making and governance, which can substantially shape a firm's strategic direction and innovation outcomes.

Lastly, to address concerns about time-varying industry heterogeneity in board composition and innovation activities, we replace *Year fixed effects* with *Industry fixed effects* × *Year fixed effects*. We also follow Tsang et al. (2021) to assess the sensitivity of our results to alternative measures of innovation, including truncation-adjusted patent counts and citations, as well as innovation efficiency, which is measured by the ratio of patents filed (and eventually granted) to R&D capital, and the ratio of patent citations received to R&D capital. Untabulated results show that our inferences remain consistent across all these tests.

Table F1. Controlling for CEO compensation and CEO gender

	(1)	(2)
Dep. Var.	*Patent counts*$_{t+1}$	*Patent citations*$_{t+1}$
Sample	BoardEx	BoardEx
After reform × *Reform country*	0.216***	0.255***
	(0.000)	(0.000)
CEO compensation	-0.008	-0.023***
	(0.220)	(0.002)
CEO female	-0.025	-0.034
	(0.281)	(0.245)
Controls	Yes	Yes
Year fixed effects	Yes	Yes
Firm fixed effects	Yes	Yes
Observations	43,192	43,192
R^2	0.836	0.848

Table F2. Excluding firms without patents

	(1)	(2)
Dep. Var.	*Patent counts*$_{t+1}$	*Patent citations*$_{t+1}$
Sample	Full sample excluding firms without patents	
After reform × *Reform country*	0.219***	0.103***
	(0.000)	(0.000)
Controls	Yes	Yes
Year fixed effects	Yes	Yes
Firm fixed effects	Yes	Yes
Observations	88,876	88,876
R^2	0.794	0.772

Table F3. Including U.S. firms from the sample

	(1)	(2)
Dep. Var.	*Patent counts*$_{t+1}$	*Patent citations*$_{t+1}$
Sample	Full sample including U.S. firms	
After reform × *Reform country*	0.133***	0.139***
	(0.000)	(0.000)
Controls	Yes	Yes
Year fixed effects	Yes	Yes
Firm fixed effects	Yes	Yes
Observations	478,842	478,842
R^2	0.826	0.791

Table F4. Excluding multinational firms from the sample

	(1)	(2)
Dep. Var.	*Patent counts*$_{t+1}$	*Patent citations*$_{t+1}$
Sample	Full sample excluding multinational firms	
After reform × *Reform country*	0.186***	0.196***
	(0.000)	(0.000)
Controls	Yes	Yes

Year fixed effects	Yes	Yes
Firm fixed effects	Yes	Yes
Observations	133,159	133,159
R^2	0.789	0.815

Table F5. Controlling for other reforms

	(1)	(2)
Dep. Var.	*Patent counts*$_{t+1}$	*Patent citations*$_{t+1}$
Sample	Full	Full
After reform × Reform country	0.158***	0.111***
	(0.000)	(0.000)
After_reform_Board independence × Board reform country	-0.035***	-0.053***
	(0.000)	(0.000)
After reform_IFRS × IFRS country	0.004	0.010
	(0.572)	(0.370)
After reform_M&A laws × M&A law reform country	-0.026	-0.138***
	(0.110)	(0.000)
Controls	Yes	Yes
Year fixed effects	Yes	Yes
Firm fixed effects	Yes	Yes
Observations	325,388	325,388
R^2	0.824	0.803

Table F6. Alternative measures of female empowerment

Dep. Var.	*Female Empowerment*$_t$ *(member)*	*Female Empowerment*$_t$ *(chair)*	*Patent counts*$_{t+3}$	*Patent citations*$_{t+3}$
Sample	BoardEx	BoardEx	BoardEx	BoardEx
After reform×Reform country	0.007***	0.002***	0.213***	0.257***
		(0.000)	(0.000)	(0.000)
After reform × Reform country ×			0.012*	0.012*
ΔFemale representation$_{(2\ years\ post\text{-}reform)}$ [(1)]			(0.060)	(0.082)
After reform × Reform country ×			0.056***	0.061***
ΔFemale empowerment_member$_{(2\ years\ post\text{-}reform)}$ [(2)]			(0.000)	(0.000)
After reform × Reform country ×			0.053***	0.072***
ΔFemale empowerment_chair$_{(2\ years\ post\text{-}reform)}$ [(3)]			(0.000)	(0.000)
F-Tests of Coefficients				
(1) – (2)			-0.044***	-
(1) – (3)			-0.041***	-
(2) – (3)			0.003	-0.011
Controls	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Observations	43,192	43,192	35,968	35,968
R^2	0.618	0.412	0.836	0.854

Notes. This table reports the results of additional robustness tests. All control variables in Equation 1 are included in the regressions but their results are not tabulated for brevity. All variables are defined in Online Appendix B. *p*-values based on robust standard errors adjusted for clustering by firm are reported in parentheses. ***$p < 0.01$; **$p < 0.05$; *$p < 0.10$ (two-tailed tests).

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