Online Appendix to "Corporate Board Quotas and Gender Equality Policies in the Workplace"

Contents

I Matching Procedure

We match on five variables identified as potential determinants of corporate quota law adoption: percentage of women on boards, women's labor force participation, economic development (GDP per capita), percentage of women in parliament, and family spending (measured as percentage of GDP).[1] Percentage of women on corporate boards is included because most countries that pass a corporate quota law have low levels of women on boards before the law

[1]Data on the average number of women on boards of the largest publicly listed companies come from the OECD Gender, Institutions, and Development Database; Data on women's labor force participation (ratio female to male) and GDP per capita come from the World Bank; Data on women in parliament come from IPU Women in National Parliaments Database; Data on share of spending on family policy comes from the OECD Social Expenditures Database.

is passed. This makes an intervention like a quota likely to be politically relevant and useful, although certainly many countries with low levels of women's representation on boards do not go on to pass a quota (e.g., Japan). The broader determinants of variation on women's representation on boards and in the workforce are thus relevant. Existing literature suggests that women's representation on boards is correlated with their representation in politics (Terjesen & Singh 2008). In some notable cases, women were the key political actors driving the bill forward – as in Italy, where women MPs Alessia Mosca and Lella Golfo co-authored the law. Next, both women's labor force participation and provision of family policies, including childcare and parental leave, are correlated with corporate board quota adoption. The logic is that these policies encourage more women to stay in the labor market, and thus more women are available and likely to build their careers sufficiently to serve on boards (Terjesen, Aguilera & Lorenz 2015). Finally we include the country's overall level of economic development as an additional important determinant of women's employment and political representation (Matland 1998; McAllister & Studlar 2002; Iversen & Rosenbluth 2008; Tripp & Kang 2008; Inglehart and Norris 2000) and thus potentially quota adoption.

The matching procedure is carried out using the `MatchIt` package version 2.4-20 in `R` version 3.0.2. The data for matching is taken from 2010, the year before Italy passed a corporate board quota. We drop other "quota countries" (i.e., countries which also pass a corporate board quota before or soon after Italy does) before matching (see Table 1 in main text). We use nearest neighbor, Mahalanobis matching. Nearest neighbor matching selects the single best control match for each 'treated' unit (i.e.,Italy). Matching is done using a distance measure, and here the Mahalanobis option is used because it allows for continuous covariates and gives equal weight to each variable (Ho et al. 2011). The match is selected based on Mahalanobis distance, a generalization of Euclidean distance that accounts for correlations between variables (Rubin 1973). Table A1 at the end of this section presents data used in matching. Matched pairs are in **bold**.

The procedure identifies Greece as a match for Italy. Italy and Greece are both Southern European welfare states with similarly low levels of women on boards before the Italian corporate board quota law was adopted (5% and 6% respectively). As Table A1 shows, the countries are similar on all other matching variables. In 2010 both had relatively low rates of women in parliament (21.3 and 17.3%) and women's labor force participation (64.6 and 69.4%). Their overall levels of development are also low compared to the other advanced democracies included here. Finally, both countries spend relatively little on work-family policies (including childcare, leave, and family allowances): 1.3 and 1.4% of GDP, respectively. Both countries are charactierized by fragmented and ineffective social protection systems (Ferrera 1996; Gal 2010). Therefore, if gender equality diffusion from board quotas especially matters in these types of states, then we should observe that effect in Italy after the quota but not Greece.

Table A1: Data for Matching

Country	Year	% Women on boards	Women's labor force part. (ratio F to M)	GDP per capita	% Women in parliament	Family spending (% GDP)
Italy	**2010**	**5**	**64.6**	**35,849**	**21.3**	**1.3**
Australia	2010	10.2	81	51,936	24.7	2.6
Austria	2010	9	80.7	46,858	27.9	2.8
Canada	2010	12.9	87.2	47,447	22.1	1.3
Denmark	2010	18	86.6	58,041	38	3.8
Finland	2010	26	87.3	46,202	40	3.1
Germany	2010	13	80.3	41,785	32.8	2.2
Greece	**2010**	**6**	**69.4**	**26,917**	**17.3**	**1.4**
Ireland	2010	8	78.7	48,671	13.9	3.7
Japan	2010	0.9	67.7	44,507	11.3	1.3
Luxembourg	2010	4	75.6	104,965	20	4
Netherlands	2010	15	82.4	50,338	40.7	1.5
New Zealand	2010	12.2	83.1	33,692	33.6	3.4
Portugal	2010	5	83.1	22,538	27.4	1.4
Sweden	2010	26	90.8	52,076	45	3.4
Switzerland	2010	9.2	80.7	74,605	29	1.5
United Kingdom	2010	13	81.3	38,893	22	4
United States	2010	12.3	82.4	48,375	16.8	0.7

II Data and Coding for Quantitative Analysis

The sample of publicly listed companies was constructed for Italy via the Borsa Italiana[2], and for Greece via the Athens Stock Exchange, Athex[3]. We collected corporate annual and sustainability reports for the years 2007 to 2017, inclusive, for both countries, which were downloaded directly from the companies' own websites from December 2018 – June 2019.

Table A2: List of Companies Included by Country

Italy		Greece	
AMPLIFON	Intesa	AEGEANAIRLINESSA	Intralot
Astaldi	Leonardo	AEGEK	JUMBOSA
ASTM	Lufthansa	AlphaBank	KRIKRI
Atlantia	Luxottica	AlphatrustAndromeda	LamdaDevelop
Banco Popolare	MARR	ANEK	MotorOil
BMW	Mediaset	AtticaBank	Mytilineos
BNP Paribas	Mediolanum	AtticaHoldings	NationalBankofGreece
Buzzi Unicem	Monte Paschi	AUTOHELLASTOURIST	Nireus
Cairo	Piaggio	COCACOLA	OLYMPIAODOS
Cattolica Assicurazioni	Pirelli	CosmoteSA	PetrosPetropoulos
DAVIDE CAMPARI	Poste Italiane	ELASTRON	PiraeusBank
DE LONGHI	Prysmian	ELINOILSA	PlaisioComputers
Edison	Recordati	Ellaktor	PublicPower
Enel	Safilo	ELVALHAI	QUESTHOLDINGSSA
Engie	Saipem	ELVALHALCOR	RevoilSA
Eni	Salini	Eurobank	Selonda
ERG	Saras	EYDAP	Titan
Esprinet	SIAS	FLEXOPACK	Unibios
EXOR	Snam	FolliFollie	
Fiat	Stmicroelectronics	Forthnet	
Generali	Telecom Italia	FourlisH	
GME	TERNA S P A	FRIGOGLASS	
GSE	Total	Hellas	
Hera	UniCredit	HellenicBottling	
Immsi	Unipol	HellenicPet	
Interpump	Volkswagen	HellenicTelecom	

Two reports before the quota and two after are required for a company to remain in the sample. This filters out companies that 1) did not exist throughout the time period of the study, 2) were not publicly listed throughout the period, or 3) existed and were

[2] https://www.borsaitaliana.it/borsa/azioni/listino-a-z.html?initial=A&lang=en

[3] https://www.athexgroup.gr/web/guest/companies-map

publicly listed, but did not post historical reports on their website. These filters do not pose significant selection problems to our analysis because our desired sample is companies that are publicly listed in the years before and after a quota law was implemented in Italy. One concern might be that companies delist following the quota in order to avoid complying with the law; however data from the Italian stock market suggests no evidence of a peak in delistings after the announcement of the quota (Maida & Weber 2019).

We created a corpus of all the text files read into `R` that we subsequently converted into to two, separate term-document matrices (TDMs). The TDM produces a matrix summing all user-defined units of language (i.e., terms, tokens, etc.) for each report-year in the corpus. The first TDM was based on all the individual terms in each report-year. This number serves as the denominator for our dependent variables. We use both the CLD2 and CLD3 language detection packages in `R` to determine which terms are in English. This is because some companies release a single annual/sustainability report file written in various languages, and also because some non-English reports translated to English still contain unintelligible terms. Terms identified as English via either method are kept and the rest are dropped.

The second TDM was based on all the tokens that represent the categories for our dependent variables in each report-year. "Tokenization" refers to the particular unit of language meaning used in text analysis, and typically refers to words, phrases, or sentences. Tokens are user-defined. Our dictionary of tokens in this project includes single words, word combinations, and short phrases. (See Table A4 for a complete list.) The number of tokens per category is summed for each report and serves as the numerator for our dependent variables.

The construction of the dictionary of tokens was completed in two steps. First, using a set of out-of-sample texts (see Table A3) we began with a qualitative study of the language most commonly used in the political science, policy, sociology, and management literatures to describe the issue areas of women's leadership, the gender pay gap, childcare, family/parental leave, scheduling flexibility, and sexual harassment/discrimination that relate to women in

the workplace. This allowed us to put together a list of relevant words, word combinations, and short phrases that we then intuitively grouped into categories. Tokens related to childcare, family/parental leave, and scheduling flexibility are collapsed into the "family care" category. The dictionary is designed to include natural-language variations of a concept i.e., "gender equality" and "equality of gender" while also avoiding double-counting.

We invoked a principle of "reasonable likelihood" that a particular token appearing in a corporate report actually refers to the category to which it is assigned in our analysis. For example, one of the tokens in the dictionary is "childcare." We consider it reasonably likely that a corporation will be using the token "childcare" in a corporate report to refer to the childcare challenges faced by its employees and/or the steps the corporation is taking to address them. We consider it reasonably unlikely that the corporation is talking about childcare for other people. Therefore, we include the token "childcare" in our dictionary, as well as common derivations of it (i.e., child care, child-care, etc.) as well as synonyms (i.e., daycare, preschool, nursery). By contrast, we cannot say with confidence that the token "children" is reasonably likely to refer to employee childcare issues because corporations often talk about children's charities to which they donate while they talk about employee childcare issues less frequently. Therefore, we do not include "children" as a token in our dictionary, and only include "childcare." In our estimation, this process yields a dictionary of tokens that is highly representative, although not exhaustive, of the categories of thematic interest to the paper.

Finally, we derive our proportion dependent variables for each category of interest by dividing the summed number of tokens per report by the summed number of terms per report. This methodology provides a conservative estimate of the total attention to these issues in each report. That is because our dictionary of tokens contains word combinations and phrases as opposed to only single terms, which are then divided by a substantially larger number of terms. For example, if the token "gender equality" appears once in a

report of 10 words, the proportion of the report devoted to this token is recorded as 1/10, not 2/10, which is how "gender" and "equality" taken as two separate terms would be counted. However, while this process is more conservative we also deem it more precise, since the term equality can reasonably refer to many things other than gender equality in a particular report. Therefore, any detected effect of the quota on our categories of interest can be interpreted as a floor, not a ceiling.

For the number and share of women board members in Italy, the names of all board members are hand-coded from each of the corporate reports. Although sustainability reports are preferentially used in the main analysis, these frequently do not list the board of directors' names and so this information is pulled from the company's annual report. Occasionally, neither the annual nor sustainability report lists the members of the board, and if no other publicly available reporting from the company provides this information, those observations are coded as NA (20 observations are dropped this way from the original 519).

Boards of directors are sometimes referred to as supervisory boards or the corporate governance board; we assume no difference in functions between a board of directors and these other titles. If a distinction is made, members of the supervisory board, not management board, are included. Board members themselves are limited to those assumed to have voting rights. Members of the board of management – unless explicitly identified as directors on the board – or members of the auditing board are not included under this rule. We make two exceptions: "honorary" chairmen/chairwomen as well as board secretaries (but not *company* secretaries, which usually fulfill a different role) are included. These individuals may or may not possess voting rights on the board, however, they tend to wield a lot of influence on board activities.

Corporate and annual reports reflect activities over a calendar year, while board member terms of office may not strictly overlap the calendar year. For consistency, we assume that all board members who appear in a report-year served the entire year. In rare instances, board

members who did not serve the entire year are noted by months served. Because we cannot reliably identify the terms of board members at the month level across all report-years, we include all members listed as directors during any time period of the year in question so as to capture any women's presence on the board at any point. This method may slightly increase the *sum* of women board members and may slightly decrease the *share* of women board members, but in both cases, these variables are not significant in our model (See Table 3 in the main paper).

Table A3: List of Out-of-Sample Texts Used for Dictionary Creation

1.	EU Guidelines on non-financial reporting (methodology for reporting non-financial information). 2017/C 215/01. Communication from the Commission. Accessed 06/06/19: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52017XC0705(01)&from=EN#ntr6-C_2017215EN.01000101-E0006
2.	Women in the Workplace 2018. McKinsey & Co. Accessed 06/06/19: https://womenintheworkplace.com/
3.	Time to talk: What has to change for women at work. 2018. PWC. Accessed 06/06/19: https://www.pwc.com/gx/en/about/diversity/iwd/international-womens-day-pwc-time-to-talk-report.pdf
4.	Poste Italiane Annual Report 2018. Accessed 06/06/19: https://www.posteitaliane.it/files/1476494959790/annual-report-2018.pdf
5.	Hellenic Bottling (Coca Cola HBC) 2018 Annual Integrated Report. Accessed 06/06/19: https://coca-colahellenic.com/media/3564/coca-cola-hbc-2018_iar_15mar2019.pdf
6.	Santander 2018 Annual Report (Spain). Accessed 06/06/19: https://www.santander.com/csgs/Satellite/CFWCSancomQP01/en_GB/pdf/INFORME_ANUAL_2018_ENG_Acc_v2.pdf
7.	Telefonica 2018 Annual Report (Spain). Accessed 06/06/19: https://www.telefonica.com/documents/162467/141705152/Consolidated-Annual-Accounts-2018.pdf/77b76a1f-eb3f-e1e9-9307-827d36585208
8.	BBVA 2017 Annual Report (Spain). Accessed 06/06/19: https://shareholdersandinvestors.bbva.com/wp-content/uploads/2018/03/BBVA_Group_Annual_Report_2017_Version_WEB.pdf
9.	Naturgy 2018 CSR Report (Spain). Accessed 06/06/19: https://www.naturgy.com/en/shareholders_and_investors/the_company/annual_reports

The gender of board members is determined using the Gender API interface (available at https://gender-api.com) based on first name. We first run a gender prediction using first names registered in Italy, and a then run a second prediction using using first names registered in the United States because many companies include non-Italian board members

and the US database of names is globally comprehensive. If the API predicts a board member to be a woman using either country, the member is coded as a woman. A small number of first names (n=5) are coded as "unknown" gender by the API and are identified phenotypically by the authors using photos available on Google Images.

Table A4: Dictionary of Tokens

		"Family Care"				
Leadership Gap	Pay Gap	Childcare	Birth/Maternity	Leave	Flexibility	Sex. Harass./Discrim.
board diversity	gender gap	caregiving	breastfeed	adoption leave	flexible working	harassment
diversity on the board	gender gaps	caring for	breastfeeding	leave policies	flexible work	harass
diversity in the board	pay gap	care for	lactation	leave policy	flextime	harassed
boardroom diversity	pay gaps	child care	lactating	family leave	flexitime	harassing
diverse representation	salary gap	childcare	nursing mother	parental leave	flex-time	metoo
gender balance	salary gaps	child-care	nursing mothers	maternity	flex time	microagressions
balance in gender	wage gap	daycare	post-natal	paternity	flexible hours	microagression
gender diversity	wage gaps	day care	postnatal	maternal	flexible work hours	sexist
diversity in gender	equal pay	day-care	post natal	paternal	flexible workhours	zero tolerance
gender diverse	pay equity	day camp	postpartum	leave for parents	flexible schedule	sexual discrimination
gender equality	pay inequity	summer camp	pregnant	leave for mothers	flexible scheduling	discriminate
gender inequality	pay inequality	creche	pregnancy	leave for fathers	job sharing	
gender quota	pay inequities	creches	pre-natal		job share	
board quota	inequities in pay	kindergarten	pre natal		part-time	
boardroom quota	inequality in pay	kindergartens	prenatal		parttime	
mentor	equality in pay	nursery	expecting mothers		part time	
mentorship	wage equality	nurseries	expectant mothers		remote work	
mentoring	wage parity	preschool	childbirth		working remotely	
role model	equality in wages	pre-school	child birth		remotely working	
role models		preschools	baby's birth		working remote	
underrepresentation		pre-schools	birth of a child		telecommute	
underrepresented		pre school	birth of an infant		telecommuting	
women in leadership		pre schools	birth of their child		telework	
female leadership		dependent care	birth of their children		teleworking	
female leaders		employee assistance	mother and baby		work flexibly	
female employees		assistance for employees	mothers and babies		work from home	
women employees		assistance to employees	mom and baby		working from home	
employees who are women			new mother		work-from-home	
women leaders			new mothers		family friendly	
woman leader			new parent		family-friendly	
female leader			new father		work and family	
female managers			new fathers		family and work	
female manager			parents		work-life	
women managers					work-family	
woman manager					work life	
women in management					work family	
women in senior management						
women on the board						
women in the board						
women make up						
women comprise						
women's empowerment						
female empowerment						
empower women						
empowering women						
empowering female						
empowering females						

III Summary Statistics and Robustness Checks

In Table A5 we provide summary statistics for the variables used in the quantitative analysis. For robustness checks of our regression results, first we re-run the main model on a Italy only subset of the sample. We expect none of the years before the quota to be significant determinants of our outcome variables (i.e., the trend for increasing attention to these issues was not already beginning before the quota law). This is indeed what we observe in Table A6. We repeat the same process for Greek companies, and find that none of the post-quota years are statistically significant predictors, as see in Table A7. This is reassuring, since it shows increasing attention to these issues in Italy after the quota, but no change in Greece.

Table A5: Summary Statistics for Sample

	min	max	range	median	mean	var	std.dev
Year	2007.00000	2017.00000	10.00000	2012.00000	2012.02079	9.51049	3.08391
Quota	0.00000	1.00000	1.00000	0.00000	0.34304	0.22560	0.47497
Sustainability	0.00000	1.00000	1.00000	0.00000	0.36590	0.23226	0.48193
Overall	0.00000	0.00451	0.00451	0.00014	0.00062	0.00000	0.00085
Leadership	0.00000	0.00176	0.00176	0.00000	0.00013	0.00000	0.00025
Pay	0.00000	0.00045	0.00045	0.00000	0.00001	0.00000	0.00004
Family Care	0.00000	0.00362	0.00362	0.00007	0.00046	0.00000	0.00068
Discrim./Harass.	0.00000	0.00059	0.00059	0.00000	0.00002	0.00000	0.00007

We also subset the sample by dropping reports from 2017, a year before the European Union Directive 2014/95/EU requiring companies to include non-financial statements regarding corporate social responsibility in their annual reports went into effect. It was required from 2018 on, but companies might have started complying the prior year. We rerun the main specifications to ensure that our results are not driven by differential implementation of this directive across countries. The results are robust, as we see in Table A8.

Next, we estimate dynamic panel models, which estimate the treatment effect in the time periods before and after quota implementation. When we include first- and second-order leads (measuring pre-treatment trends), none are significant for the overall attention, leadership, and family care outcomes (Table A9). The second-order lead is significant for

Table A6: Regression Results, Italy Only

	Dependent variable:				
	Overall	Leadership	Pay	Family Care	Discrim/Harass
	(1)	(2)	(3)	(4)	(5)
2008	0.00001	0.00000	−0.00000	0.00001	0.00000
	(0.0001)	(0.00002)	(0.00000)	(0.0001)	(0.00001)
2009	−0.00004	−0.00000	−0.00001	−0.00003	−0.00000
	(0.0001)	(0.00002)	(0.00001)	(0.0001)	(0.00001)
2010	−0.00005	0.00001	−0.00000	−0.00005	−0.00001
	(0.0001)	(0.00003)	(0.00001)	(0.0001)	(0.00001)
2011	0.0002	0.0001**	0.00001	0.0001	−0.00001
	(0.0001)	(0.00003)	(0.00001)	(0.0001)	(0.00001)
2012	0.0002	0.0001***	0.00001	0.00005	0.00000
	(0.0001)	(0.00004)	(0.00001)	(0.0001)	(0.00001)
2013	0.0003**	0.0001***	0.00000	0.0001	−0.00000
	(0.0001)	(0.0001)	(0.00001)	(0.0001)	(0.00001)
2014	0.0001	0.0001**	0.00001	0.00004	−0.00000
	(0.0001)	(0.00004)	(0.00001)	(0.0001)	(0.00001)
2015	0.0003**	0.0001***	0.00001	0.0001	−0.00001
	(0.0001)	(0.00005)	(0.00001)	(0.0001)	(0.00001)
2016	0.0002**	0.0002***	0.00002	0.00005	0.00001
	(0.0001)	(0.00004)	(0.00001)	(0.0001)	(0.00002)
2017	0.0004**	0.0002***	0.00003***	0.0001	0.00002
	(0.0002)	(0.00004)	(0.00001)	(0.0001)	(0.00003)
Sustainability	0.001***	0.0001*	0.00001	0.001***	0.00003
	(0.0002)	(0.0001)	(0.00001)	(0.0002)	(0.00004)
Company FEs	Yes	Yes	Yes	Yes	Yes
Observations	519	519	519	519	519
R^2	0.825	0.726	0.446	0.764	0.526
Adjusted R^2	0.801	0.688	0.371	0.732	0.462

(Robust standard errors clustered around company) *p<0.1; **p<0.05; ***p<0.01

Table A7: Regression Results, Greece Only

	Dependent variable:				
	Overall	Leadership	Pay	Family Care	Discrim/Harass
	(1)	(2)	(3)	(4)	(5)
2008	0.00003	0.00002	−0.00000	0.00002	0.00000
	(0.0001)	(0.00003)	(0.00000)	(0.0001)	(0.00000)
2009	0.00004	0.00003	0.00000	−0.00003	0.00003**
	(0.0001)	(0.00003)	(0.00000)	(0.0001)	(0.00001)
2010	−0.0001	0.00002	0.00000	−0.0001	0.00001*
	(0.0001)	(0.00003)	(0.00000)	(0.0001)	(0.00001)
2011	0.0001	0.00002	0.00000	0.00005	0.00001*
	(0.0001)	(0.00003)	(0.00000)	(0.0001)	(0.00001)
2012	−0.00000	0.00002	0.00000	−0.00004	0.00002*
	(0.0001)	(0.00003)	(0.00000)	(0.0001)	(0.00001)
2013	0.00000	0.0001**	0.00000	−0.0001	0.00002*
	(0.0001)	(0.00003)	(0.00000)	(0.0001)	(0.00001)
2014	−0.0001	0.00003	0.00001	−0.0002	0.00002**
	(0.0001)	(0.00003)	(0.00001)	(0.0001)	(0.00001)
2015	−0.00001	0.0001*	0.00000	−0.0001	0.00002**
	(0.0001)	(0.00004)	(0.00001)	(0.0001)	(0.00001)
2016	−0.0001	0.00002	0.00000	−0.0001	0.00003**
	(0.0001)	(0.00002)	(0.00001)	(0.0001)	(0.00001)
2017	−0.00004	0.0001	0.00000	−0.0001	0.00003**
	(0.0002)	(0.00003)	(0.00000)	(0.0001)	(0.00001)
Sustainability	0.001***	0.0002***	0.00000	0.001***	0.00003**
	(0.0002)	(0.0001)	(0.00000)	(0.0001)	(0.00001)
Company FEs	Yes	Yes	Yes	Yes	Yes
Observations	443	443	443	443	443
R^2	0.717	0.518	0.792	0.689	0.320
Adjusted R^2	0.678	0.451	0.763	0.645	0.225

(Robust standard errors clustered around company) *p<0.1; **p<0.05; ***p<0.01

Table A8: Regression Results, Dropping year 2017

	Dependent variable:				
	Overall	Leadership	Pay	Family Care	Discrim/Harass
	(1)	(2)	(3)	(4)	(5)
Quota	0.0003***	0.0001***	0.00001*	0.0002*	−0.00000
	(0.0001)	(0.00003)	(0.00001)	(0.0001)	(0.00001)
Sustainability	0.001***	0.0002***	0.00000	0.001***	0.00003
	(0.0001)	(0.00004)	(0.00000)	(0.0001)	(0.00002)
Company FEs	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	962	962	962	962	962
R^2	0.785	0.692	0.537	0.733	0.464
Adjusted R^2	0.759	0.653	0.479	0.700	0.397

(Robust standard errors clustered around company) *p<0.1; **p<0.05; ***p<0.01

discrimination / harassment and pay (at the 0.1 level), but these coefficients are negative – the opposite we would expect if companies were already increasing their attention to the issues before the quota. In additional models including first- and second-order leads and lags, none of the leads or lags are significant. However, *Quota* loses significance (except for the leadership model where we continue to see a positive, significant coefficient), which we attribute to the loss of observations in leads/lags analysis. We interpret the lack of positive, significant links between quota leads and firm attention to equality to strengthen our argument that the temporal effect of the quota is causal.

Table A9: Regression Results, Including Leads

	Dependent variable:				
	Overall	Leadership	Pay	Family Care	Discrim/Harass
	(1)	(2)	(3)	(4)	(5)
$\text{Quota}_{(t+2)}$	−0.0001	−0.00003	−0.00001*	0.00000	−0.00003**
	(0.0001)	(0.00003)	(0.00001)	(0.0001)	(0.00002)
$\text{Quota}_{(t+1)}$	0.0001	0.00002	0.00001	0.00004	0.00001
	(0.0001)	(0.00003)	(0.00001)	(0.0001)	(0.00001)
Quota	0.0002**	0.0001**	0.00001	0.0001	−0.00000
	(0.0001)	(0.00003)	(0.00001)	(0.0001)	(0.00001)
Sustainability	0.001***	0.0001**	−0.00000	0.001***	0.00004**
	(0.0002)	(0.00005)	(0.00000)	(0.0002)	(0.00002)
Observations	770	770	770	770	770
R^2	0.814	0.727	0.571	0.767	0.582
Adjusted R^2	0.783	0.683	0.502	0.729	0.515
Note:					*p<0.1; **p<0.05; ***p<0.01

IV Coding for Qualitative Analysis

To code reports for qualitative analysis, we followed many of the Comparative Manifesto Project (CMP) Databases guidelines for coding sentences and quasi-sentences of political party manifestos (Budge 2001; Klingemann 2006; Volkens et al. 2016). The CMP project

is an large project coding over 1000 parties from 1945 until today in over 50 countries, and is used extensively by scholars of comparative politics to study parties' policy positions and priorities. As such, it provides a very useful general model to follow for hand coding the priorities of companies. We used the following guidelines for coding sentences and quasi-sentences, from the Manifesto Coding Instructions (5th revised edition, 2015):

- Do not code chapter and section headings.
- Do not code introductory remarks (e.g., foreword), tables of content, or statistics.
- Each sentence is at least one quasi-sentence; i.e., all sentences should be coded separately. In no case can two or more sentences form a quasi-sentence, even if they are very closely related.
- Only if the natural sentence contains more than one unique argument should this sentence be split.
- If you find a sentence includes two unique arguments but only one is relevant, code it as appropriate and include the whole sentence in the spreadsheet for context.
- It is crucial to know that examples, reasoning, explanations, etc. are not unique arguments and are therefore not separate quasi-sentences.

The coding process involved began with a manual search of the dictionary tokens used in the quantitative analysis, while at the same time reading word-for-word all sections of the reports devoted to equal opportunity and leadership diversity issues so as to include additional sentences that clearly addressed the topics of interest but that might not include a dictionary token. For example, a sentence referring to a new women's leadership program as "it" might not be included in the quantitative analysis but would be in our qualitative analysis. Only a small number of sentences do not contain dictionary tokens, however. In addition, reading each extracted sentence as well as all relevant sections of each report allowed us to distinguish sentences that involved an action taken by the company, such as expanding parental leave benefits, opening an on-site childcare center, or initiating a new diversity policy, from those that only expressed support for diversity conceptually. We included in

our final dataset all individual sentences or semi-sentences that relate to gender equality and diversity broadly conceived, as well as our specific categories.

Overall, most companies in most years include at least some discussion of equality and diversity in their reports, however, this is contingent on report type. Companies for which only annual reports, not sustainability or social responsibility reports, are published (or publicly available) sometimes made no mention of these issues. This reconfirms the necessity of controlling for report type in our quantitative analysis. We note that in the full quantitative dataset, more Italian companies than Greek companies publish sustainability/social responsibility reports, but this number does not change substantially after the quota.

Table A10: Regression Results, Subset of Companies from Qualitative Analysis

	Dependent variable:				
	Overall	Leadership	Pay	Family Care	Discrim/Harass
	(1)	(2)	(3)	(4)	(5)
Quota	0.001**	0.0001*	0.00003	0.0005*	0.00003
	(0.0003)	(0.0001)	(0.00003)	(0.0003)	(0.00002)
Sustainability	0.001***	0.0002**	−0.00001	0.001***	0.00001
	(0.0003)	(0.0001)	(0.00001)	(0.0002)	(0.00001)
Company FEs	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	206	206	206	206	206
R^2	0.687	0.626	0.550	0.628	0.319
Adjusted R^2	0.631	0.559	0.470	0.562	0.197
Note:					*p<0.1; **p<0.05; ***p<0.01

V Discussion of the "*Se Non Ora Quando*" Social Movement

A potential endogeneity concern for our results is the rise of the social movement "*Se Non Ora Quando*" (SNOQ, in English "*If Not Now, When?*") in Italy in 2011. On February 13, 2011, women in Italy took to public squares to protest then-Prime Minister Silvio Berlusconi's administration and gender inequality more broadly. The protest arose after a charge that

Berlusconi had paid money for sex with an underage prostitute (Elia 2016). The concern for our research strategy is that this women's movement might have been linked to the passage of a quota law and / or subsequent changes in corporate policies related to gender equality (rather than the quota law itself). We cannot test this claim directly, but we alleviate concerns by discussing the origins of the quota law outside of this movement and the lack of significant links between SNOQ and Italian firms.

The corporate board quota law in Italy did not emerge out of the SNOQ movement. The draft legislation was first presented in 2009, long before the 2011 protests, and it was sponsored by Berlusconi's own party, the People of Freedom, along with the main center-left party. Indeed, in response to coverage of the SNOQ movement in newspapers, bill co-sponsor Lella Golfo of the People of Freedom party gave a comment to the Italian wire service *ANSA* to rebuke movement members for not mentioning the quota legislation or that it was backed by Berlusconi's party. She says, "I am very sorry that none of those present [at a major SNOQ event] noticed that the Italian Parliament last week passed a historic law that obliges listed companies and subsidiaries to include from next year 20% women on boards of directors... it cannot be denied that it was the center-right government that wanted a law that will make history on the matter of equal opportunity and that will place our country at the forefront of Europe."[4]

Even if the quota law's adoption was unrelated to SNOQ, the similar timing of the quota and the movement could raise concerns. What if it was the movement driving companies to shift their attention to gender equality, rather than the quota law? We cannot test for this directly without knowing the motivations of decision-makers within Italian firms at the time, which is unfortunately beyond the scope of this project. However, we note that the SNOQ movement "focused on achieving specific, practical goals" (Elia 2016, p.64) – and these goals did not include corporate workplace policies. Instead, the SNOQ movement focused their

[4] " 'Se Non Ora Quando': Golfo, Si Dimenticano Legge su CdA." ANSA. 10 July 2011.

attention mainly on politics and the media, including women's representation in the media, violence against women, the political representation of women and electoral reform, and the rights of homosexual women. The exception is the policy of "blank resignations", whereby employees could be forced to sign a blank and undated resignation letter, often used to fire pregnant workers. The SNOQ movement protested against this policy, but they lobbied for political change to outlaw it, including meeting with then-Labour Minister Elsa Fornero, rather than appealing to firms. This policy is not included in our dictionary of tokens.

One way to test whether firms would be more impacted by the SNOQ movement or the quota law is to analyze media coverage of women in business before and after 2011, assessing mentions of the quota versus SNOQ. Using Lexis Nexis, we searched Italian news for coverage of women in business using the terms "women" and "board of directors" (In Italian, "donne" and "cda").[5] The results include major Italian news sources such as: *ANSA, La Nazione, Il Resto del Carlino, Il Giorno, La Stampa, Corriere della Sera, La Gazzetta dello Sport, Italia Oggi, Milano Finanza*. From 2005 to 2020, we found over 6,200 articles related to women and boards of directors. As Figure A1 shows, coverage of women and boards more than doubles in 2011, from 417 articles in 2010 to 993 articles in 2011. Coverage falls gradually after 2011, but it remains higher in the entire post-2011 period than levels before 2011. The average number of articles mentioning women and board of directors per year from 2005 to 2010 is 213, compared to 438 from 2012 to 2020.

Next, we search within these articles related to women and boards to ascertain how many of them mention the gender quota law. We repeat the same search within the articles related to women and boards to ascertain how many mention the social movement *Se Non Ora Quando*.[6] The results, as seen in Figure A3, point to a strong presence of the gender

[5]We considered broader search terms like "women" and "business" (In Italian, "donne" and "affari") but these yielded results that were too broad and often not related to business at all, due to the different meanings of words to describe business like "affari".

[6]The search terms were "quota rosa" and "quota di genere" for quota law, and"se non ora quando" for

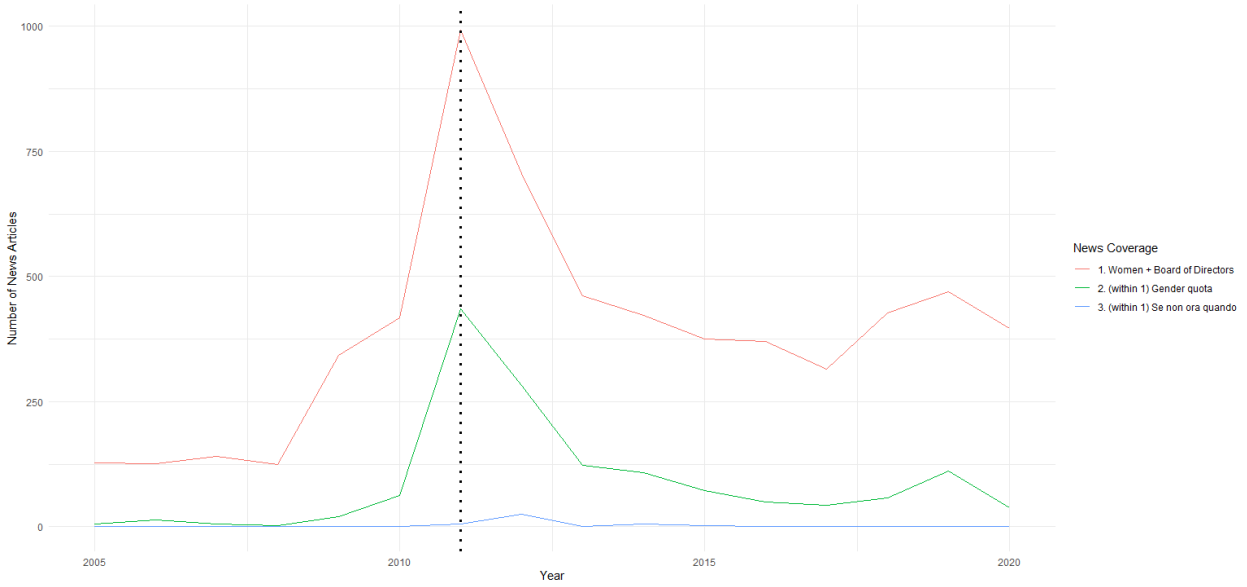

Figure A1: Italian news coverage of women and boards of directors before and after quota law implementation

quota law in news about women on boards from 2011 onwards, but not the SNOQ movement. SNOQ is mentioned within articles on women and boards only 39 times in total. The quota law is mentioned over 1400 times, and in 2011 nearly half of all articles on women and boards mention the gender quota law. After 2011, the number of mentions of the quota law falls, but it is present consistently across the post-quota period. The average number of news articles that mention the gender quota per year in the post-quota period, within those mentioning women and boards, is 98. The analysis suggests that news about women in top business roles is much more focused on the quota law than the SNOQ movement. From this we conclude that the quota law puts public pressure on firms, whereas the SNOQ movement does not.

the social movement.

References

Budge, Ian. 2001. *Mapping policy preferences: estimates for parties, electors, and governments, 1945-1998*. Vol. 1 Oxford University Press.

Elia, Elena. 2016. "*Se Non Ora Quando?* (If not now, when?) The Birth, Growth and Challenges of a New Voice Within the Feminist Scenario in Italy". In *Women's Emancipation and Civil Society Organisations: Challenging or maintaining the status quo?*, ed. Christina Schwabenland, Chris Lange, Jenny Onyx & Sachiko Nakagawa. Policy Press chapter 3, pp. 49–67.

Ferrera, Maurizio. 1996. "The 'Southern Model' of Welfare in Social Europe." *Journal of European Social Policy* 6(1):17–37.

Gal, John. 2010. "Is there an extended family of Mediterranean welfare states?" *Journal of European Social Policy* 20(4):283–300.

Ho, Daniel E, Kosuke Imai, Gary King & Elizabeth Stuart. 2011. "MatchIt: Nonparametric Preprocessing for Parametric Causal Inference." *Journal of Statistical Software* 42:1–28.

Iversen, T. & F. Rosenbluth. 2008. "Work and power: The connection between female labor force participation and female political representation." *Annu. Rev. Polit. Sci.* 11:479–495.

Klingemann, Hans-Dieter. 2006. *Mapping policy preferences II: estimates for parties, electors, and governments in Eastern Europe, European Union, and OECD 1990-2003*. Vol. 2 Oxford University Press on Demand.

Maida, Agata & Andrea Weber. 2019. "Female Leadership and Gender Gap within Firms: Evidence from an Italian Board Reform." *IZA DP No. 12099* .
URL: *https://papers.ssrn.com/sol3/papers.cfm?abstract*$_i d = 3390087$

Matland, Richard E. 1998. "Women's representation in national legislatures: Developed and developing countries." *Legislative Studies Quarterly* pp. 109–125.

McAllister, Ian & Donley T Studlar. 2002. "Electoral systems and women's representation: a long-term perspective." *Representation* 39(1):3–14.

Rubin, Donald B. 1973. "Matching to remove bias in observational studies." *Biometrics* pp. 159–183.

Terjesen, Siri, Ruth V Aguilera & Ruth Lorenz. 2015. "Legislating a womans seat on the board: Institutional factors driving gender quotas for boards of directors." *Journal of Business Ethics* 128(2):233–251.

Terjesen, Siri & Val Singh. 2008. "Female presence on corporate boards: A multi-country study of environmental context." *Journal of business ethics* 83(1):55–63.

Tripp, Aili Mari & Alice Kang. 2008. "The Global Impact of Quotas On the Fast Track to Increased Female Legislative Representation." *Comparative Political Studies* 41(3):338–361.

Volkens, Andrea, Pola Lehmann, Theres Matthieß, Nicolas Merz, Sven Regel & A Werner. 2016. "The Manifesto Project Dataset-Codebook." *Manifesto Project (MRG/CMP/MARPOR). Version 2016a. Berlin: Wissenschaftszentrum Berlin für Sozialforschung (WZB)* .