

Online Appendix for “A Female Style in Corporate Leadership? Evidence from Quotas?”

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Appendix A. Overview of Changes to Labor Law from the 2005 Working Environment Act

This appendix details changes in Norwegian labor law brought on by the 2005 Working Environment Act. Our goal in developing this inventory of the Act was to ascertain whether the Act implemented any changes that (1) would have affected large and small companies differentially or (2) regulated layoffs or the termination of employment. It is important to note that both laws equally apply to public and private companies operating in Norway and apply whether or not a company has shares listed on an exchange.

Section I lists all provisions of the Working Environment Act that are contingent on the number of a firm’s employees. Section II lists all provisions of the Working Environment Act that regulate the termination of employment. Both sections organize provisions based on whether they experienced major changes, minor changes, or no changes when the law was updated in 2005. Although there were some changes to specific provisions, none of the changes would predict a decrease in layoffs among firms affected by the board member gender quota.

The 2005 Working Environment Act (No. 62) updated the 1977 law (Act No. 4) as amended in 1995. Specific references to sections of the laws are provided in this document.

I. PROVISIONS CONTINGENT ON THE NUMBER OF EMPLOYEES

Summary

The Working Environment Act contains a few provisions that are contingent on the number of employees. None of these provisions changed in 2005, except for the new requirement for employer consultations. The requirement for employer consultations was completely new in the 2005 law but applied equally to public and private companies and whether or not the company has shares listed on an exchange. The new requirement could raise the costs of negative economic shocks if consulting workers leads the most productive workers to seek alternative employment, but keeping workers informed could also increase productivity if the consultations lead to higher employee morale. Either way, the effect is likely modest and pertains equally to firms that are affected and unaffected by the gender quota. Indeed, the results presented in the paper are virtually unchanged if we restrict the sample to firms employing more than 50 employees (ensuring that all Norwegian firms are subjected to the consultation requirement).

Major Changes

Employer consultations:

This provision is a novel element in the updated law. Firms that regularly employ at least 50 employees are obligated to provide information to workers about the firm’s economic prospects, how these prospects

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would affect its workforce, and the like. In an effort to maintain confidentiality, the provision allows the employers to retain some information in consultations with their employees.

Section references for prior version of law: N/A

Section references for updated version of law: 8-1; 8-2; 8-3.

No Changes

Collective Redundancies:

Collective redundancies are defined as the termination of ten or more employees within a 30-day period, excluding terminations for cause. Firms' responsibilities to provide consultation and expert advice to employees in connection with collective redundancies did not change with the law, neither did the conditions employers must follow, such as calling consultations as early as possible and giving a very detailed notice, including the grounds for redundancies. Notice must also be forwarded to the Public Employment Service and employees' elected representatives may comment on the notification directly to the Public Employment Service. Collective redundancies may not come into effect earlier than 30 days after the Public Employment Service has been notified, and the Public Employment Service may extend this waiting period.

Section references for prior version of law: 56A.

Section references for updated version of law: 15-2.

More than one employer/Duties of employer to workers other than own employees:

This provision pertains to work environment standards for contract workers or self-employed persons who perform tasks in connection with an employer's activities. If there are more than ten employees simultaneously employed at a workplace and there is no principal employer, then it is to be agreed in writing which employer is in charge of coordinating work environment standards or else the Labor Inspection Authority will decide.

Section references for prior version of law: 15.

Section references for updated version of law: 2-2.

Electing safety officials:

Workforces of ten or more employees are required to elect a safety representative. At firms with fewer than ten employees, parties may agree in writing to another arrangement or to not have a safety representative (although this agreement may be vacated by the Labor Inspection Authority). Workforces of more than ten employees may have more than one representative. The number of safety representatives should be proportional to the number of workers and the type of work performed.

Section references for prior version of law: 25-1; 25-2.

Section references for updated version of law: 6-1.

Working Environment Committees:

Working environment committees are concerned with planning and maintaining safe and healthy work environment standards. Firms that employ at least 50 workers must have a working environment committee representing the employers, employees, and safety and health staff. Firms that employ between 20 and 50 employees may form a working environment committee when agreed by the parties. The Labor Inspection Authority may also require a working environment committee for firms with fewer than 50 employees, based on the conditions of work.

Section references for prior version of law: 23; 24.

Section references for updated version of law: 7-1.

Staff rules:

Industrial enterprises, commercial enterprises, and offices employing more than ten people require work rules for those who are not in a managerial or a supervisory position. These rules dictate various

guidelines for workers, such as rules of behavior in a workplace and conditions for dismissal. The Ministry may make exceptions to this requirement.

Section references for prior version of law: 69.

Section references for updated version of law: 14-16.

II. PROVISIONS CONCERNING EMPLOYMENT TERMINATION

Summary

The Working Environment Act regulates employment termination, but these regulations changed little when the law was updated in 2005. The few adjustments mostly affected the time allotted for certain types of leave. Other details of the law were also clarified. The biggest change was a new provision that allows for employee suspension while serious breaches of contract are being investigated. This change is discussed below in the context of summary dismissal (i.e., termination for cause). None of these changes can explain the reduction in layoffs found in the paper.

Major Changes

Summary dismissal:

An employer may summarily dismiss an employee if he or she commits a gross breach of duty or other serious breach of his or her employment contract. The new law does *not* change the employee's rights when he or she receives a dismissal notice (see "Notices of Termination" below). The new law also does *not* change the consequences, should the notice be found to be invalid. The new law does, however, add an additional provision allowing the employer to suspend an employee suspected of misdoings that may lead to summary dismissal, while the matter is investigated. During the suspension period, the employee receives the salary he or she earned on the date of suspension and retains the rights as one dismissed by notice. Before the law change, immediate summary dismissal was explicitly allowed.

Section references for prior version of law: 61; 66.

Section references for updated version of law: 15-13; 15-14; 15-11; 17-3; 17-4.

Protection against dismissal during sickness:

According to the new law, those absent (wholly and partly) because of illness or an accident are protected from dismissal following the first 12 months of the sickness, assuming that there are no other apparent reasons for dismissal. The previous law was more complicated; most employees were only protected for the first 6 months after illness or accident, but those who had been employed for at least five consecutive years or had an illness/accident that was due to the work were protected for 12 months. There was no change to the requirement for medical certification when the employer calls for it.

Section references for prior version of law: 61; 64.

Section references for updated version of law: 15-8; 17-5.

Minor Changes

Concerning lay judges:

Courts dealing with dismissal disputes have a panel of lay judges with "a broad knowledge of industrial life." The previous law required that two-fifths of the judges be employers and two-fifths be employees. The new law calls for a similar split but requires that the judges be appointed by recommendation of the employers' organization and by recommendation of the employees' organization, instead of necessarily being employers and employees themselves. The new law also excludes the requirement that the panel consist of ten judges or "a higher number divisible by five."

Section references for prior version of law: 61B.

Section references for updated version of law: 17-6.

Temporary employment:

Under both laws, temporary employment is only allowed when it is required by the nature of the work, when the employee is a trainee or a temporary replacement, when the employee is the chief executive, or when the person is employed in a labor market scheme coordinated by the Public Employment Service. The new law also allows temporary contracts (1) for employees in organized sports and (2) when agreed to by national unions for work related to art, research, or sport. There was *no* change to the time limits for giving notice. The new law, however, subjects those temporarily employed for more than four consecutive years to provisions regulating the termination of employment relationships; this does not apply to trainees, those employed in labor market schemes coordinated by the Public Employment Service, and those employees in organized sports.

Section references for prior version of law: 58A; 61.

Section references for updated version of law: 14-9; 14-10; 14-11.

Protection against dismissal during military service:

Those in compulsory or voluntary military service or similar public services are protected from dismissal for a certain time period. The new law increased the time period from 14 to 24 months. Employees are required to notify their employers if they wish to return to work after completing military service. The new law increases the notice that returning employees must give employers from 14 days to one month.

Section references for prior version of law: 61; 65A.

Section references for updated version of law: 12-12; 15-10; 17-3; 17-4; 17-5.

Protection against dismissal during partial leave of absence:

Leaves of absence for maternity or adoption may be taken as partial leaves of absence, whereby the employee reduces working hours per week and receives a corresponding partial claim for maternity benefits if agreed to by the employee and employer. The new law allows greater flexibility in possible arrangements for partial leaves, including fewer restrictions on the amount of the reduction in working hours and the removal of a requirement that the minimum period for partial leave be 12 weeks.

Section references for prior version of law: 31A; 61; 65.

Section references for updated version of law: 12-6; 12-7; 15-9; 17-3; 17-4; 17-5.

Protection against dismissal for care of young children:

The new law modestly increased the right to leave to care for dependent children. Under both regimes, an employee is allowed ten days per year to care for a sick child or 15 days if the employee has more than one child, ending with the calendar year of the child's 12th birthday. This allowance is increased to 20 days per year if the child is chronically ill or disabled, and the new law extended this allowance through the calendar year of the child's 18th birthday (instead of the calendar year of the child's 16th birthday under the previous law). The new law also allows employees leave for medical exams and for when a child needs constant attention at home. Whereas employees were previously allowed leave to care for seriously ill children up to age 16 if hospitalization was required, the new law allows leave to care for seriously ill children up to age 18, even if hospitalization is not required, and in the case of required hospitalizations up to age 12, even if the child is not suffering from serious illness. The new law also maintains the right to a leave of absence to attend health care training in the case of chronic illness or disability. Both laws also allow an employee who has sole or nearly sole responsibility for a child double the leave, and the new law also allows half of those days to be transferred from a mother or father to a person with whom the employee lives and does not have responsibility for his or her own children.

Section references for prior version of law: 61; 65; 33A.

Section references for updated version of law: 12-9; 17-3; 17-4; 17-5.

Chief Executive:

The chief executive may contract with a firm to settle termination disputes through arbitration. The new law also allows the chief executive to agree in advance to waive his or her rights in the event of termination in exchange for compensation upon termination.

Section references for prior version of law: 61D.

Section references for updated version of law: 15-16.

Preferential claim to reinstatement:

After termination due to lack of work, an employee has a preferential claim to new employment at the same firm, unless the employee is unqualified for the work. This applies to those who have been employed for at least 12 months of the previous two years, including most temporary employees. The new law maintains the same time limits for preferential claims and the same conditions with respect to an employer's bankruptcy. The new law extends to part-time employees a preferential claim to new full-time positions, if they are qualified.

Section references for prior version of law: 67.

Section references for updated version of law: 14-2; 14-3; 14-4.

Periods of Notice:

The employer and the employee must give at least one month's notice, unless otherwise stated in writing or in a collective bargaining agreement. If employed for at least five consecutive years, either party must give two months' notice; similarly, if employed for at least ten consecutive years, either party must give three months' notice. Different notice periods apply when a worker is employed for at least ten consecutive years and over a certain age: notice must be at least four months in advance if the employee is at least 50, five months if at least 55, and six months if at least 60. In these cases, the employee may terminate employment with three months' notice. Collective bargaining agreements or other wage agreements may not reduce the notice requirements for any workers employed for at least five consecutive years. The only change under the new law is that the Ministry is allowed to issue regulations that would shorten periods of notice for employees in labor market schemes, such as those coordinated by the Public Employment Service.

Section references for prior version of law: 58.

Section references for updated version of law: 15-3.

No Changes

Notices of Termination:

Before making a decision to dismiss an employee with notice, an employer must discuss the matter with the employee and his or her representative, unless the employee does not want to or it is not practically possible. Notices must be written and contain information about the employee's rights, time limits for legal proceedings, the name of employer, preferential rights to reinstatement (if applicable), and the grounds for dismissal (if requested by the employee). If these requirements are not fulfilled and the employee brings legal action within four months of receiving notice, the notice, unless under special circumstances, will be invalid. If the notice is invalid, the employee may be entitled to compensation.

Section references for prior version of law: 57.

Section references for updated version of law: 15-1; 15-4; 15-5.

Disputes concerning unwarranted notice of termination:

The new law made *no* changes to these provisions, which specify various time limits for negotiations, initiating legal proceedings, etc.

Section references for prior version of law: 61; 61A; 61C.

Section references for updated version of law: 17-1; 17-3; 17-4; 17-7.

Termination due to unforeseeable occurrences:

If employees must be laid off due to accidents, natural disasters, or other unforeseeable events, the time limit for giving notice may be reduced to 14 days.

Section references for prior version of law: 59.

Section references for updated version of law: 15-3-10.

Protection against unwarranted notice of termination:

Employees are expressly protected from dismissal in three specific circumstances: (1) if an employee is laid off on grounds of “curtailed operations or rationalization measures” but is able to contribute in other ways; (2) if an employee is laid off because of outsourcing ordinary operations to a third party, unless it is essential to the health of the business; or (3) if an employee is dismissed because of his or her age before age 70.

Section references for prior version of law: 60.

Section references for updated version of law: 15-7.

Protection against dismissal during and after pregnancy or adoption:

Pregnant women are protected from termination if no other reason for dismissal is apparent. Pregnant women and new mothers are allowed certain leaves, including leave for prenatal examinations, twelve weeks of leave during pregnancy, and six weeks of required maternity leave after birth. The father (or another person assisting the mother if the parents do not live together) is allowed two weeks of leave to help the mother in childbirth-related activities. The mother and father/assistant are jointly allowed 12 months in total for maternity and pregnancy leaves. Both are each entitled to up to 12 additional months for each child if taken immediately after the first 12 month leave, unless they initially took a partial leave of absence (see “Protection against dismissal during partial leave of absence” above). An employee who is the sole caretaker of a child may take up to two years of additional leave (instead of the additional 12 months). Adoptive and foster parents are also entitled to parental leaves of absence when taking over responsibility for care of the child, as long as the child is younger than 15 years and not a stepchild. For more protections, see also the section “Protection against dismissal for care of young children” in this report. Times allowed for leaves of absences during and after pregnancy were *not* changed by the new law.

Section references for prior version of law: 31; 65.

Section references for updated version of law: 12-1; 12-2; 12-3; 12-4; 12-5; 12-7; 15-9.

Right to remain in post:

An employee may remain in his or her post during legal disputes concerning termination, unless a court rules otherwise. This right does not apply to disputes regarding summary dismissal, dismissal during a trial period, or contract or temporary workers, unless a court rules otherwise. This right also does not apply to those employed in labor market schemes coordinated by the Public Employment Service who are dismissed under certain conditions.

Section references for prior version of law: 58A; 61-4; 63; 66.

Section references for updated version of law: 15-11.

Consequences of unfair dismissal:

If a court deems a dismissal illegal, the employee should retain employment and may be awarded compensation by the court. However, after weighing the interests of both parties, a court may decide that the employment shall be terminated if finding it to be “clearly unreasonable” that employment should continue.

Section references for prior version of law: 62.

Section references for updated version of law: 15-12.

Concerning trial periods:

If a notice is given to those working for a trial period, the grounds for notice must be regarding a lack of proficiency, suitability, or reliability. The provision only applies if notice is given before the trial period expires. Except in certain cases, the trial period must be shorter than six months. An employer may extend the trial period if an employee has been absent with prior notice.

Section references for prior version of law: 63.

Section references for updated version of law: 15-6.

References:

A dismissed employee has a right to a reference from the employer, which states the employee's name, date of birth, nature of work, and duration. Those summarily dismissed are also entitled to references, but their employers may state that the employee was summarily dismissed without giving the reasons for the dismissal.

Section references for prior version of law: 68.

Section references for updated version of law: 15-15.

Provisions concerning labor disputes:

These regulations concerning dismissal do not apply to labor disputes under certain acts (Labor Disputes Act and Civil Service Disputes Act). The Ministry may decide to what extent the regulations concerning termination apply to public servants.

Section references for prior version of law: 56.

Section references for updated version of law: 1-2; 15-17.

Staff rules:

Industrial enterprises, commercial enterprises, and offices employing more than ten people require work rules for those who are not in a managerial or a supervisory position. These rules dictate various guidelines for workers, such as rules of behavior in a workplace and conditions for dismissal. The Ministry may make exceptions to this requirement.

Section references for prior version of law: 69.

Section references for updated version of law: 14-16.

Protection against dismissal concerning transfer of ownership:

In the case of a transfer of ownership from one employer to another, employees may not be dismissed solely because of the transfer.

Section references for prior version of law: 73C.

Section references for updated version of law: 16-4.

Collective Redundancies:

Collective redundancies are defined as the termination of ten or more employees within a 30-day period, excluding terminations for cause. Firms' responsibilities to provide consultation and expert advice to employees in connection with collective redundancies did not change with the law, neither did the conditions employers must follow, such as calling consultations as early as possible and giving a very detailed notice, including the grounds for redundancies. Notice must also be forwarded to the Public Employment Service and employees' elected representatives may comment on the notification directly to the Public Employment Service. Collective redundancies may not come into effect earlier than 30 days after the Public Employment Service has been notified, and the Public Employment Service may extend this waiting period.

Section references for prior version of law: 56A.

Section references for updated version of law: 15-2.

Appendix B. Additional Robustness Tests

This appendix reports additional robustness tests for our main results on the connections between the gender quota for board composition, short-term profits, and labor outcomes.

I. DISTANCE FROM COMPLIANCE

We test the prediction that firms furthest from compliance in 2006 should display the greatest effects of the law. About half the firms in the affected group had no women on their boards in 2006, when the quota became law. In analysis reported in Table A7, we estimate whether these firms, which were effectively required to add a greater number of women to their boards before the 2008 deadline, exhibited greater effects.

In Panel A of Table A7, we limit the sample to the affected firms and estimate differential effects of the quota based on firms' distance to compliance. Because all of the firms in this specification are affected by the law, we are not able to control for baseline time trends. Instead, we simply compare changes in the main outcomes after 2006 for firms, depending on their boards' status in 2006. We find that profits were relatively stable for firms with some women but declined significantly after the quota was adopted for those that had no women on their boards in 2006. Both employment numbers and costs increased for both sets of firms, but the increases are significantly larger among firms that had no women on their boards in 2006 ($p < 0.06$). The incidence of layoffs declined for all treated firms, but the effect is larger and more precisely estimated for the firms with some women on their boards in 2006.

While this variation within the treatment group provides additional support for the main results for profits and employment, there are important limitations to the analysis. In particular, without a control group, we are not able to identify the actual impact of the quota on either set of firms. To address this issue, we estimate an expanded version of our main triple-difference model that allows for heterogeneous effects based on whether the board included any women before the law was adopted. The results are reported in Table A7, Panel B. These estimates are based on the full sample of affected and matched comparison firms and include firm fixed effects, industry-specific trends, and controls for board size and directors' average number of other board seats. To identify the impact of the quota, we also include additional controls for the interactions between the "No Women in 2006" indicator variable and the variables for *Post-2006*, *Norway*Post-2006*, and *Listed*Post-2006*.

The results find larger estimates of the quota's effect on all outcomes for firms with no women on the board in 2006 before the mandate was adopted. Although the estimates for firms with some female board members in 2006 are similar in magnitude to the overall estimates reported in the previous sections, the estimates are less precisely estimated (on the reduced set of firms) and not always statistically significant. The effects for firms with no women in 2006 are larger and statistically significant for three of the four main outcomes: profits decline by 5.6 percent of assets; employment increases by 0.40 log points, or 49 percent; and the rate of layoffs declines by 20 percentage points.

These analyses suggest that our main findings are indeed attributable to the gender quota, rather than another, unobserved shock affecting listed firms in Norway after 2006. Nevertheless, it is also important to recognize the limitations of the approaches in this section. Even if the quota is exogenous, the *timing* of compliance is not. It is likely that the firms that complied during the voluntary period found it less costly to do so and differ from noncompliant firms in other dimensions as well. Even during the mandatory period, the exact timing of compliance may be related to unobservable firm characteristics that may also affect profitability and employment. For example, firms may have differed in their abilities to identify and attract capable women to serve on their boards, especially in a period of suddenly increasing demand for

female board members. For these reasons, our main analysis relies on identification based on the imposition of the quota, rather than on the observed timing of compliance.

II. UNRELATED EFFECTS OF RECESSION

Our results indicate that listed companies in Norway responded differently to the recent global recession than did other listed and unlisted companies inside and outside Norway. We link these patterns to the quota but another possibility is that there is something else about listed Norwegian companies that make them less likely to lay off workers in recessions. In this section, we investigate and rule out three possible reasons for why Norwegian companies might respond differently and then examine relative changes in Norway during the previous global recession as a falsification test.

- 1. Government Ownership:** We verify that the results are not limited to government-owned firms. This exercise is useful in eliminating political explanations for the apparent shift in corporate priorities to favor employment, especially of lower-wage workers (e.g., La Porta and López-de-Silanes 1999; Megginson and Netter 2001). We obtain information on stock ownership from Orbis. Our main analytic sample, examined above, already excludes all companies in which the Norwegian government's direct ownership stake exceeds one percent (because of missing information). In further tests, we exclude the possibility that the government is directly influencing the appointment of directors and corporate strategy, even when its ownership role is indirect, such as through pension or sovereign wealth funds. From the sample, we identify and exclude 32 Norwegian listed firms in which the sum of the government's direct and indirect ownership share is at least one percent (and also exclude their matched comparison firms). Estimates on this smaller sample, reported in Table A8, closely resemble the findings for the full sample.
- 2. Petroleum Industry:** Norway is a large producer of petroleum, and so high oil prices may have buffered some companies from the effects of the recession. The results reported above exclude companies in the petroleum industry from the analysis. If there are spillover effects to Norwegian firms in other industries, there is no reason to expect these to be limited to public listed companies.
- 3. Unionization:** One specific possibility we considered is differences in unionization, because greater unionization could impede downsizing and restructuring. However, unionized labor is in fact *less* common in Norway (57%) than in the other Nordic countries (82% in Sweden, 76% in Denmark, and 76% in Finland).
- 4. Other Effects of Global Recession:** To further examine whether other possible (but unidentified) differences might affect how Norwegian companies' labor policies respond to recession, we collected additional data from the pre-quota period and estimated our triple-difference model using data from the previous global recession. This exercise provides a general falsification check to test whether the differential changes in profits and employment were linked to the quota. We study the global recession that started around 2001 using financial data on Nordic public and private firms from Orbis for the period of 1997 to 2003. Our sample of firms includes all listed Norwegian companies with data available in 2000, the last year in the pre-period, and a set of matched comparison firms from each of the three other groups (private Norway, public elsewhere, and private elsewhere) using the same matching algorithm as before. In contrast with our findings for the period surrounding the implementation of the quota, there is no relative change in profits, employment, employee costs, or layoffs in listed firms in Norway for the period following the 2001 recession. The triple-difference estimates, reported in Table A9, are small and statistically insignificant. The lack of an effect in this earlier period supports our interpretation

that the relative changes in profits and employment amid the recent global downturn indeed reflect the impact of the quota.

REFERENCES

- La Porta, Rafael, and Florencio López-de-Silanes. 1999. “The Benefits of Privatization: Evidence from Mexico.” *Quarterly Journal of Economics*, 114: 1193–242.
- Meggison, William L., and Jeffry M. Netter. 2001. “From State to Market: A Survey of Empirical Studies of Privatization.” *Journal of Economic Literature*, 39: 321–89.

Appendix C. Supplementary Figures and Tables

FIGURES

- Figure A1. Average director age among publicly listed companies in Norway, 2002–2009
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- Table A11. Controlling for board member age and turnover, within-Norway specification

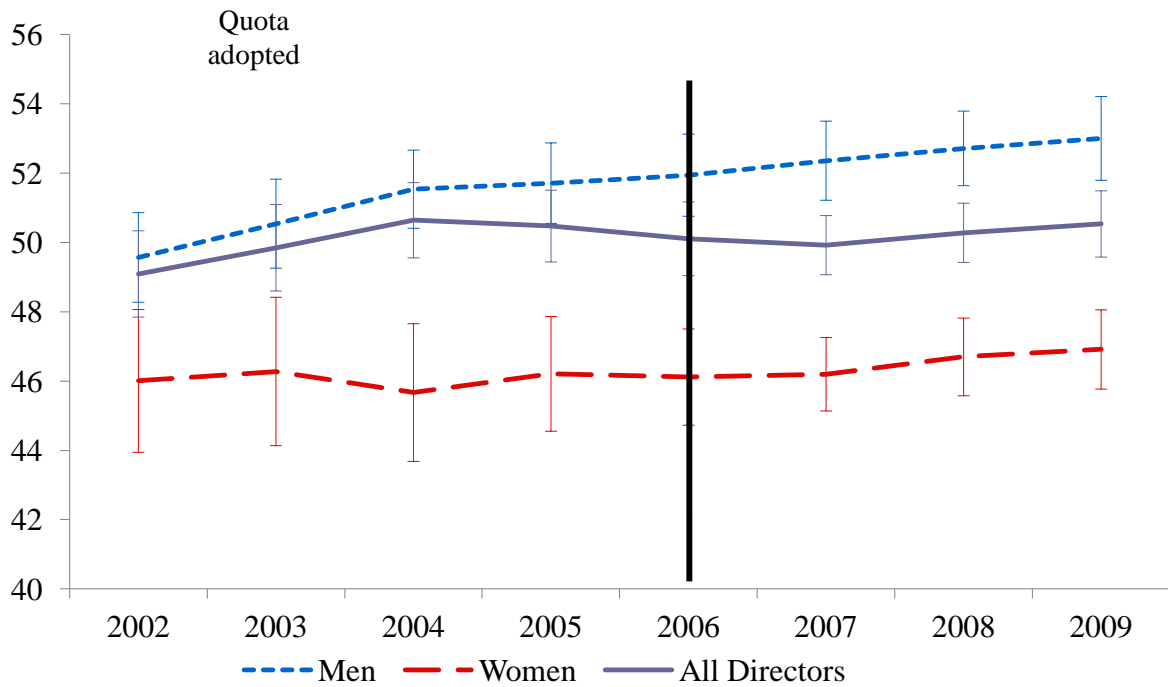


Figure A1. Average director age among publicly listed companies in Norway, 2002–2009. This figure plots summary statistics for the average age of male directors, female directors, and all directors among publicly listed companies in Norway. Averages of these values across firms are presented with 95 percent confidence intervals (across companies for each year).

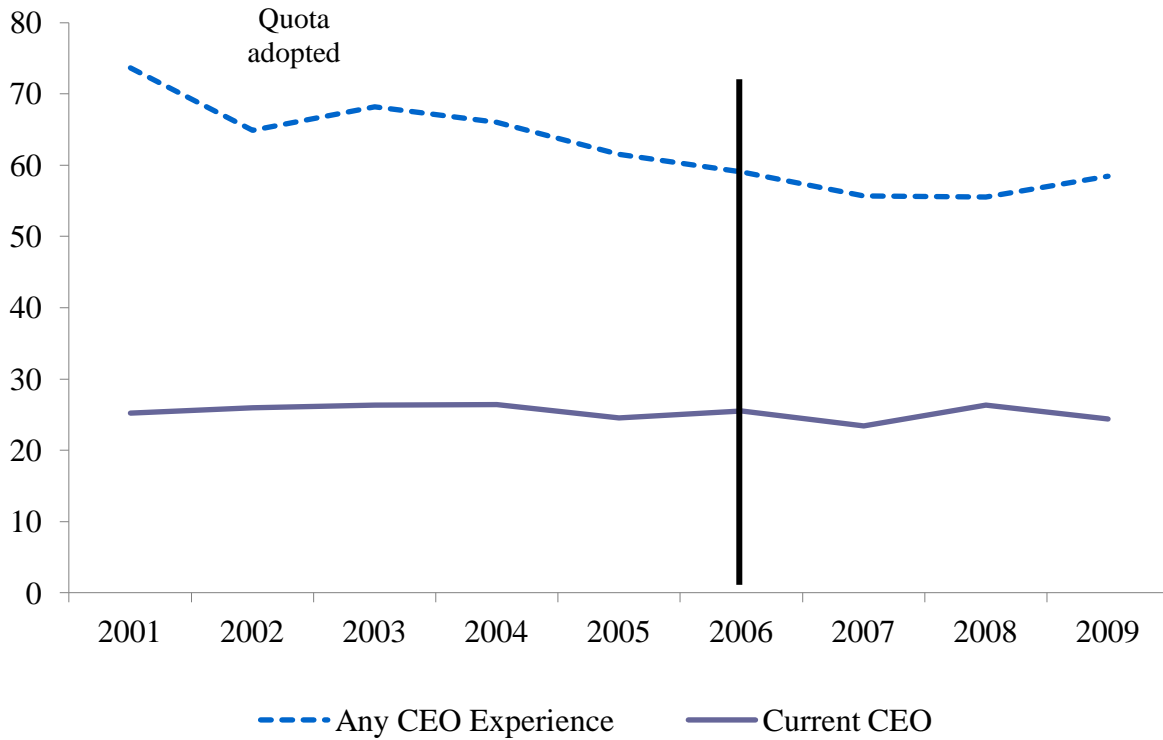


Figure A2. Average director CEO experience among public listed companies in Norway, 2001–2009. This figure plots summary statistics for the average percent of directors who are currently a CEO or have any current or previous CEO experience among publicly listed companies in Norway. Source: Ahern and Dittmar (2012), Table 2.

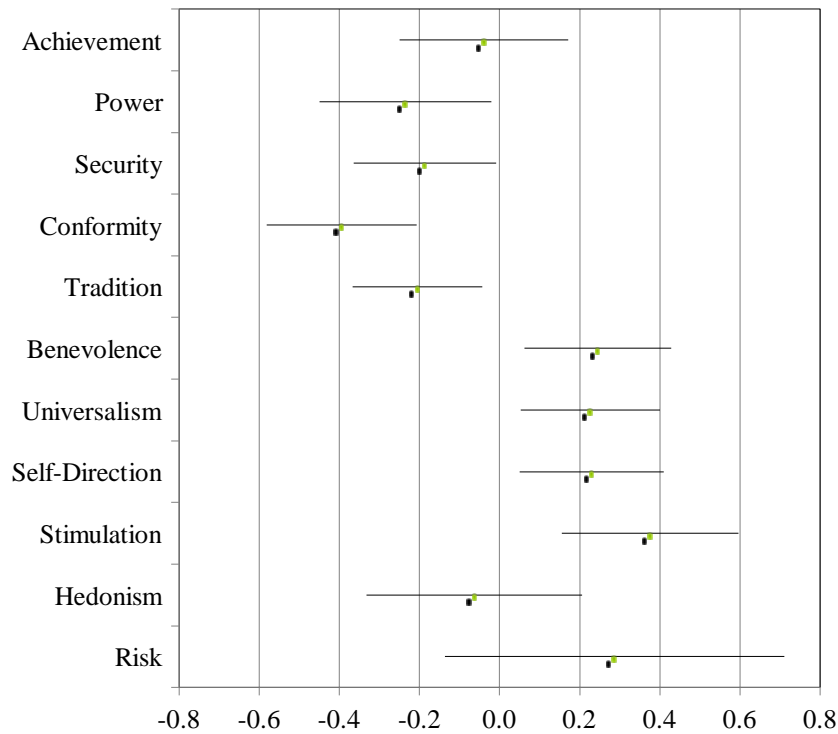


Figure A3. Differential values and risk attitudes of female directors, relative to male directors at the same firm, Sweden 2005. Average differences and 95 percent confidence intervals are reported. Estimates are from Adams and Funk (2009, Table 4). Raw value scores range between one and six, with higher numbers reflecting a higher importance of the value dimension. The dependent variables are first demeaned with respect to the individual's average response in order to reflect the respondent's relative value priorities. Specifications control for director age and firm fixed effects.

Table A1. Robustness check: Controlling for accounting standard, DDD specification

	Operating profit / Assets	Log employment	Log labor costs	Decrease in employment > 3 percent
Norway*Listed*Post-2006	-0.038** [0.016]	0.310*** [0.090]	0.151* [0.082]	-0.208*** [0.063]
Observations	8,901	7,811	7,811	6,872
Number of firms	1,620	1,517	1,517	1,347
R^2	0.05	0.16	0.24	0.04

Notes: This table tests whether the main results are robust to including indicator variables for accounting standard (local GAAP or IFARS, compared with missing). Results are reported from firm-panel regressions using the triple-difference framework reported in Table 3, column 5. Standard errors, adjusted for clustering at the firm level, are reported in brackets.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table A2. Robustness to alternate matching procedures, DDD specification

	Operating profit / Assets	Log employment	Log labor costs	Decrease in employment > 3 percent
<i>Panel A. No requirement for nonmissing observations or matching</i>				
Norway*Listed*Post-2006	-0.028*** [0.010]	0.347*** [0.084]	0.270*** [0.074]	-0.149*** [0.040]
Observations	152,649	111,466	116,174	96,786
Number of firms	32,771	25,576	27,339	23,673
R^2	0.01	0.07	0.15	0.02
<i>Panel B. Full sample of comparison firms (same affected firms, no matching)</i>				
Norway*Listed*Post-2006	-0.019* [0.011]	0.393*** [0.078]	0.267*** [0.070]	-0.166*** [0.043]
Observations	88,729	74,403	74,403	65,331
Number of firms	17,043	15,374	15,374	13,976
R^2	0.02	0.10	0.26	0.02
<i>Panel C. Limit sample to close matches</i>				
Norway*Listed*Post-2006	-0.041*** [0.016]	0.308*** [0.090]	0.175* [0.092]	-0.218*** [0.063]
Observations	7,822	6,928	6,928	6,080
Number of firms	1,418	1,339	1,339	1,185
R^2	0.05	0.15	0.20	0.04

Notes: This table tests whether the main results are robust to alternate matching procedures. Panel A continues to exclude firms in the financial and petroleum industries but removes all other sample restrictions. Panel B maintains the main sample's restrictions but uses all potential comparison firms (private Norwegian and other public and private Nordic firms) instead of matching. Panel C limits the matched sample to those within five units of distance and drops the two affected companies with no close matches. Results are reported from firm-panel regressions using the triple-difference framework reported in Table 3, column 5 (column 6), in Panel A (Panels B and C). Standard errors, adjusted for clustering at the firm level, are reported in brackets.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table A3. Robustness to alternate samples, DDD specification

	Operating profit / Assets	Log employment	Log labor costs	Decrease in employment > 3 percent
<i>Panel A. Include unlisted companies in affected group</i>				
Norway*Listed*Post-2006	-0.025* [0.015]	0.232*** [0.077]	0.154** [0.074]	-0.111** [0.056]
Observations	14,554	12,801	12,801	11,197
Number of firms	2,967	2,751	2,751	2,327
R^2	0.03	0.12	0.21	0.03
<i>Panel B. Include delisted firms in affected group</i>				
Norway*Listed*Post-2006	-0.043*** [0.015]	0.276*** [0.080]	0.155* [0.083]	-0.171*** [0.059]
Observations	10,930	9,604	10,930	8,473
Number of firms	1,991	1,866	1,991	1,661
R^2	0.05	0.14	0.17	0.04
<i>Panel C. Exclude unlisted public firms from the comparison group</i>				
Norway*Listed*Post-2006	-0.039** [0.017]	0.316*** [0.091]	0.152* [0.084]	-0.202*** [0.063]
Observations	8,769	7,714	7,714	6,796
Number of firms	1,591	1,495	1,495	1,330
R^2	0.05	0.15	0.24	0.04

Notes: This table tests whether the main results are robust to alternate sample selections and controls. Panel A includes unlisted, public limited Norwegian firms in the affected group. Panel B includes public firms in Norway that delisted in 2007 or later in the affected group. Panel C excludes unlisted public firms from the control group. Results are reported from firm-panel regressions using the triple-difference framework reported in Table 3, column 6. Standard errors, adjusted for clustering at the firm level, are reported in brackets.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table A4. Summary statistics for exchange-listed companies in Norway and matched comparison companies, 2005

	Norway		Other Nordic Countries	
	Listed	Unlisted	Listed	Unlisted
Assets (€ millions)				
Mean	863	442	780	425
Median	123	71	61	79
Standard deviation	2,365	1,141	2,285	1,097
Employment				
Mean	2,248	794	2,490	1,520
Median	303	127	318	304
Standard deviation	5,876	1,922	5,946	4,133
Operating profit / Assets				
Mean	0.040	0.066	0.034	0.057
Median	0.069	0.056	0.070	0.057
Standard deviation	0.159	0.102	0.176	0.101
Labor cost / Assets				
Mean	0.231	0.268	0.311	0.254
Median	0.193	0.196	0.257	0.206
Standard deviation	0.185	0.266	0.260	0.237
Debt / Assets				
Mean	0.198	0.133	0.148	0.162
Median	0.170	0.078	0.105	0.078
Standard deviation	0.178	0.197	0.147	0.206

Notes: This table reports summary statistics in 2005 for exchange-listed companies in Norway and the three sets of matched comparison companies. Variables are winsorized at the 1 percent tails.

Table A5. Summary statistics for the main analytic sample (2003-2009)

	N	Mean	Median	Standard deviation
Assets (€ millions)	8,901	612	87	1,712
Operating Profit / Assets	8,901	0.043	0.058	0.148
Labor Cost / Assets	8,901	0.273	0.218	0.250
Revenue / Assets	8,901	1.327	1.119	1.060
Non-labor Cost / Assets	8,901	1.011	0.756	0.976
Employment	7,811	1,889	274	4,847
Labor Costs (€ thousands)	7,811	86,549	15,033	202,400
Debt / Assets	8,521	0.156	0.076	0.190
Downsizing (>3 percent)	6,872	0.254	0.000	0.435
Board Size	8,901	6.808	6.000	3.704
Average Number of Other Board Seats	8,901	2.694	2.250	1.863

Notes: This table reports summary statistics for 2003 to 2009 for exchange-listed companies in Norway and the three sets of matched comparison companies. Variables are winsorized at the 1 percent tails.

Table A6. Alternative performance measure: Operating Profits / Sales

	DD: Within Norway by Listed	DD: Within Listed by Norway	DDD: By Norway and Listed
	(1)	(2)	(3)
Norway*Listed*Post-2006			-0.151** [0.074]
Norway*Post-2006		-0.149** [0.073]	0.029 [0.018]
Listed*Post-2006	-0.116* [0.064]		0.043 [0.035]
Controls for board size & average number of other board seats	X	X	X
Observations	2,680	3,411	8,430
Number of firms	579	587	1,582
R^2	0.02	0.03	0.02

Notes: This table summarizes the results from firm-panel regressions of an alternative measure of firms' profitability (operating profits divided by sales) using the three different samples of comparison firms and specifications reported in Table 3, columns 2, 4, and 6. Standard errors, adjusted for clustering at the firm level, are reported in brackets.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table A7. Heterogenous effects based on distance from compliance

	Operating profit / Assets	Log employment	Log labor costs	Decrease in employment > 3 percent
<i>Panel A. Sample of Listed Firms in Norway</i>				
Post-2006*No Women in 2006	-0.043** [0.021]	0.616*** [0.124]	0.671*** [0.095]	-0.043 [0.064]
Post-2006*Some Women in 2006	0.005 [0.011]	0.471*** [0.079]	0.518*** [0.076]	-0.096** [0.045]
Observations	554	519	519	469
Number of firms	100	95	95	90
R^2	0.02	0.29	0.30	0.02
<i>Panel B. DDD: Full Sample</i>				
Post-2006*Norway*Listed *No Women in 2006	-0.056** [0.026]	0.400*** [0.154]	0.165 [0.129]	-0.202** [0.093]
Post-2006*Norway*Listed *Some Women in 2006	-0.037* [0.019]	0.261** [0.111]	0.161 [0.113]	-0.178** [0.086]
Observations	8,901	7,811	7,811	6,872
Number of firms	1,620	1,517	1,517	1,347
R^2	0.052	0.16	0.24	0.04

Notes: This table tests for heterogeneous effects based on distance to compliance when the law was adopted in 2006. Results are reported from firm-panel regressions of firms' profitability (operating profits divided by assets), log employment, log labor costs, and layoffs (net decreases in employment of more than 3 percent) on an indicator for whether the firm is affected by the gender representation law interacted with whether the firm's board contained any women in 2006, as well as a set of controls. Results are reported using two different specifications. Panel A limits the sample to affected firms and estimates differential effects of the law based on whether the firm's board contained any women in 2006. This specification controls for firm fixed effects, board size, and average number of other board seats but lacks any controls for baseline time trends. Panel B uses the full sample and the triple-difference framework augmented with a fourth difference based on whether the firm's board contained any women in 2006 and the associated pairwise interactions. These regressions include controls for firm and year fixed effects, industry-specific trends, board size, average number of other board seats. Standard errors, adjusted for clustering at the firm level, are reported in brackets.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table A8. Robustness check: Excluding firms with any government ownership, DDD specification

	Operating profit / Assets	Log employment	Log labor costs	Decrease in employment > 3 percent
Norway*Listed*Post-2006	-0.044** [0.022]	0.287*** [0.111]	0.206* [0.110]	-0.167** [0.075]
Observations	6,079	5,346	5,346	4,657
Number of firms	1,113	1,042	1,042	915
R^2	0.05	0.17	0.22	0.05

Notes: This table tests whether the main results are robust to the exclusion of 32 listed, Norwegian firms that had any direct or indirect government ownership and their matched control firms. Results are reported from firm-panel regressions using the triple-difference framework reported in Table 3, column 5. Standard errors, adjusted for clustering at the firm level, are reported in brackets.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.

* Significant at the 10 percent level.

Table A9. Falsification check in the pre-quota period, DDD specification, 1997–2003

	Operating profit / Assets	Log employment	Log labor costs	Decrease in employment > 3 percent
Norway*Listed*Post-2000	0.022 [0.022]	0.098 [0.083]	0.058 [0.085]	-0.003 [0.069]
Observations	7,463	6,821	6,821	5,455
Number of firms	878	825	825	619
R^2	0.04	0.04	0.12	0.04

Notes: As a falsification test, this table analyzes whether public Norwegian firms displayed a similar differential response to the previous global recession. Results are reported from firm-panel regressions using the triple-difference framework reported in Table 3, column 5, except for the different time period. Standard errors, adjusted for clustering at the firm level, are reported in brackets.

Table A10. Board member characteristics by gender and tenure, 2009

			<i>P</i> -value of difference	Female board members			Male board members		
	Male	Female		Appointed before 2006	Appointed since 2006	<i>P</i> -value of difference	Appointed before 2006	Appointed since 2006	<i>P</i> -value of difference
<i>Professional experience</i>									
Age	54.135 [0.594]	48.902 [0.636]	<0.001	51.211 [1.227]	48.139 [0.731]	0.035	56.717 [0.796]	52.166 [0.816]	<0.001
CEO	0.314 [0.026]	0.170 [0.026]	<0.001	0.220 [0.059]	0.154 [0.029]	0.319	0.268 [0.038]	0.347 [0.035]	0.123
CFO	0.064 [0.014]	0.044 [0.014]	0.302	0.060 [0.034]	0.039 [0.015]	0.565	0.058 [0.020]	0.068 [0.018]	0.700
Other current board positions	0.638 [0.064]	0.858 [0.099]	0.064	1.060 [0.248]	0.795 [0.105]	0.329	0.558 [0.086]	0.696 [0.092]	0.272
Other previous board positions	0.900 [0.093]	0.714 [0.098]	0.170	1.020 [0.232]	0.621 [0.106]	0.123	0.949 [0.135]	0.864 [0.126]	0.645
<i>Education</i>									
MBA	0.158 [0.020]	0.130 [0.023]	0.360	0.100 [0.043]	0.139 [0.028]	0.444	0.151 [0.031]	0.163 [0.027]	0.767
Other masters' degree	0.176 [0.021]	0.188 [0.027]	0.744	0.200 [0.057]	0.184 [0.031]	0.801	0.166 [0.032]	0.184 [0.028]	0.659
PhD	0.030 [0.010]	0.048 [0.015]	0.317	0.020 [0.020]	0.057 [0.019]	0.177	0.022 [0.012]	0.037 [0.014]	0.409
<i>Role on board</i>									
Audit committee	0.319 [0.057]	0.633 [0.090]	0.004	0.556 [0.176]	0.667 [0.105]	0.596	0.324 [0.081]	0.314 [0.080]	0.936
Compensation committee	0.377 [0.059]	0.467 [0.093]	0.416	0.444 [0.176]	0.476 [0.112]	0.881	0.324 [0.081]	0.429 [0.085]	0.375
Nominating committee	0.145 [0.043]	0.033 [0.033]	0.042	0.000 [0.000]	0.048 [0.048]	0.329	0.206 [0.070]	0.086 [0.048]	0.164
Committee chair	0.290 [0.055]	0.167 [0.069]	0.168	0.333 [0.167]	0.095 [0.066]	0.212	0.353 [0.083]	0.229 [0.072]	0.263
Employee representative	0.209 [0.022]	0.133 [0.023]	0.019	0.100 [0.028]	0.143 [0.043]	0.403	0.158 [0.031]	0.246 [0.031]	0.047

Table A10. Board member characteristics by gender and tenure, 2009 (cont.)

	Male	Female	<i>P</i> -value of difference	Female board members			Male board members		
				Appointed before 2006	Appointed since 2006	<i>P</i> -value of difference	Appointed before 2006	Appointed since 2006	<i>P</i> -value of difference
<i>Industry experience</i>									
Consulting	0.104 [0.017]	0.141 [0.024]	0.210	0.140 [0.050]	0.141 [0.028]	0.986	0.101 [0.026]	0.105 [0.022]	0.911
Education	0.012 [0.006]	0.039 [0.014]	0.073	0.000 [0.000]	0.051 [0.018]	0.004	0.007 [0.007]	0.016 [0.009]	0.462
Energy	0.134 [0.019]	0.160 [0.026]	0.413	0.180 [0.055]	0.154 [0.029]	0.675	0.094 [0.025]	0.163 [0.027]	0.061
Engineering	0.195 [0.022]	0.107 [0.022]	0.004	0.140 [0.050]	0.096 [0.024]	0.427	0.159 [0.031]	0.221 [0.030]	0.157
Finance	0.159 [0.020]	0.160 [0.026]	0.960	0.140 [0.050]	0.167 [0.030]	0.646	0.196 [0.034]	0.132 [0.025]	0.127
High tech	0.024 [0.009]	0.015 [0.008]	0.411	0.020 [0.020]	0.013 [0.009]	0.745	0.022 [0.013]	0.026 [0.012]	0.789
IT	0.064 [0.014]	0.097 [0.021]	0.182	0.040 [0.028]	0.115 [0.026]	0.049	0.029 [0.014]	0.090 [0.021]	0.017
Law	0.058 [0.013]	0.112 [0.022]	0.036	0.100 [0.043]	0.115 [0.026]	0.759	0.073 [0.022]	0.047 [0.016]	0.354
Medicine	0.012 [0.006]	0.024 [0.011]	0.329	0.040 [0.028]	0.019 [0.011]	0.493	0.022 [0.013]	0.005 [0.005]	0.225
Pharmaceuticals	0.021 [0.008]	0.039 [0.014]	0.265	0.040 [0.028]	0.039 [0.015]	0.962	0.029 [0.014]	0.016 [0.009]	0.437
Public sector	0.021 [0.008]	0.058 [0.016]	0.044	0.040 [0.028]	0.064 [0.020]	0.483	0.015 [0.010]	0.026 [0.012]	0.446
Tourism	0.003 [0.003]	0.005 [0.005]	0.753	0.000 [0.000]	0.006 [0.006]	0.319	0.000 [0.000]	0.005 [0.005]	0.319
Observations	330	211		50	161		139	191	

Notes: This table reports means and standard errors (in brackets) for various characteristics of board members of listed firms in Norway in 2009. These firms are affected by the gender representation law. Average characteristics are reported separately for men and women, and for directors appointed before and after the gender representation law took effect, along with the *p*-values associated with the differences in means. Fewer observations are available for age and committee memberships.

Table A11. Controlling for board member age and turnover, within-Norway specification

	Operating profit / Assets	Log employment	Log labor costs	Decrease in employment > 3 percent
Listed*Post-2006	-0.025** [0.011]	0.465*** [0.076]	0.301*** [0.067]	-0.273*** [0.050]
Observations	3,111	2,365	2,365	1,864
Number of firms	610	520	520	413
R^2	0.06	0.21	0.33	0.08

Notes: This table tests whether the main results are robust to controlling for average board member age and turnover using data from the Norway business register. Results are reported from firm-panel regressions using the within-Norway difference-in-differences framework reported in Table 3, column 1, augmented with additional controls. The controls in all regressions include average board member age, board size, the average number of other board seats, and the share of new directors (i.e., those who were not directors at the same firm in the previous year) in addition to firm and year fixed effects and industry-specific time trends. Standard errors, adjusted for clustering at the firm level, are reported in brackets.

*** Significant at the 1 percent level.

** Significant at the 5 percent level.