Beyond the Glass Ceiling: Does Gender Matter?

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A large literature documents that women are different from men in their choices and preferences, but little is known about gender differences in the boardroom. If women must be like men to break the glass ceiling, we might expect gender differences to disappear among directors. Using a large survey of directors, we show that female and male directors differ systematically in their core values and risk attitudes, but in ways that differ from gender differences in the general population. These results are robust to controlling for differences in observable characteristics. Consistent with findings for the population, female directors are more benevolent and universally concerned but less power oriented than male directors. However, in contrast to findings for the population, they are less tradition and security oriented than their male counterparts. They are also more risk loving than male directors. Thus, having a woman on the board need not lead to more risk-averse decision making.

1. Introduction

In the light of recent corporate scandals and the ongoing financial crisis, the question has been raised whether things would be different if more women ran corporate America (Huffington 2003). One benefit of diversity is that people with different backgrounds may have different viewpoints. As Kirk and Gwin (2009) argue, these may be particularly valuable in difficult economic times. Kristof (2009) points out that financial firms are particularly male dominated and suggests that this may have contributed to the recent poor performance of banks. Harriet Harman, UK Labour Party's deputy leader, has gone so far as to blame the financial crisis on male domination in banks (Morris 2009).

Understanding whether corporate outcomes can be expected to change with more female board representation is particularly important in light of the increasing worldwide trend to enact boardroom gender quotas. Norway enacted a law in 2003 requiring firms to have 40% female directors by 2008. Spain passed guidelines in 2007 to encourage firms to increase the share of female directors to 40% by 2015. In 2010, the French National Assembly proposed a law that will impose 20% gender quotas on boards of listed French firms within three years of the law's adoption and 40% quotas after six years. Similar laws are currently under debate in Belgium, Germany, and the Netherlands.

To understand the effect of increased female participation in corporate leadership, we ask whether female directors are different from male directors. Academic research increasingly points to fundamental differences between men and women (e.g., Croson and Gneezy 2009). For example, studies suggest that women are generally more risk averse (Eckel and Grossman 2008, Sapienza et al. 2009) and less keen on being exposed to competition (Gneezy et al. 2003, Hogarth et al. 2012). In the field of psychology, survey evidence documents gender differences in core values that are robust across cultures (Schwartz and Rubel 2005). However, most of these studies focus on students, workers, or the general population; thus, it is unclear whether we should expect women at the top of the corporate ladder to be any different from men.

In fact, there are several reasons why we might expect gender differences to vanish beyond the glass ceiling. First, the evidence that women often try to avoid competitive environments (e.g., Niederle et al. 2008) suggests that women who pursue leadership positions may be very similar to men. Second, legal evidence that women were denied promotion because they acted too "feminine" (Branson 2006) suggests that only women who think like men may be promoted by their male colleagues. Third, women

in a predominantly male environment may adapt their behavior so that gender differences disappear. Although these three channels make gender gaps narrow, the opposite may also occur in an environment where femininity is seen as a comparative advantage: here, very feminine women may make it to the top, and gender gaps may actually be larger than in the representative population.

There are many metrics one could use to compare women and men. Because it is impractical to run experiments at the executive level, we conduct a survey focusing on directors' values. Personal values are abstract desirable goals that people strive to attain (e.g., Rokeach 1973) and that occupy an important place within individuals' social psychology (Hitlin and Piliavin 2004). Because values transcend particular situations, they are particularly useful for comparing directors from different firms. Researchers have shown that values predict a variety of actions and that these relations appear to be causal (Sagiv et al. 2011, Verplanken and Holland 2002). Thus, gender differences in values of directors may help to predict whether and how corporate outcomes will change as the representation of women in management increases.

We measure values as in Schwartz (1992). Schwartz identifies 10 basic human values that are recognized by all cultures and that leave out no major value that is meaningful across societies. These values are labeled achievement, power, security, conformity, tradition, benevolence, universalism, self-direction, stimulation, and hedonism. Although all values are desirable, it is impossible to attain all values at once. Some values are compatible with each other, and others conflict with each other in the sense that actions that promote one of them are likely to impede the attainment of the other. The dynamic relationships among them can be summarized as two basic conflicts: The first conflict is between openness to change (self-direction and stimulation) and conservation (tradition, conformity, and security) values. The second conflict contrasts self-enhancement (power and achievement) versus self-transcendence (benevolence and universalism) values. Hedonism shares elements of both openness and self-enhancement.

Our survey instrument consisted of Schwartz's 40 question Portrait Values Questionnaire (PVQ). Because a large literature argues that women are more risk averse than men (see Croson and Gneezy 2009) and risk aversion is considered an important factor influencing corporate outcomes (e.g., Graham et al. 2010), we augment the survey with a question designed to measure risk aversion. We also include a question that is designed to measure one aspect of director behavior (participation in board meetings),

which we use to examine whether values may affect corporate outcomes.

We surveyed the universe of resident directors and CEOs (1,796 individuals) of publicly traded firms in Sweden in 2005. In 2005, women held 17.34% of board seats in listed Swedish firms. In addition to the relatively high representation of women among directors, conducting such a survey in Sweden has several advantages. First, unlike in many other countries, it is straightforward to identify and obtain characteristics of the entire population of directors of publicly traded corporations. Surveying the population of directors reduces sample selection bias. Second, gender equality is high in Sweden. This suggests that any gender effects we find are less likely to be driven by stereotyping or gender biases than in other countries. Finally, Swedish board structure has features that closely resemble those of boards in sole board countries as in the United States and the United Kingdom, but it also shares features with dual board structures as in Germany, for example, the presence of worker representatives on the board. We take as reassuring evidence that our survey measures of values are meaningful that worker representatives (of both sexes) differ in reported values from the other directors along expected dimensions.

We received responses from 628 individuals (a response rate of 36.6% from directors and 29.7% from CEOs) representing all but 36 (12.59%) of all publicly traded firms in 2005. Compared to other surveys of executives, our response rates are high. For example, in a survey of 4,440 CFOs in the United States, Graham and Harvey (2001) obtain a response rate of 9%, and in a survey of primarily U.S.-based CEOs, Graham et al. (2010) obtain a response rate of 11%.

The responses indicate that *even at the top* women and men are significantly different in terms of values and risk attitudes. Male directors care more about achievement and power than female directors, and less about universalism and benevolence. This is consistent with prior literature (e.g., Schwartz and Rubel 2005) that has found that across cultures men consistently attribute more importance to self-enhancement values (achievement and power), whereas women emphasize self-transcendence values (universalism and benevolence). However, in contrast to the broad patterns documented for different cultures, female directors are less security and tradition oriented and care more about stimulation than male directors. Surprisingly, but in line with our finding that women in the boardroom care less about security than men, female directors are also slightly more risk loving than their male colleagues. These results are robust to controlling for observable characteristics such as age, family characteristics, and measures of educational and professional experience.

In 2006, Sweden was ranked number 1 out of 115 countries in the World Economic Forum's Global Gender Gap Index (GGGI), which benchmarks national gender gaps on economic, political, education- and health-based criteria. Because Sweden scores so highly in terms of emancipation, one may question the extent to which our findings generalize to countries other than Sweden. We address this concern in several ways. First, we use the World Value Survey (WVS) to show that gender gaps in values in the Swedish population are similar to those in other high income countries around the world. This suggests there is nothing unusual about the measurement of gender gaps in values in Sweden per se. Second, we collect data on director characteristics from BoardEx for high income countries that are both in the WVS and BoardEx and we show that the gender gaps in observable characteristics of male and female directors are similar in Sweden as in other countries. Observable characteristics may proxy for underlying mechanisms driving gender differences in values among Swedish directors. The fact that directors in other countries exhibit similar gender gaps in characteristics increases our confidence that our results may generalize outside of Sweden. In fact, we argue that gender gaps in the boardroom may be even bigger in countries in which it is more difficult for women to choose a high-profile career.

We add to the literature analyzing how culture, values and attitudes affect economic outcomes. Previous studies document effects of culture on labor force participation and fertility (Fernández 2007, 2012), economic exchange (Guiso et al. 2009) and per capita growth of regions (Tabellini 2008). The country-level studies that are most directly related to ours are by Siegel et al. (2010, 2011). In these papers, the authors show that differences in egalitarianism, a cultural value that is constructed using individual-level Schwartz value surveys, has a significant effect on foreign direct investment, cross-national investment flows of bond and equity issuances, syndicated loans, and mergers and acquisitions. Importantly, Siegel et al. (2010, 2011) argue that the effect of values is both economically significant and causal.

Our paper differs from these papers in our focus on values of individuals in corporations rather than in the population. To our knowledge, our paper is the first to examine gender gaps in values and risk attitudes at the individual director level in publicly traded corporations. Other authors examine gender gaps in values at the population level (e.g., Schwartz and Rubel 2005), but they do not examine values at the executive level because of the difficulty in obtaining this data. Authors who examine psychological measures of executive attitudes (e.g., Graham et al. 2010) do not focus on gender gaps, possibly because

of the limited representation of women in executive positions. We believe our focus is interesting for several reasons.

A small but growing literature documents that the presence of women in the boardroom matters for corporate outcomes. Adams and Ferreira (2009) and Apesteguia et al. (2012) document that diversity is related to measures of corporate performance. Ahern and Dittmar (2012) and Matsa and Miller (2010) find that firm value decreased following the introduction of the 40% gender quota for directors in Norway. Matsa and Miller (2010) attribute this to post-quota higher labor costs.

Our paper provides complimentary evidence that inputs into board behavior may also vary with boardroom gender diversity. We document that even at the director level and even after controlling for observable characteristics there are fundamental differences between women and men. This provides evidence supporting the arguments made by the above authors that changes in diversity can have causal effects on corporate outcomes. Furthermore, our results may help to shed light on the channel through which gender may affect corporate outcomes.

Understanding whether women in leadership positions are different from "typical" women in the population may help reduce statistical discrimination. Anecdotal evidence suggests that firms may be reluctant to appoint women to leadership positions because they believe they are too risk averse or conservative. Our evidence suggests that women in leadership positions do not satisfy these gender stereotypes, at least in Sweden. Although prospective female candidates for leadership positions are not equivalent to women who already occupy leadership roles, our results are at least suggestive that such candidates may have different attributes than the population average.

We show that women in the population have significantly different values than women who obtained their director positions in the competitive market for directors. We also show that female directors differ in observable characteristics from women in the population at large. If women are chosen to be board members because of quotas, one might expect them to have characteristics that lie somewhere in between those of these two groups. Thus, understanding the differences between directors and the population may help us to understand the potential impact of boardroom gender quotas on corporate outcomes.

Although we believe that individual survey data can be useful for understanding gender differences, it is difficult to relate our data directly to corporate outcomes because for many firms only a few directors responded to the survey. To provide at least some suggestive evidence on this issue, we relate directors'

values to our survey measure of their participation in board meetings. In conjunction with the literature arguing that values affect outcomes, our evidence supports the argument that gender differences matter.

2. Director Data

In this section, we first describe the population we survey and the mechanics of the survey. We then describe the survey questions and the construction of values and provide some summary statistics for our data.

2.1. The Survey

We used MM Partner, a database containing names of board members of all public and private firms in Sweden to identify the entire population of directors, CEOs and vice CEOs (the equivalent of the president or other person who is second in command to the CEO in a U.S. firm) of all publicly traded firms in Sweden in 2005. In 2005, there were 288 publicly traded firms listed on the OMX (A&O list) and the NGM (Nordic Growth Market). Including vice CEOs, these firms had 468 CEOs and 1,372 resident board members. We surveyed all CEOs and board members. To increase the response rate, we mailed the survey to the home addresses of each individual. We used the help of Statistics Sweden to guarantee that the responses were anonymous. Recipients of the survey mailed their responses to Statistics Sweden, which matched the responses to data on personal characteristics on the basis of personal identifying numbers and then removed all personal identifying information.

The first survey was sent out on July 14, 2006. We followed it up with two reminders. The last survey response was received on November 11, 2006.[1] In total, we received 502 responses (36.6%) from board members and 126 responses (29.7%) from CEOs.[2]

Most respondents filled out the entire survey. Thus, we have complete surveys for 485 board members and all CEOs. Although the response rate is good compared to other surveys of top management teams, an obvious concern in this context is that responses may be biased because female directors differ systematically in their tendency to respond. We discuss this briefly in §3.3.

From MM Partner, we obtain information on director age, tenure on the board, and the identities of worker representatives for the entire population of directors and CEOs.[3] From Osiris, we obtain Global Industry Classification (GICS) codes for the sample firms. From Statistics Sweden we obtain information on the number of children and the marital status of each director. From the European Social Survey (ESS) we obtain information on values of individuals in the Swedish population, as we describe in more detail in §3.1.

2.2. Survey Questions

The survey primarily contained questions designed to measure directors' and CEOs' values. We also asked two additional questions, which we describe below. The survey was carried out in Swedish. To ensure that the Swedish questions reflected the meaning of the English questions, we had the English survey translated into Swedish and then reverse translated into English. The survey is available in the Web appendix at http://www.econ.upf.edu/~funk/.

2.2.1. Director Values. To measure director and CEO values, we used Schwartz's 40 question PVQ. The PVQ serves as the basis for the measurement of human values in the ESS, because the Schwartz model of human values is the most comprehensive and has been validated extensively in cross-country analyses (Knoppen and Saris 2009). The PVQ includes short verbal portraits of different people that point implicitly to the importance of a single basic value by describing a person's goals, aspirations, or wishes. For example, "Thinking up new ideas and being creative is important to him. He likes to do things in his own original way," describes a person for whom self-direction values are important. By describing each person in terms of what is important to him or her the verbal portraits describe the person's values without explicitly identifying values as the subject of investigation.

For each portrait, respondents can answer the question "How much like you is this person?" in six possible ways: "very much like me," "like me," "somewhat like me," "a little like me," "not like me," and "not like me at all." The similarity judgments are transformed into a 6-point numerical scale and used to infer the respondents' own values. We code the answers so that they are increasing in agreement from 1 to 6; i.e., 6 represents the response "very much like me."

Although different Schwartz value surveys exists, a benefit of using the 40-item PVQ is that multiple responses are averaged to construct the 10 values.

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[1] Because the survey respondents mailed their surveys to Statistics Sweden, we were unable to obtain the exact dates of all responses.

[2] Thirty-two of the CEO respondents were vice CEOs, the rest were CEOs.

[3] Employees in Swedish firms with more than 25 employees have the right to appoint two directors, and employees in firms with more than 1,000 employees are allowed to appoint up to three directors (as long as employee representatives do not constitute a majority on the board).

Because the items that pertain to specific values do not appear in sequence in the PVQ, it is extremely difficult for respondents to infer how their answers will reflect on their values. After constructing and cleaning them following Schwartz (2009),[4] we create individual "centered" values by subtracting the mean individual response to the PVQ from each value. Correcting for individual differences in "answering priorities," helps us to identify individual's relative value priorities. We number each item in the PVQ from 1 to 40 and list the item numbers belonging to each value in Table 1.

2.2.2. Other Survey Questions. We ask two additional questions in the survey. The first is a question designed to measure risk aversion. Because we use Swedish data, we use a question that has been studied in the European context.[5] We chose a lottery risk question with responses on a 6-point scale that was used in the 2004 wave of the German Socio-Economic Panel (SOEP), a representative panel survey of the resident German population (see Dohmen et al. 2012). Dohmen et al. (2005) describe that this lottery question corresponds the most closely to lottery measures used in the majority of risk-aversion studies. Moreover, maintaining consistency in response categories was important to increase our response rate, thus we wanted a question that used a 6-point scale. Dohmen et al. (2012) discuss that this lottery question predicts behavior and have validated the question in laboratory experiments. We use their question with Swedish krona (SEK) instead of euros. We asked the following question: "Imagine you had won SEK 1,000,000 in a lottery. Almost immediately after you collect, you receive an offer from a reputable bank that there is a chance to double the money within two years. It is equally possible that you could lose half of the money invested. Which amount of SEK 1,000,000 would you invest: 1 (SEK 0), 2 (SEK 200,000), 3 (SEK 400,000), 4 (SEK 600,000), 5 (SEK 800,000), or 6 (SEK 1,000,000)?"

Higher answers to this risk question indicate lower risk aversion. Because this question presents respondents with a gamble involving explicit stakes

and probabilities, it holds risk perceptions constant across individuals. Thus, differences in responses are attributable to risk preferences alone. Another feature of this question is that it features a two-year time lag in order to create the context of a realistic investment. Although this may cause time preferences to influence the measurement of risk aversion, Dohmen et al. (2005) show in a field experiment that there is little reason to be concerned about this potentially confounding effect.

The final question we ask is a question which we use to examine whether values can be expected to predict corporate outcomes. The difficulty in linking values of individual directors directly to corporate outcomes is that for most firms only a fraction of directors responded to the survey. It would therefore be hard to argue that individual responses should necessarily be related to outcomes. To provide suggestive evidence that values may affect corporate outcomes, we use a question that is designed to measure director behavior. We argue that directors can only affect outcomes if they participate in decision making. If directors' values relate to the extent to which they participate in decision making, directors' values can plausibly affect corporate outcomes.

To measure whether directors participate in decision making we asked directors to rank their agreement with the following statement on a 6-point scale: "Please consider a recent important strategic decision that the board made. Please assess the level of debate and the decision-making process concerning that decision as follows: I voiced my views in the discussion." To facilitate exposition, we again code the answers so that they are increasing in agreement (1 "strongly disagree" to 6 "strongly agree"). Because this question is board specific and we could survey each director only once, we randomly chose a board seat from each director's set of board seats and asked the director to answer firm-specific questions for that board seat in the cover letter. In formulating the question, we do not specify a specific decision because the management literature argues that this formulation better captures general patterns of team interaction that are stable over time (e.g., Simons et al. 1999).

2.3. Summary Statistics
The top part of Table 1 presents summary statistics for the reported values, the risk aversion, and the behavior question for all respondents. Survey respondents generally rank high on benevolence and self-direction values, and low on tradition. Concerning risk taking, Swedish directors would choose to invest on average a bit less than 1/3 of the SEK 1,000,000 in the lottery. To put this number into perspective, we calculate the mean for the German population using data from the 2004 wave of the German SOEP. We restrict

[4] For the 57 item survey, Schwartz (2009) argues that subjects should be dropped if they leave 15 or more items blank or chose a particular response (e.g., always choose a response of three) more than 35 times. We adopt these cutoffs to account for the smaller number of items in the PVQ. Because most individuals answered all questions, we did not drop individuals because of too much missing data. However, we dropped individuals for whom 30% or more of the answers for a given value were missing (one individual) or individuals who indicated the same scale for 25 (or more) out of the 40 value questions (two individuals). In total, we excluded three respondents from our analysis.

[5] Because we were concerned about the length of the survey, we could use only one question.

Table 1   Summary Statistics

	Observations	Mean	Std. dev.	Min	Max
Values (relative)					
Achievement (items 4, 13, 24, 32)	625	0.02	0.76	−2.4	2.35
Power (items 2, 17, 39)	625	−0.44	0.74	−3.18	1.94
Security (items 5, 14, 21, 31, 35)	625	−0.06	0.63	−2.03	1.43
Conformity (items 7, 16, 28, 36)	625	−0.28	0.73	−2.35	1.83
Tradition (items 9, 20, 25, 38)	625	−1.25	0.59	−3.10	0.47
Benevolence (items 12, 18, 27, 33)	625	0.56	0.59	−1.55	2.25
Universalism (items 3, 8, 19, 23, 29, 40)	625	0.38	0.63	−1.50	2.55
Self-direction (items 1, 11, 22, 34)	625	0.91	0.63	−1.25	2.85
Stimulation (items 6, 15, 30)	625	−0.13	0.86	−2.65	2.55
Hedonism (items 10, 26, 37)	625	−0.04	0.88	−2.65	2.38
Measure risk					
Investment: 1 (0%) to 6 (100%)	617	2.63	1.42	1	6
Board behavior question					
"I voiced my views in the discussion": 1 (strongly disagree) to 6 (strongly agree)	496	4.90	1.12	1	6
Individual characteristics (respondents)					
Female dummy	628	0.17	0.37	0	1
Age	628	54.28	9.15	25	74
Marital status dummy	628	0.79	0.41	0	1
Number of kids	628	2.18	1.16	0	7
CEO dummy	628	0.20	0.40	0	1
Worker-representative dummy	628	0.20	0.40	0	1
University degree	628	0.60	0.49	0	1
Number of degrees	628	0.68	0.62	0	3
Number of board seats	628	1.35	0.85	1	7
Tenure	628	2.62	2.21	0	9
Individual characteristics (all directors)					
Female dummy	1,796	0.17	0.38	0	1
Age	1,796	53.07	9.20	25	81
Marital status dummy	1,796	0.76	0.42	0	1
Number of kids	1,796	2.12	1.14	0	7
CEO dummy	1,796	0.24	0.42	0	1
Worker-representative dummy	1,796	0.23	0.42	0	1
University degree	1,796	0.56	0.50	0	1
Number of degrees	1,796	0.64	0.63	0	3
Number of board seats	1,796	1.29	0.78	1	7
Tenure	1,796	2.74	2.27	0	9

Notes. The data are for Swedish directors in 2005. The values are for the survey respondents in 2006. The raw value scores range between 1 and 6, with higher numbers reflecting a higher importance of the respective value dimension. Items refer to items 1–40 in Schwartz's PVQ, which is available in our Web appendix. Uncentered values are the means of the item numbers in brackets. Relative values are centered around the individual's mean response to the PVQ and reflect a respondant's relative value priorities in life. The risk measure is the answer to the question of how much of SEK 1,000,000 individuals would invest in a fair lottery (with equal chances of winning twice as much or losing half): 0 (1), 20,000 (2), 40,000 (3), 60,000 (4), 80,000 (5), 1,000,000 (6). The board behavior question is directors' response to the question, "Please consider a recent important strategic decision that the board made. Please assess the level of debate and the decision-making process concerning that decision as follows: I voiced my views in the discussion." Answers to this question are on a 6-point scale from 1 "strongly disagree" to 6 "strongly agree." The first set of individual characteristics is for the survey respondents; the second set is for the population of surveyed directors. *Marital status* is a dummy variable taking the value of 1 if married and 0 otherwise. *Number of kids* is the number of children. *University degree* is a dummy variable taking the value of 1 if the individual is in possession of a university degree. *Number of board seats* gives the total number of boards the director is on, and *Tenure* the (average) number of years on the boards. Data sources are Market Manager, Statistics Sweden, and survey responses.

the sample of respondents to be of similar age as our directors (i.e., between 25 and 74 years old), which leaves us with 16,924 respondents. We get a mean of 1.7, which is a bit lower than the average value of 2.6 for Swedish directors. Although cultural differences may explain the differences in means, we believe it is plausible that directors of publicly traded corporations will be less risk averse than members of the general population. Finally, with an average value of 4.9,

directors seem to moderately agree that they voiced their views in the discussion.

The bottom part of Table 1 reports summary statistics for individual director characteristics split up by survey respondents (middle panel) and the population of directors (bottom panel). Respondents appear quite similar to the population, except that the share of CEOs and worker representatives is slightly lower than in the population. Survey respondents are

more likely to have a university degree. Interestingly, women show no difference in response behavior than men: 17% of directors are female, and 17% of the population is female. Differences in responding behavior between men and women are also statistically insignificant.

3. Gender Differences in the Boardroom

We first examine whether or not gender gaps in values exist at the director level. We then use data on worker representatives to assess whether our survey questions appear meaningful. Finally, we address some sorting issues by using industry and firm fixed effects.

3.1. Gender Gaps in Values and Risk Attitudes

We examine how female directors differ from their male counterparts by comparing their value priorities and risk attitudes. Because we are primarily interested in comparing male and female directors who made it into the boardroom by other means than employment law, we exclude worker representatives. That leaves us with a sample of 499 directors. Because some CEOs are also board members, we include CEOs in our director category, although our results are similar if we exclude them. For each relative value and the risk answer, we estimate the gender gap by estimating $Y_i = \alpha + \beta Female_i + \varepsilon_i$, where i denotes the individual and *Female* is a dummy variable taking a value of 1 if the individual is female and 0 otherwise. We correct the standard errors for group correlation at the firm level and potential heteroskedasticity. If a director sits on more than one board, we use the board seat to which we randomly assigned them in the cover letter to correct the standard errors.

Panel A of Table 2 documents that female and male directors differ in most, but not all value dimensions. Female directors care more about benevolence,

Table 2 Values and Risk Attitudes of Male and Female Directors

	Achievement	Power	Security	Conformity	Tradition	Benevolence	Universalism	Self-direction	Stimulation	Hedonism	Risk
	Panel A: Swedish directors (worker-representatives excluded)										
Female director	−0.0166	−0.295***	−0.231***	−0.375***	−0.194***	0.322***	0.307***	0.0970	0.226**	0.0667	0.306*
	(0.105)	(0.0940)	(0.0854)	(0.0899)	(0.0722)	(0.0813)	(0.0806)	(0.0840)	(0.0980)	(0.110)	(0.170)
Constant	0.131***	−0.307***	−0.0786**	−0.317***	−1.241***	0.485***	0.267***	0.968***	−0.0707*	−0.0634	2.588***
	(0.0354)	(0.0349)	(0.0307)	(0.0349)	(0.0282)	(0.0286)	(0.0288)	(0.0311)	(0.0404)	(0.0454)	(0.0714)
Observations	499	499	499	499	499	499	499	499	499	499	491
	Panel B: Swedish directors (worker-representatives excluded) and Swedish population sample										
Female director	0.0836	−0.00589	−0.307***	−0.256**	−0.341***	0.0434	0.146*	0.118	0.486***	0.0191	
	(0.120)	(0.102)	(0.0940)	(0.109)	(0.0924)	(0.0851)	(0.0855)	(0.0931)	(0.114)	(0.125)	
Director	0.729***	0.472***	0.0672	−0.138***	−1.114***	−0.191***	−0.367***	0.371***	0.354***	−0.0864	
	(0.0491)	(0.0462)	(0.0471)	(0.0485)	(0.0450)	(0.0380)	(0.0386)	(0.0425)	(0.0544)	(0.0554)	
Female	−0.172***	−0.298***	0.0800	−0.0925*	0.172***	0.289***	0.181***	−0.0293	−0.289***	0.0674	
	(0.0487)	(0.0435)	(0.0506)	(0.0507)	(0.0494)	(0.0363)	(0.0363)	(0.0427)	(0.0506)	(0.0491)	
Constant	−0.593***	−0.778***	−0.155***	−0.180***	−0.115***	0.677***	0.631***	0.592***	−0.429***	0.0283	
	(0.0348)	(0.0313)	(0.0364)	(0.0344)	(0.0353)	(0.0261)	(0.0258)	(0.0309)	(0.0357)	(0.0355)	
Observations	1,747	1,740	1,743	1,739	1,746	1,753	1,764	1,743	1,748	1,745	
	Panel C: Swedish directors and worker representatives										
Female director	0.222	−0.0306	−0.0899	−0.273*	−0.0175	0.0191	−0.0161	0.00155	0.130	0.136	0.581*
	(0.163)	(0.143)	(0.137)	(0.154)	(0.144)	(0.141)	(0.134)	(0.160)	(0.174)	(0.185)	(0.307)
Director	0.484***	0.449***	−0.268***	−0.416***	−0.103	−0.120*	−0.307***	0.364***	0.443***	−0.116	−0.120
	(0.0916)	(0.0862)	(0.0704)	(0.0724)	(0.0725)	(0.0658)	(0.0719)	(0.0698)	(0.0956)	(0.0940)	(0.153)
Female	−0.238*	−0.265**	−0.141	−0.102	−0.176	0.303***	0.323***	0.0955	0.0954	−0.0693	−0.275
	(0.121)	(0.113)	(0.121)	(0.119)	(0.126)	(0.103)	(0.103)	(0.141)	(0.150)	(0.142)	(0.242)
Constant	−0.353***	−0.757***	0.189***	0.0982	−1.138***	0.606***	0.575***	0.604***	−0.513***	0.0523	2.708***
	(0.0835)	(0.0781)	(0.0655)	(0.0634)	(0.0676)	(0.0596)	(0.0666)	(0.0656)	(0.0896)	(0.0832)	(0.142)
Observations	625	625	625	625	625	625	625	625	625	625	617

Notes. Panel A reports gender differences in values and risk attitudes for the sample of directors that responded to the survey (worker representatives excluded). *Female director* is a dummy variable taking a value of 1 if female and 0 otherwise. The sample in panel B is a combined data set of the 499 nonworker representative directors and Swedish survey respondents to the third ESS. The ESS does not contain the same risk question as in our director sample. The sample in panel C is the whole director sample, i.e. regular directors and worker representatives. *Director* is a dummy variable taking a value of 1 in case of a nonworker-representative director and 0 otherwise. Standard errors are clustered at the company level in panels A and C and adjusted for heteroskedasticity in panel B.

*Significance at the 10% level; **significance at the 5% level; ***significance at the 1% level.

universalism, and stimulation. On the other hand, they care less about power, security, conformity, and tradition. The coefficients are large in magnitude and up to around 1/2 of the values' standard deviations for benevolence, universalism, and conformity. Surprisingly, women in the boardroom are also slightly more risk loving than men.

This evidence suggests that gender differences do not disappear above the glass ceiling. Moreover, some of the "typical" population gender gaps appear to reverse for directors. For example, prior literature suggests that across countries women are less stimulation and more tradition and security oriented than men. Even though these results also hold for the Swedish population, female directors in our sample care more about stimulation and less about security and tradition than their male counterparts.

To get a better sense of the magnitudes of the differences in gender gaps for directors and those in the population, we append our director data to data for Sweden from the third round (2006/2007) of the ESS, which uses 21 items to measure Schwartz values.[6] To compare individuals of a similar age, we restrict the sample of nondirectors to be between 25 and 74 years old. We cleaned the ESS data following Schwartz (2009) and constructed centered values based on the 21 item value survey.[7]

We estimate the following model for each value Y_x, $x \in \{1, \dots, 10\}$ (the ESS contains no risk aversion question): $Y_{xi} = \alpha + \beta Female_i + \gamma Director_i + \delta Female \cdot Director_i + \varepsilon_i$. If $\beta \neq 0$, women in the population are different from their male counterparts. If $\gamma \neq 0$, male directors differ from male nondirectors, and if additionally $\delta = 0$, the gender gap in the population is the same as the gender gap among directors. Finally, female directors are different from women in the population at large if $\gamma + \delta \neq 0$.

Panel B of Table 2 shows the regression results.[8] From the estimated γs, we see that the values of directors differ significantly from those in the population in expected ways. Directors care more about achievement, power, self-direction, and stimulation and less

about benevolence, universalism, conformity, and tradition than members of the population.

Consistent with prior literature, female members of the population care less about power and achievement, but more about benevolence and universalism than male members of the population. Also, women care relatively less about stimulation and conformity, but more about tradition. The extent to which these gender gaps prevail at the director level can be seen from the interaction terms. Because they are insignificant for achievement, power, and benevolence, the same gender gaps that exist in the Swedish nondirector population also exist at the director level. In contrast, however, the gender gaps at the director level are significantly different from the population gender gaps for security, conformity, tradition, and stimulation. In the population, women are more tradition oriented than men, equal in terms of security, and less conformity and stimulation oriented than men. At the director level, female directors care less about tradition, security, and conformity but more about stimulation. Thus, gender gaps at the director level are "atypical" when it comes to preferences for conservation and change. In the remainder of this section, we investigate how robust the gender gaps at the director level are to various concerns about survey data. In §4, we investigate potential explanations for these results.

3.2. Different Director Types
A common concern with survey data is that answers are biased. For example, the social nature of the survey may affect respondents' answers because respondents may try to answer according to what they think the researcher wants to hear. Although the 40-item PVQ is designed to minimize common survey biases (e.g., it is difficult for respondents to infer what the "right" answer should be), this may still be a concern. Thus, we perform a robustness check by comparing the responses of worker representative directors to those of "regular" directors. In our previous analyses, we omitted worker representatives because we expected them to be different from other directors. But if this is really the case, then verifying that the values of regular directors and worker representative directors differ in expected ways can serve as a robustness check that the measurement error in our survey measures of director values is not too large to render them meaningless.

We reestimate the model $Y_{xi} = \alpha + \beta Female_i + \gamma Director_i + \delta Female \cdot Director_i + \varepsilon_i$ for each value and the risk question in the sample of all director survey respondents, except that now "director" means "regular director." If $\beta \neq 0$, female worker representatives are different from their male counterparts. If $\gamma \neq 0$, male directors differ from male worker representatives, and if additionally $\delta = 0$, the gender gap

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[6] The results would be similar if we used the WVS however the ESS sample for Sweden is larger. Also, the ESS Schwartz value survey resembles our survey more because it is longer than in the WVS (21 items as opposed to 10).

[7] The 10 values are computed as before except with fewer component items.

[8] Because most of the 21 items in the ESS Schwartz value survey are a subset of our 40-item PVQ, we also constructed 21-item values for our directors and redid the comparison. The coefficients on the female and female director variables all had the same sign and similar significance. Thus, our results are robust to how we match our sample to the ESS. We do not show these results because they are based on less detailed information than the results in the paper.

among the worker representatives is the same as the gender gap among the "regular" directors. Finally, female directors are different from female worker representatives if $\gamma + \delta \neq 0$. Panel C of Table 2 shows the regression results. From the estimated γs, we see that directors are fundamentally different from worker representatives. Directors care more about achievement and power, and less about benevolence and universalism than worker representatives.

Using Schwartz's terminology, regular directors rank higher on self-enhancement values and lower on self-transcendence values. Regular directors also differ from worker representatives along their attitudes toward change. They prioritize self direction and stimulation at the cost of security, conformity, and tradition. Because these findings are consistent with intuition, this evidence suggests that our measures of values are not systematically biased. We also find that female directors differ from female worker representatives primarily through the effect of being a director (apart from the risk attitude and conformity question, the interaction terms δ are insignificant). Therefore, women who acquired their seat in the boardroom through competition are more power and achievement oriented than worker representatives of the same sex. Also, they are less tradition oriented and more open to change. They are also significantly more risk loving. In fact, female directors differ from all the other members of the board by a significantly higher willingness to take risks.

These results are potentially interesting for countries with codetermination (e.g., Sweden or Germany) in which one avenue for increasing boardroom gender diversity is the appointment of more female worker representatives. Our analysis highlights that female board members who are recruited from within the firm's employees and female board members who are recruited in the market for executives may differ. Thus, changes in boardroom gender diversity can have different effects depending on how gender diversity is achieved.

3.3. Within-Firm Variation
Another common concern with surveys is biases due to sample selection. There are two main types of biases. The first arises because the surveyed population may not be representative of the underlying population. The second arises because respondents may be systematically different from nonrespondents. The first type of bias is not a concern for our survey because we survey the population of directors of publicly traded firms. However, the second type of bias may still be a concern. For instance, if response rates vary by industry and board seat occupancies differ by industry and gender, then our estimated gender gaps may be unrepresentative.

We examine patterns of response rates and gender occupancy of board seats by industry in the sample of all board seats in publicly traded firms occupied by the population of our directors (2,940 observations in 2005). We were unable to obtain GICS codes for all firms, thus we end with a sample of 2,745 board seats with industry data. Because we are interested in response behavior at the industry level, we counted directors only once even if they occupied several board seats within a given industry. On the other hand, directors appear multiple times in the data if they are on different boards in different industries. That leaves us with a final sample size of 2,816. We test the null hypothesis that response rates are equal across industries by regressing a survey respondent dummy on industry dummies and performing an F-test for equality of coefficients on the industry dummies. The F-statistic is 0.4625, which means we cannot reject the null. In addition, if we add industry dummies to the regressions in panel A of Table 2 our results are similar (see panel A of Table 3). As such, there is no a priori reason to believe that the sample of our respondents is systematically different from the population because of industry clustering.[9]

Although our results appear robust to common survey concerns, it is also possible that they are driven by sorting. For example, some firms may have boards that are attractive to directors with certain types of values and these firms may drive our results. Thus, we examine whether gender gaps in the boardroom still exist when we examine within-firm variation in values. To do this we match our individual value data to the sample of directorships. In this data each director is matched to all of his or her directorships and thus may occur more than once. We end with a sample of 718 observations. Using this sample, we rerun the previous regressions after controlling for firm fixed effects and adjusting our standard errors for clustering at the director level.

The results in panel B of Table 3 strongly suggest that even within firms gender differences persist. As before, female directors appear less power oriented, more benevolent, and rank lower on security, conformity and tradition. They value high stimulation and self-direction and are willing to take higher risks. Because firm effects in this sample control for any firm specific factor that is omitted, such as board size,

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[9] The summary statistics on individual characteristics in Table 1 also suggest that our respondents may not differ too systematically from the nonrespondents. Although on average respondents are different from the average director in the population, these differences generally do not appear economically significant. Nevertheless, as a further robustness check we estimate Heckman selection models of individual director responses. The results are available upon request.

Table 3   Values and Risk Attitudes: Robustness to Industry Fixed Effects and Firm Fixed Effects

	Achievement	Power	Security	Conformity	Tradition	Benevolence	Universalism	Self-direction	Stimulation	Hedonism	Risk
					Panel A: Industry fixed effects						
Female director	−0.0253	−0.301***	−0.217**	−0.355***	−0.179**	0.304***	0.304***	0.0605	0.240**	0.0751	0.369**
	(0.110)	(0.0983)	(0.0868)	(0.0940)	(0.0756)	(0.0835)	(0.0821)	(0.0844)	(0.101)	(0.112)	(0.167)
Observations	499	499	499	499	499	499	499	499	499	499	491
R-squared	0.053	0.048	0.056	0.048	0.067	0.067	0.079	0.074	0.036	0.041	0.075
					Panel B: Firm fixed effects						
Female director	−0.0157	−0.214	−0.273***	−0.413***	−0.197**	0.304***	0.296***	0.219*	0.303**	−0.0865	0.417*
	(0.151)	(0.134)	(0.0972)	(0.112)	(0.0904)	(0.106)	(0.101)	(0.124)	(0.142)	(0.158)	(0.234)
Observations	718	718	718	718	718	718	718	718	718	718	707
R-squared	0.383	0.412	0.429	0.448	0.390	0.413	0.387	0.402	0.388	0.421	0.368

Notes. The sample in panel A is the set of directors that responded to the survey (worker representatives excluded). The sample in panel B consists of all director-firm matches for directors that responded to the survey. Dependent variables are the centered value dimensions using the Schwartz 40 item PVQ and the risk measure. *Female director* is a dummy variable taking a value of 1 if female and 0 otherwise. All estimations include industry fixed effects (panel A) or firm fixed effects (panel B). Standard errors are clustered at the firm level in panel A and at the director level in panel B.

*Significance at the 10% level; **significance at the 5% level; ***significance at the 1% level.

composition, and ownership structure, the gender differences we document do not appear to be driven by corporate culture or omitted firm effects.

4.   Mechanism

As we document in §6, population gender gaps in values in Sweden are similar to those in other countries at a similar stage of development. A natural question is then: what is the underlying mechanism that explains why gender gaps in the boardroom are different from those in the population?

To a certain extent we believe it is not so surprising that gender gaps in the boardroom are different from those in the population. Arguments that women must be like men to succeed in executive positions (e.g., Branson 2006) already suggest that boardroom gender gaps should be different from typical gender gaps. Moreover, it is natural to expect that directors will be different from the general population, although there is little direct evidence on this issue. Our results in Table 2 provide some novel evidence that this is indeed the case because they show that directors are significantly different from the population along almost every single value dimension. However, what is not necessarily clear is why some population gender gaps may actually reverse in the boardroom, so that female directors are more open to change than male directors. There are several potential stories that might explain this, although identifying the exact mechanism is difficult. It is also possible that multiple factors drive our results.

One possibility is that firms choose female directors who exhibit a more extreme focus on certain values than their male colleagues. Lyness and Judeisch (1999) argue that more extreme job performance is required for women to overcome gender stereotypes, especially if women are externally appointed. In Adams and

Ferreira's (2009) sample of U.S. firms, most female directors are outside directors. This is also the case in our sample because in Sweden only one insider sits on the board, usually the CEO. Thus, it is possible that women need to be more extreme in some characteristics than men in order to obtain their board seats. Because women are in the minority in the boardroom, it is possible that the extreme values they need to exhibit are precisely those values that might be important to fit into an atypical role (i.e., less conservation and more openness to change values). However, to the extent that the firm-level characteristics driving the selection process for female directors can be proxied by firm fixed effects, our results from §3.3 suggest that this may not be the only factor driving gender gaps in the boardroom.

Another possibility is that the women who choose career paths that ultimately lead to board appointments are significantly different from both other women in the population and male directors in characteristics that could be related to values. For example, Bertrand et al. (2010) document that many qualified women drop out of the labor market as soon as they have children. This suggests that the costs of choosing a career path leading to a directorship are higher for women than for men. Thus, it is plausible that the sample of female director candidates differs from the sample of male candidates in important ways. For example, female director candidates may have fewer children than both members of the population and male directors. To the extent that the number of children is correlated with values, gender gaps in values may arise in the boardroom. If female directors differ from male directors primarily in their observable characteristics, we would expect boardroom gender gaps to decrease once we control for these characteristics.

However, it is even more likely that the costs of choosing a career path lead female director candidates to be different from male candidates in unobservable characteristics such as values. For example, female director candidates who choose not to drop out of the labor market to have a family may have extremely high stimulation values. To the extent that career costs lead female director candidates to differ significantly in their values from both the population and male director candidates, gender gaps in values will appear in the boardroom. To examine this selection argument in more detail, we would need data on the population of female director candidates and measures of costs of choosing a high-profile career path, which we do not have. Thus, at this stage we simply advance this as a plausible argument that poses an interesting topic for future research.

To examine the extent to which *observable* characteristics explain boardroom gender gaps, we examine observable characteristics for which we have data both in our director sample and in the ESS. These are age, a dummy variable indicating marital status ($1 = $ married), the number of children, and a dummy variable indicating possession of a university degree ($1 = $ university degree). We estimate $Y_i = \alpha + \beta Female_i + \varepsilon_i$ with individual characteristics as dependent variables using the entire sample of ESS data and the entire sample of nonworker representative directors; i.e., we do not restrict directors to survey respondents, but we do restrict the ESS sample to a similar age group as the directors. We correct the standard errors for heteroskedasticity.

As is clear from Table 4, there are gender gaps in characteristics in the population; i.e., women have more children on average and are more likely to have a university degree than men. Male directors are also

Table 4   **Individual Characteristics: Directors vs. Representative Swedes**

	Age	Married	No. of kids	University degree
Female	1.032	0.00560	0.230***	0.0698***
	(0.704)	(0.0261)	(0.0677)	(0.0254)
Director	6.642***	0.316***	0.673***	0.317***
	(0.565)	(0.0215)	(0.0590)	(0.0224)
Female director	−4.890***	−0.101**	−0.800***	−0.0226
	(0.945)	(0.0423)	(0.109)	(0.0431)
Constant	47.86***	0.518***	1.640***	0.359***
	(0.502)	(0.0186)	(0.0497)	(0.0178)
Observations	2,858	2,853	2,858	2,858
R-squared	0.062	0.103	0.054	0.087

Notes. The data are a combined data set of the population of 1,377 nonworker representative directors and 1,483 Swedish survey respondents to the third ESS with data on individual characteristics. Robust standard errors are in parentheses.

*Significance at the 10% level; **significance at the 5% level; ***significance at the 1% level.

significantly different from members of the population in all characteristics; i.e., they are older, more likely to be married with more children, and more likely to have a university degree. Most importantly, female directors are younger, less likely to be married, and with fewer children on average than male directors. Thus, the gender gaps in observable characteristics in the population are different from the gender gaps in characteristics in the boardroom. If values are also correlated with these observable characteristics, then the gender gaps in values we document for directors could potentially be explained by omitted variable bias.

To examine whether difference in readily observable characteristics may explain boardroom gender gaps in values after controlling for firm characteristics, we reestimate our director value regressions in the same sample we used for our firm fixed effect specifications in §3.3. We correct all standard errors for potential heteroskedasticity and group correlation at the director level.

Table 5 shows the results of adding the following individual characteristics to our firm fixed effect specifications: director age, a dummy indicating marital status, the number of children, the number of university degrees, the number of board seats, and tenure on the board. The latter two variables have no population counterpart but are plausibly correlated with both gender and values because they are measures of professional experience. To assess the importance of the control variables, we replicate the coefficients on the female dummy for the firm fixed effect specifications from §3.3 in the first row of Table 5. Comparing these coefficients with the coefficients on the female dummy in the row below, we see that differences in personal characteristics may partly explain some of the gender gap in values for directors. The coefficients on security, conformity, tradition, stimulation, and risk all decrease in magnitude and the coefficient on risk is no longer statistically significant.

Because the dimensions of stimulation, conformity, and tradition are precisely the dimensions along which boardroom gender gaps in values are the reverse of those in the population, these results suggest that sorting of women with certain observable characteristics may partly explain our results. However, sorting based on observables does not seem to completely explain gender gaps in values, because the signs of the gender gaps do not change, only the magnitudes.[10] Moreover, we cannot claim that these

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[10] Another possibility is that the boardroom environment leads women to change their values. For example, they may emphasize and exaggerate their femininity as a form of comparative advantage. However, because the gender gaps remain even after we control for measures of boardroom experience such as the number of board seats and tenure, we believe that this explanation is not the main driver for our results.

Table 5 Values and Risk Attitudes of Male and Female Directors: Sensitivity to Controls Using Within-Firm Variation

	Achievement	Power	Security	Conformity	Tradition	Benevolence	Universalism	Self-direction	Stimulation	Hedonism	Risk
					Panel A: No control variables						
Female director	−0.0157	−0.214	−0.273***	−0.413***	−0.197**	0.304***	0.296***	0.219*	0.303**	−0.0865	0.417*
	(0.151)	(0.134)	(0.0972)	(0.112)	(0.0904)	(0.106)	(0.101)	(0.124)	(0.142)	(0.158)	(0.234)
					Panel B: Control variables						
Female director	−0.0566	−0.302**	−0.234**	−0.380***	−0.191**	0.353***	0.349***	0.229*	0.255*	−0.201	0.344
	(0.148)	(0.139)	(0.102)	(0.112)	(0.0946)	(0.108)	(0.108)	(0.121)	(0.141)	(0.166)	(0.249)
Age	−0.00795*	0.00177	0.00224	0.00360	0.00471	−0.00211	0.00215	0.00188	0.00317	−0.0131**	0.00855
	(0.00455)	(0.00457)	(0.00461)	(0.00519)	(0.00408)	(0.00371)	(0.00407)	(0.00469)	(0.00644)	(0.00656)	(0.0107)
Married	0.138	−0.0486	0.0253	0.194*	0.0730	−0.0182	0.0478	−0.0938	−0.259*	−0.222	0.165
	(0.101)	(0.116)	(0.0967)	(0.105)	(0.0760)	(0.0996)	(0.0874)	(0.0932)	(0.133)	(0.135)	(0.256)
Number of kids	−0.0382	−0.0758**	0.00643	−0.00131	−0.00262	0.0253	0.0162	0.0280	0.0105	0.000915	0.0957
	(0.0336)	(0.0368)	(0.0323)	(0.0367)	(0.0294)	(0.0297)	(0.0285)	(0.0353)	(0.0539)	(0.0480)	(0.0761)
Number of degrees	0.136*	0.0508	−0.0631	−0.0758	0.0530	0.0265	−0.0669	0.0150	0.0184	−0.0286	−0.0421
	(0.0800)	(0.0631)	(0.0592)	(0.0745)	(0.0593)	(0.0515)	(0.0579)	(0.0590)	(0.0955)	(0.0791)	(0.141)
Number of board seats	0.0247	0.0515	0.0542*	−0.0198	−0.0504	0.00834	−0.0416	0.0110	−0.0693	0.0555	0.00938
	(0.0249)	(0.0341)	(0.0315)	(0.0386)	(0.0320)	(0.0293)	(0.0339)	(0.0384)	(0.0461)	(0.0454)	(0.0731)
Time on board	0.00448	−0.0100	0.00912	−0.0122	−0.0119	0.0317**	0.0237	−0.0125	−0.0129	−0.0368	−0.0953**
	(0.0185)	(0.0209)	(0.0187)	(0.0195)	(0.0172)	(0.0153)	(0.0180)	(0.0203)	(0.0257)	(0.0248)	(0.0440)
Constant	0.388	−0.285	−0.306	−0.543*	−1.480***	0.420*	0.106	0.878***	0.113	0.898**	3.847***
	(0.279)	(0.274)	(0.254)	(0.313)	(0.234)	(0.226)	(0.232)	(0.278)	(0.361)	(0.384)	(0.624)
Observations	718	718	718	718	718	718	718	718	718	718	707
R-squared	0.403	0.426	0.444	0.457	0.404	0.423	0.399	0.407	0.405	0.445	0.383

Notes. The sample in panel B consists of all director-firm matches for directors that responded to the survey. Dependent variables are the centered value dimensions using the Schartz 40 item PVQ and the risk measure. *Female director* is a dummy variable taking a value of 1 if female and 0 otherwise. All regressions include firm fixed effects. Panel A replicates the baseline estimates for the regressions with firm fixed effects (see Table 3). The remaining rows contain controls for age, marital status, the number of children, the number of university degrees, the number of board seats and the number of years in the director position. Standard errors are clustered at the director level.

*Significance at the 10% level; **significance at the 5% level; ***significance at the 1% level.

regressions have a causal interpretation because values may also influence some of the personal characteristics we measure.

It is possible that other observable personal characteristics are more important for gender gaps in values than the ones for which we have data. It is also quite likely that a combination of unobservable characteristics (values) and personal characteristics (costs of choosing a career path) matter for the supply of executives and may cause the gender gaps we observe. Thus, our tentative conclusion is that sorting and self-selection on observables may partly explain our results, but that more research needs to be done to fully explain gender gaps in the boardroom.

5. Values and Corporate Outcomes

To provide additional evidence consistent with the idea that values may affect outcomes, we examine the relationship between our survey question related to director behavior and values and the risk answer. We regress the answers to the question regarding whether directors voiced their views in the discussion concerning a recent decision (which we label participation) on values and the risk answer and cluster the standard errors for group correlation at the firm level. The regressions suggest that values are significantly

related to directors' assessments of their participation. The coefficients on all values are significant at greater than the 1% level except for hedonism, universalism, and risk, which are not significantly related to participation. The coefficients on achievement, power, self-direction, and stimulation are positive and the coefficients on security, conformity, tradition, and universalism are negative. This provides at least some suggestive evidence that director values can influence outcomes.[11]

To assess the potential impact of gender gaps in values, one would also like to have a sense of *how* values may affect corporate outcomes. Adams et al. (2011) provide some suggestive evidence for the self-transcendence (benevolence and universalism) versus self-enhancement (achievement and power) axis. They present corporate directors with vignettes based on actual legal cases in which there was a tension between the interests of shareholders and those of other stakeholders. There were different possible outcomes to the legal cases and directors were asked

[11] Importantly, although the value items precede the behavior question in the survey, the ordering of the questions is unlikely to influence directors' responses to the behavior question because they are unaware of how the value items are aggregated to construct values.

to rank their agreement to the different solutions. The authors find that power and achievement values are positively and universalism values are negatively related to siding with shareholders. Female directors were generally more stakeholder oriented than male directors.

To the extent that the vignettes capture real life situations, the evidence in Adams et al. (2011) suggests that firms with more female directors will be more stakeholder oriented. Matsa and Miller (2010) provide direct evidence consistent with this argument. They find that firms in Norway that were the most affected by the gender quotas increased labor costs and employment levels. Importantly, they can exploit the law concerning quotas to argue that these effects are causal.

6. Generalizability

Because Sweden ranks highly on the GGGI in terms of gender equality, a natural question is to what extent our results are generalizable. Differences between men and women may be less pronounced in Sweden than in other countries, which means that the differences we document could serve as a lower bound for estimates of differences one might expect in other countries. However, it is also possible that gender differences in values in the Swedish population are completely different than in other countries, in which case our results may not be generalizable.

To compare population gender gaps in values across countries, we use data from the fifth wave of the WVS that was conducted in the year 2005. The WVS contains 10 items that measure respondents' value priorities as defined by Schwartz. It contains data on a more diverse group of countries than the ESS, including data on the United States. Because Sweden was classified as a high income country by the World Economic Forum in 2006, we restrict the sample to the 16 countries in the same high income group.[12]

After cleaning the data following Schwartz (2009) and restricting the sample to the age range of our directors (25–74),[13] the number of observations on achievement values per country varies from 656 to 1,614. The numbers of observations are similar for the other values. For each country and value, we estimate $Y_i = \alpha + \beta Female_i + \varepsilon_i$ with robust standard errors. We find that the estimated gender gaps are similar across

countries. For the sake of brevity, we do not report the results (all results are available upon request). For instance, along the self-enhancement (achievement and power) versus self-transcendence (benevolence and universalism) axis all countries have a negative coefficient on the female dummy for achievement and 15 countries have a negative coefficient for power. Women are generally less achievement and power oriented than men, and more benevolent/universalistic.

Importantly for our study, we observe that the estimated gender gaps in Sweden are similar to the gender gaps in the United States. They have the same sign for all values except conformity, which displays more variance in sign across countries than other values. Moreover, for four out of seven values with consistent gender gaps in terms of estimated signs and frequency of statistical significance (excluding conformity, self-direction, and hedonism), the estimated gender gaps for Sweden are closer to the median of the distributions of gender gaps than the estimated gender gaps for the United States.[14] Our results are robust to various robustness checks, such as controlling for age.

Although there appears to be nothing unusual about gender gaps in values in Sweden per se, it is possible that boardroom gender gaps could be very different in other countries. For example, it could be the case that female directors in Sweden are selected based on very different criteria as compared to other countries. Although it is impossible to say whether gender gaps in values will be the same in other countries without replicating the survey, we can use some data to make some (admittedly speculative) predictions about how our results may generalize.

Because Sweden is so gender equal, one might expect less discrimination against women in Sweden than in other countries. If so, we predict that female directors in Sweden should have different characteristics than female directors in other countries. For instance, in countries which rank lower on gender-equality, female directors may have to be particularly qualified or experienced. Alternatively, female directors may be selected based on entirely different criteria than male directors (e.g., women may be more likely to be younger and single than their male counterparts). One may also expect a higher gender wage gap for directors for countries that rank lower on gender equality. Thus, if the demand for female directors is different in Sweden, Swedish female directors may have different observable characteristics than female directors in other countries.

The supply of female directors may also be different in Sweden because the trade-off between career

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[12] Australia, Canada, Cyprus, Denmark, Estonia, Finland, France, Great Britain, Japan, the Netherlands, Norway, Singapore, Sweden, Switzerland, Trinidad and Tobago, and the United States.

[13] We adjust the cleaning procedure for 57 items in Schwartz (2009) to account for the smaller number of items in the WVS. We drop subjects if more than three items were missing or if they chose a particular scale more than six times.

[14] The gender gaps for the United States are closer to the median for benevolence, universalism, and stimulation.

and family is less strong than elsewhere. Sweden has a very flexible and generous maternity leave system, which enables mothers to take up to 480 days of maternity leave, at 80% salary. Furthermore, these rights are fully transferrable to the fathers (*The Independent* 2010). Thus, one may expect the gender gap in marital status and the number of children for directors to be smaller than in other countries. To the extent that marital status and number of children are related to the gender gap in values, this could affect the extent to which the gender gaps we document will generalize to other countries.

If the costs of choosing a career path leading to a directorship are lower for women in Sweden than elsewhere, then female director candidates may also have different unobservable characteristics than female director candidates in other countries. This could also affect how the gender gaps generalize. We discuss this issue after comparing gender gaps in observable characteristics of Swedish directors to those in other countries.

We examine director characteristics using 2005 cross-country data from BoardEx. To link this comparison to our WVS results, we restrict this data to high income countries that are also covered by the WVS.[15] We examined data on directors' age, education (a dummy indicating possession of a university degree and the number of university degrees), the number of board seats, tenure on the board, and total director compensation (the sum of salary plus bonus the directors receives for board service measured in GBP). The number of observations on director age varies from 231 to 52,510. The number of observations on other characteristics is similar.

BoardEx contains no information on the directors' family status. To obtain at least some information on family status we collected data on family status of 100 male and 100 female directors in the United States using the Marquis Who's Who database. To reduce search costs, we focused on searching for directors with the highest level of director compensation according to BoardEx because lower paid directors of smaller firms would be unlikely to appear in the Who's Who. We then match the U.S. data to data on marital status and number of children for the 100 male and female directors in Sweden with the highest pay from our original director sample.

Because we have data on marital status and the number of children only for the United States and Sweden, we start our comparison of observable director characteristics by first comparing only the United States and Sweden. To ensure consistency, we use BoardEx data (rather than our original director data for Sweden) for all comparisons except when we compare marital status and the number of children. We correct all standard errors for heteroskedasticity and group correlation at the board level.

As is evident from Table 6, the gender gap in age, education, and experience (measured by tenure and the number of board seats) is comparable in Sweden and the United States: in both countries, female directors are younger, of similar education, and slightly less experienced than male directors. As such, there is no a priori evidence that female directors are selected on the basis of very different characteristics in Sweden than elsewhere. The only significant difference in the first six columns concerns compensation: the gender gap in the United States is bigger than in Sweden. When we examine differences in marital status and the number of children, we find that female directors in Sweden are more likely to be married and have more children than their counterparts in the United States. This is consistent with the idea that there is more institutional support for families in Sweden.

Other than in marital status and the number of children, female directors in Sweden display an astonishing similarity in observable characteristics to female directors in the United States. To compare Sweden to other countries, in Figure 1 we display kernel density estimates of country-level gender gaps in characteristics.[16] The vertical solid line denotes the estimated gender gaps for Sweden. The vertical dashed line denotes the estimated gender gap for the United States. The estimated gender gaps are clearly similar across countries, especially for age, board tenure, and compensation. Across all countries female directors are on average younger than male directors and this difference is significant at the 5% level in all countries. There is more heterogeneity in gender gaps for education and number of board seats across countries. Even so Sweden does not appear to be an outlier. As we already noted, Swedish gender gaps are very similar to those in the United States.

What is also noticeable is that despite its gender equality ranking, female directors in Sweden earn less than male directors for their board service. This is consistent with evidence in Albrecht et al. (2003), who find that there is a gender wage gap in income in Sweden that accelerates throughout the income distribution. The authors interpret this as a glass-ceiling effect: "Our findings suggest that a gender-specific mechanism in the Swedish labor market hinders women from reaching the top of the wage distribution" (p. 145). Similar gender gaps in salary from employment are evident in our director sample, even in the

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[15] Australia, Canada, Switzerland, Denmark, Estonia, Finland, France, the United Kingdom, the Netherlands, Norway, Sweden, and the United States.

[16] We use the Epanechnikov kernel function in Stata.

Table 6   Characteristics of Directors: Sweden and the United States

	Age	Dummy university	Number of university degrees	Number of board seats	Time on board	Total compensation	Married	Number of children
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Female	−4.248***	0.0258	0.232**	−0.0537	−2.323***	−32.82***	−0.110**	−0.650***
	(0.599)	(0.0310)	(0.0920)	(0.116)	(0.310)	(5.185)	(0.0546)	(0.153)
DummyUS	3.612***	0.0657***	0.329***	−0.283***	1.658***	233.6***	−0.160***	−0.290
	(0.276)	(0.0135)	(0.0364)	(0.0502)	(0.175)	(6.708)	(0.0568)	(0.238)
Female × DummyUS	0.478	0.0179	−0.0261	0.114	0.348	−162.1***	−0.154*	−0.500*
	(0.614)	(0.0316)	(0.0940)	(0.119)	(0.327)	(9.225)	(0.0868)	(0.292)
Constant	53.97***	0.721***	1.304***	2.087***	6.154***	41.82***	0.870***	2.440***
	(0.272)	(0.0134)	(0.0360)	(0.0491)	(0.171)	(4.086)	(0.0338)	(0.107)
Observations	53,872	54,038	54,038	47,281	47,246	23,854	400	400
R-squared	0.016	0.001	0.004	0.001	0.007	0.011	0.115	0.122

Notes. Data from columns (1)–(6) are 2005 data on Swedish and U.S. directors of publicly traded companies from the database BoardEx, compiled by the UK-based firm Management Diagnostics Limited. The total number of observations for Swedish directors in 2005 in BoardEx is 1,367. The number of observations on U.S. directors is 52,671. The number of observations varies across columns because of missing data on the dependent variables. *Female* is a dummy that is 1 if the director is female. *DummyUS* is a dummy that is 1 if the director is on the board of a U.S. firm. *Age* is age in 2005. *University degree* is a dummy variable if a director has a university degree. *Number of degrees* is the number of academic degrees including undergraduate. *Number of board seats* is the number of board seats in publicly traded companies. *Time on board* is the number of years a director has served on a given board. *Total compensation* is the sum of salary plus bonus the director receives as payment for board service. *Total compensation* is measured in GBP. Columns (7) and (8) display information on family status for the 200 best-paid Swedish directors and the 200 best-paid U.S. directors (ranked according to *Total compensation* data from column (6)). For Sweden, the data stem from our surveyed director sample; for the United States, the data come from Marquis Who's Who database. Robust standard errors are in parentheses.

*Significance at the 10% level; **significance at the 5% level; ***significance at the 1% level.

subsample in which we can control for some characteristics of employers (results available upon request).

From the comparison of director characteristics across countries, what conclusions can we draw about the generalizability of our results? Although Sweden is one of the most gender equal societies, the gender differences in directors' age, education, and tenure are comparable to those in other high-income countries. Leaving aside the differences in marital status and the number of children in Table 6 for the moment, there is no strong evidence suggesting that directors in Sweden are selected according to different observable characteristics than elsewhere. Can we conclude that the gender gaps in values are likely to be the similar for directors in other countries? To the extent that observable characteristics explain some of the gender gap in values as we describe in §4, it is plausible that boardroom gender gaps in values may be similar in other countries.

However, there is one plausible channel that may lead to divergence. If the costs of choosing a career path leading to a director seat are lower for women in Sweden than elsewhere and these costs are the main reason that female directors differ from male directors in their values then one might expect gender gaps in values to be even more extreme in other countries, e.g., in the United States. In countries with less support for families, it is plausible that women have to have even higher levels of stimulation and be less tradition oriented in order to pursue a directorship than in Sweden. Thus, we predict that boardroom gender

gaps in values will be similar to those we document in countries in which the costs of pursuing a career for women are similar to those in Sweden, but that they will be more extreme in countries with higher costs and less extreme in countries with lower costs.

7. Discussion

The initial question we asked was, Are women in the boardroom different from men? After surveying the population of Swedish directors on their values as defined by Schwartz, we answer yes. Moreover, we provide evidence suggesting that our results may generalize to other countries. But, boardroom gender gaps in values may be more extreme in countries in which the costs of choosing a career are higher for women and less extreme than in countries where these costs are lower than in Sweden.

We believe our results provide some insight into why boardroom gender diversity appears to have an effect on corporate outcomes, as documented, for example, in Adams and Ferreira (2009) and Matsa and Miller (2010). A fundamental question in the literature on organizational diversity (e.g., Milliken and Martins 1996) is whether the effect of gender diversity can be attributed to intrinsic differences between women and men or to other factors that happen to be correlated with gender diversity. In the context of directors, gender diversity could have an impact on outcomes, not because female directors are different from men, but because the population of female directors happens to differ from the population of male directors in terms

Figure 1   Gender Gaps in Director Characteristics for High-Income Countries
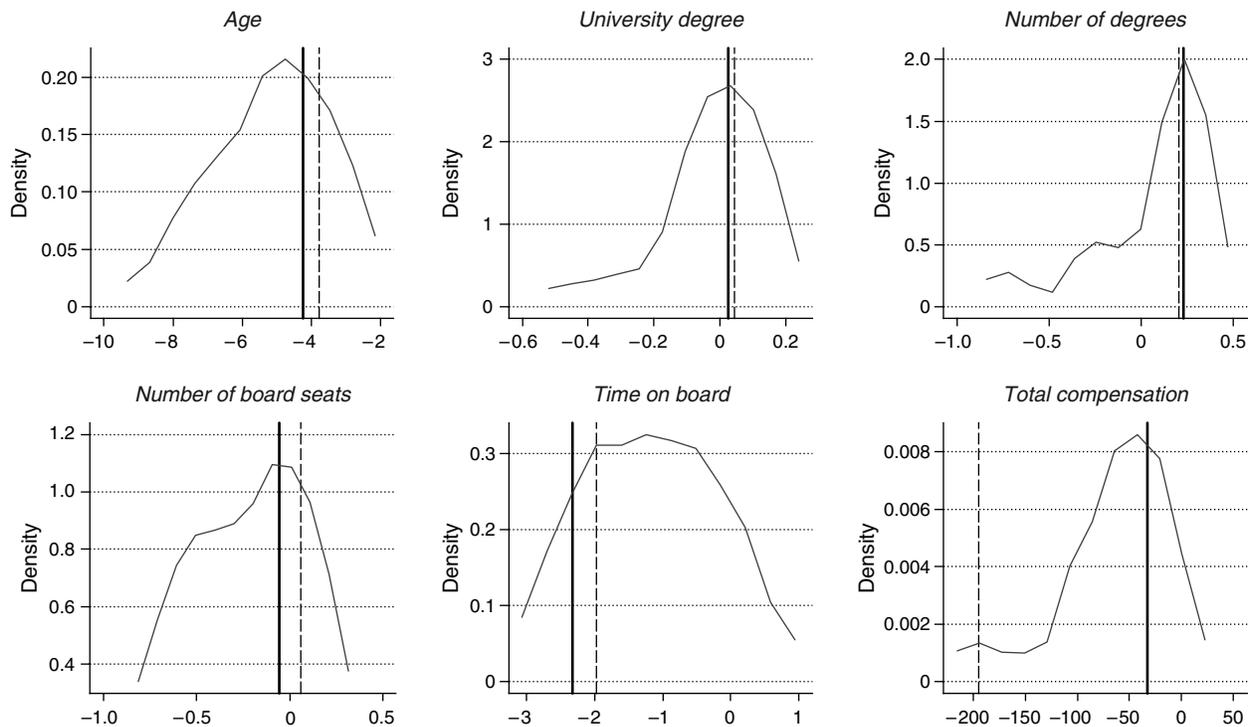
Notes. Data on director characteristics is from BoardEx for 2005. For 2005, BoardEx contains data on directors of publicly traded companies in 63 countries compiled by the UK-based firm Management Diagnostics Limited. We restrict this data to the set of countries also present in the World Value Survey and that fall into the group of high income countries according to the 2006 definition of the World Economic Forum. The two-letter codes for the countries we consider are AU, CA, CH, DE, ES, FI, FR, GB, NL, NO, SE, and US. This figure shows densities of the estimates of the coefficients on the female dummy in country-level regressions of director characteristics on the female dummy. We use the Epanechnikov kernel function in Stata to estimate the densities. *Age* is age in 2005. *University degree* is a dummy variable if a director has a university degree. *Number of degrees* is the number of academic degrees including undergraduate. *Number of board seats* is the number of board seats in publicly traded companies. *Time on board* is the number of years a director has served on a given board. *Total compensation* is the sum of salary plus bonus the director receives as payment for board service. *Total compensation* is measured in GBP. Vertical solid line: Sweden; vertical dashed line: United States.

of age, tenure, or other characteristics that are potentially uncorrelated with gender preferences.

Our results suggest that even after controlling for observable characteristics, male and female directors have different priorities that may lead gender diverse boards to behave differently. However, we do not argue that our results tell us anything about the more fundamental question of whether men are intrinsically different from women. The effects we document may be driven by self-selection of women caused by career choice costs. If these costs were absent, it is possible that female directors would look more similar to male directors, although the persistence of some population gender gaps to the boardroom, e.g., for universalism values, suggests that even then all gender gaps might not disappear.

Furthermore, even if self-selection is driving our results, they still show that a set of women exists that is very different from men and very different from female members of the population in their values. This in itself may be important to document because it can help break down gender stereotypes.

For example, our data suggests that having more female directors need not necessarily lead to more risk-averse decision making. A final implication of our results is that changing the gender composition of boards may have long-lasting effects. Despite being in the same position as male directors, female directors in our sample are not indistinguishable from male directors in their priorities.

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