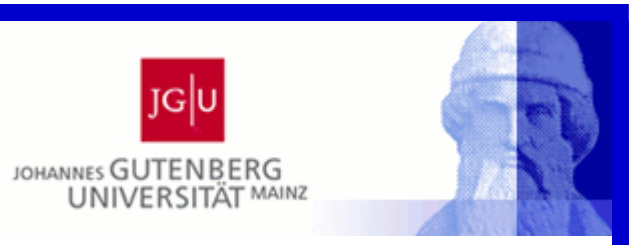

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Has the push for equal gender representation changed the role of women on German supervisory boards?

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Abstract

In Germany, an intensive public debate about increasing female participation in leadership positions started in 2009 and proceeded until the beginning of 2015, when the German parliament enacted a board gender quota. In that period, the share of women on supervisory boards for 111 German publicly listed and fully codetermined companies (i.e. those which are affected by the quota law) more than doubled from 10.6 percent in 2009 to 22.6 percent in 2015. In 2016, the first year when the law was effective, the female share increased again by 4.5 percentage points. Using a hand-collected dataset, we investigate whether the rise in female board representation was accompanied by a change in gender differences in board member characteristics and board involvement. We do not find evidence for the "Golden Skirts" phenomenon, i.e., the rise in the female share was not achieved via a few female directors holding multiple board memberships. After controlling for firm heterogeneity, the remuneration of female shareholder (employee) representatives is about 16 (9) percent lower than for males. We interpret this as an overall indication that women are not only underrepresented in German supervisory boards, they are even more underrepresented in important board positions. Indeed, women are less likely to become a chairman and are less often assigned to board committees (except for the nominating committee). Moreover, in 2016 the disadvantage of women (as compared to men) to obtain a committee membership is even larger than in 2009. [240 words]

Keywords: gender diversity, women on boards, gender quota, board remuneration, committee membership

JEL Classification: G34, G38, J16, J30

1 Introduction

In Germany, the share of women on supervisory boards has been very low for many years. In 2005, only about 10 percent of directors at the 30 largest German companies listed at the stock exchange (DAX30) were women. At the same time, the labor market participation rate of women was only slightly lower than for men (66.9 percent vs. 71.4 percent; OECD 2017). Hence, whereas the female labor market participation has reached a high level, a significant gender gap in top management has persisted. This phenomenon, which in the literature is often referred to as *glass ceiling*, was the main motivation for calls of legislated gender quotas for the directors and top managers of large corporations in several countries, among which was also Germany (European Commission 2016).

An intensive public debate started in Germany in the year 2009 and proceeded until the beginning of 2015, when a board gender quota for publicly quoted and fully codetermined companies was passed.[1] According to the new law, companies have to fulfill a gender quota of 30 percent on the supervisory board from 2016 onward. The quota requires that newly elected board members must belong to the underrepresented gender until the quota is met, otherwise the respective seats must remain vacant (BMFSFJ 2016). Hence, the new law will change the gender composition of the boards of the affected companies.

Figure 1 shows the development between 2005 and 2016 of the female share on supervisory boards from 111 (publicly quoted and fully codetermined) companies that have been - according to the Women-on-Board Index 100 (FidAr 2017) - affected by the law at some point in time after the gender quota passed the parliament in March 2015. Two trends are readily apparent: (a) the share of seats held by women did not change much between 2005 and 2010, and (b) there has been a significant and continuous increase from 2010 onwards. The overall share of women more than doubled from 10.6 percent in 2010 to 22.6 percent in 2015. This increase suggests that firms started to react to the public discussion and in anticipation of the upcoming legislation by changing the gender composition of their boards. In 2016, the first year when the law was in force, the female share increased again by 4.5

[1] See Bozhinov (2017) on how the discussion on the gender quota evolved between 2009 and 2015.

percentage points.[2] These general trends hold for both shareholder and employee representatives. While the female share is consistently lower for shareholder representatives compared to employee representatives, the gap reduced from 13.1 percentage points in 2005 to 2.1 percentage points in 2016. To put it differently, the increase in the number of women on supervisory boards was more pronounced for shareholder representatives.

INSERT FIGURE 1 ABOUT HERE

In this study, we analyze how differences in characteristics and involvement in the work of the board between male and female supervisory board directors changed throughout time, separately for employee and shareholder representatives. The analysis is based on a rich hand-collected panel data set containing information on the supervisory directors of the 111 German publicly listed companies affected by the law for the years 2009 (i.e. the year in the period before the increase in the share of female board members started) until 2016.

We carry out our empirical investigations in three steps, each of which separately for shareholder and for employee representatives. First, we assess whether differences in characteristics between male and female board members have changed over time. Second, we analyze whether supervisory board remuneration differs between men and women, and how any gap has evolved over time. By regulation, remuneration for supervisory board members may only be based on their responsibilities and the financial position of the firm. Accordingly, it may not differ by socio-demographic attributes, such as gender. Hence, any differences in remuneration within companies indicate different responsibilities of men and women on the board, i.e., having the position of a chairman or being a committee member. Third, we therefore analyze the assignment to board committees. Thereby, we also examine separately the membership in six important committees established on most supervisory boards of large corporations: presidential, audit, nominating, compensation, strategy, and mediation committee.

[2] Note that in 2016 firms can still have a female share on the supervisory board below 30 percent because the law is only binding for newly elected board members.

The remainder of the paper is organized as follows. Section 2 summarizes the relevant literature on the evidence of the role of women on German supervisory boards. Section 3 analyzes whether male and female board members differ with respect to selected characteristics, and how these characteristics changed throughout the considered period. In Section 4, the results from remuneration regressions are discussed. Section 5 contains the analysis of the determinants of committee membership. Section 6 concludes.

2 Related Literature

Our study investigates how men and women serving on German supervisory boards differ in terms of their characteristics, in their involvement in board activities, and in their remuneration. In particular, we examine how these differences evolved since 2009. While Germany as our country of interest has not been a major field for prior research, a considerable body of international literature on this topic has emerged. In what follows, we briefly summarize the main findings on gender differences in board characteristics, task assignments, and board remuneration.

The international body of research on differences in board member characteristics between men and women focuses mainly on the US. In a study of the US setting in the 1990s, Hillman et al. (2002) observe that female directors are more likely to have a non-business background but hold more often a doctoral degree than male directors. In a more recent study for the US, Field et al. (2016) show that this observation is still valid today as female directors have stronger qualifications based on educational degrees and relevant experiences. Kim and Starks (2016) add that women bring in more unique skills than men, thereby helping boards to diversify their skillset. International studies outside the US support the view that female directors hold more advanced degrees than male directors but are less likely to have business experience as a CEO (e.g., Singh et al. 2008 for the UK, Ahern and Dittmar 2012 for Norway). Only one prior study examines whether male and female members of supervisory boards in Germany differ in their characteristics. This study investigates the cross-section of supervisory board members acting as shareholder representatives as of 2013 (Fehre and Spiegelhalder 2017). The authors find that female supervisory board members are less likely to have a Ph.D. and are more likely to have studied business than their male colleagues. Further, it documents a lower general experience, a lower

number of other supervisory board positions, and a lower number of children for female compared to male directors.

In addition, a small set of studies investigate board member characteristics but do not test for gender differences. In one of the most comprehensive studies, Arnegger et al. (2010) collect detailed socio-demographic characteristics of supervisory board members of German firms in 2005. Applying a categorization developed in the US based on the resource dependence theory (e.g., Hillman et al. 2000), they group board members based on their background into insiders, business experts, support specialists, and community influentials. They find that larger firms (DAX30) tend to have more community influentials but less support specialists on the board compared to smaller firms (MDAX, SDAX, TecDAX). Our study goes beyond previous research by investigating changes over time for both shareholder and employee representatives.

Very few studies investigate whether female and male directors have different responsibilities on the board. For the US, Adams and Ferreira (2009) find that women serve on more board committees. In particular, they are more likely to be on the standing audit, nominating, or corporate governance committee. The only exception where women are underrepresented is the compensation committee. Field et al. (2016) observe the same pattern using more recent US data. However, they also establish that women are less likely to chair a committee. For German supervisory boards, Arnegger and Hofmann (2014) do not observe significant effects regarding the underrepresentation of women in the role of chairman or committee member after controlling for director's background. However, their study uses cross-section data from 2005, a year where the proportion of female directors on the board was still very low.

In international research, only a few studies have addressed the question whether a gender remuneration gap exists at the board level. Board compensation consists usually of a fixed payment with additional compensation for serving on committees, and for chairing committees or the board. While the compensation structure is usually the same for all board members for a company, differences in remuneration within firms can emerge when directors differ in their involvement in board committees. For the US, Field et al. (2016) report that female directors receive a lower remuneration

than male directors, largely because they serve less often as the chairman, because they chair less often committees, and because they are underrepresented in the compensation committee. A further study from the US investigating the effects of director's qualification on remuneration confirms that female directors receive a slightly lower compensation than male directors (Fedaseyeu et al. 2017). International studies outside the US also establish the result, that female directors are paid less than their male colleagues (e.g., Goh and Gupta 2016 for the UK). For Germany, Arnegger and Hofmann (2014) investigate how the background of directors affect remuneration in 2005. They also include a gender dummy in their regression model and find a negative effect for female directors on compensation. However, the effect is only significant in some of their model specifications. To our best knowledge, further studies on gender differences for board compensation in Germany are missing.

3 Gender gaps in board member characteristics over time

Figure 1 shows that female representation in the supervisory boards of the German companies affected by the gender quota has been steadily increasing since 2010. A likely explanation for this pattern is that companies anticipated the change in the law or reacted to increased public pressure for higher representation of women on corporate boards. The increase in women on the board raises the question whether it was accompanied by a change in the typical characteristics of female board member and in the role of women on the supervisory boards. In other words, are those women who are added to the boards different in characteristics and responsibilities compared to the incumbent women and to those who have exited the boards? Therefore, in this section, we analyze for the same set of firms whether gender differences in board member characteristics have changed between 2009 and 2016, before turning to board remuneration and board committee memberships in the following sections.

Table 1 compares the characteristics of male and female directors for German firms affected by the gender quote separately for shareholder and employee representatives over time. The first row reports the number of a director's current mandates in supervisory boards within the companies of our sample, which measures how board members are connected to other companies affected by the gender quota law. For shareholder representatives, this figure was almost 1.5 in 2009, both for men and for women. Until 2016, the respective number has fallen to 1.4 for men and 1.2 for women. The latter

number is clearly not consistent with the conjecture that the increase in female representation has been achieved (to some extent) by the same women cumulating multiple board memberships.[3] This is in contrast to the finding that the quota in Norway was mainly met by taking on women already serving on other boards (Seierstad and Opsahl, 2011). For employee representatives, the number of mandates is around 1.1 and has increased only slightly over time.

The chairman of the supervisory board is selected by the shareholder representatives. On average, about one out of seven shareholder representatives on the board serves as chairman. In 2009, the probability to be a chairman was 14 percent for male directors and 7 percent for female directors acting as shareholder representatives. This gap has widened considerably. These probabilities changed to 18 percent for male directors and 2 percent for female directors.

A similar trend is visible for committee memberships. In 2009, the proportion was the same for male and female employee representatives (59 percent vs. 60 percent) and very similar between male and female shareholder representatives (69 percent vs. 63 percent). However, in the following years a significant gap emerged. In 2016, female employee (shareholder) representatives were 17 (25) percentage points less likely to sit on a committee than their male counterparts. We can also see that this gap already existed in 2012, and then significantly increased between 2015 and 2016.

One explanation for the lower involvement of women on boards as chairmen or committee member might be due to the characteristics of the newly appointed women. The regression analysis in section 5 will shed some light on this. Looking at age (as a measure of experience), we find that the gender gap has been more or less constant over time. In 2016, women were on average 8 years younger than men if they are shareholder representatives, while for employee representatives the gap was 2.5 years. With respect to tenure on the current board, however, a striking difference has emerged since 2009, when tenure was literally the same for female and male shareholder representatives and only half a year lower for female than for male employee representatives. In 2016, female shareholder (employee)

[3] This finding were confirmed by a variable retrieved from the BoardEX Database, which provides information on the number of mandates on current quoted boards (irrespective of whether supervisory or managing boards, or whether within or outside the sample). By definition, the figures from BoardEX are larger, but again, they are falling through time, and more so for women. Due to missing values, we do not include the BoardEX variable into the further analysis.

representatives served three (two) years less on the current board than their male counterparts. This is not surprising given that a significant number of women were added to the boards since 2009.

Finally, we observe that board members are much more likely to hold a doctoral degree if they are shareholder members. Within the shareholder representatives, men are more likely to hold a doctoral degree than women. Interestingly, the share of board members holding a doctoral degree tends to decrease over the years for male as well as for female shareholder directors. However, the gender gap has been rising slightly from 13 percentage points in 2009 to 16 percentage points in 2016.

INSERT TABLE 1 ABOUT HERE

4 Remuneration as a composite index of the role of men and women in supervisory boards

In this section, we explore the determinants of the (logarithm of the) annual remuneration of supervisory board directors.[4] Summary statistics of our regression sample are reported in Table A1. We start with the shareholder representatives (Table 2). According to the first specification in Table 2 (controlling only for year effects and broad sectoral categories), annual remuneration for men is as much as 36 percent larger than that of women.[5]

However, remuneration of supervisory boards is regulated by German law (Section 113 German Stock Corporation Act (AktG)). Any differences in the remuneration within a company are mainly due to the role of board members.[6] Accordingly, we find that remuneration rises by 48 percent if a person is a member of a committee. Furthermore, it more than doubles for chairmen (Table 2, specification 2). It is also evident that total assets have a strong impact on remuneration (with an elasticity of 0.43). In addition, return on assets are positively related to remuneration, but the effect is very small. The negative coefficient on board size seems to be surprising at first sight, but is due to including total assets as a control variable. Hence, the negative sign may reflect that the more directors serve on the board,

[4] If the fiscal year is not equal to the calendar year, the yearly remuneration was computed by the weighted average of two adjacent fiscal years.

[5] Since the dependent variable measures the log of annual remuneration, the effect of a variable on the percentage change of actual remuneration is obtained by $\exp(\beta)-1$, where β is the parameter of the respective variable.

[6] Differences may also arise if the remuneration includes a fee for attendance, but attendance fees make up only a small amount of total remuneration (DSW 2016).

the less likely it is that a board member takes a position which is additionally compensated (and which are not already controlled for in the regression) like the chairman of a committee or the vice-chairman of the board. Including these variables, the female remuneration gap reduces, but male remunerations is 20 percent higher.

Controlling for unobserved firm heterogeneity (specification 3) affects most coefficient estimates only slightly and all results remain qualitatively the same. The female remuneration gap reduces only moderately to 16 percent. In specification (4) we additionally include six different types of committees. It turns out that remuneration is much larger in the audit committee, while the additional compensation is lower and at a similar level for the other committees.[7] The coefficient on female reduces (in absolute value) indicating that female directors are less likely to sit on the audit committee (and are less likely to be assigned to multiple committees). However, even after controlling for different committees, chairmanship and differences between companies, surprisingly there is still a gender remuneration gap of 12 percent.

Since it is not allowed to remunerate differently by gender, male and female supervisory board members must differ in any other functions related to pay, which are not yet controlled for in the regressions. These functions are those of the chair and vice-chair of committees, and the vice-chairman of the supervisory board. Hence, our interpretation of the result is that women are also underrepresented in these positions. To summarize, women are not only underrepresented in German supervisory boards, but are even more underrepresented in important board positions (chairmanship, committee member, chair or vice-chair of committees).[8]

It is interesting to know whether the rising share of women between 2010 and 2016 came along with a similar advancement into committees within the supervisory board (column 5). It turns out that the gender gap has been sharply rising from 19.5 percent in 2009 to 58 percent in 2012. While the gap

[7] Note that the coefficient on committee membership in specification (3) is larger than all individual coefficients of particular committees in specification (4). This implies that many board members have positions in multiple committees.

[8] We have not included age, tenure or doctoral degree in the remuneration regressions since these characteristics should not influence remuneration directly but only indirectly through different responsibilities. Hence, we include these characteristics later on in the regression models on committee membership.

was reduced to 38 percent until 2016, this is still considerably larger than in 2009. Therefore, the rising share of women was achieved at the cost of having relatively less women serving on board committees.

INSERT TABLE 2 ABOUT HERE

The analogous remuneration regressions for employee representatives are reported in Table 3. In these regressions, we control additionally for being an external employee representative (i.e trade union representative). This coefficient is positive and significant in specification (4) implying that a person is more likely to chair a committee (or to be the vice-chairman of the board) if she or he is an external representative. By and large, we find very similar patterns as for shareholder representatives, but on a smaller scale. In particular, the gender remuneration gap increased only from 13.3 percent in 2009 to 17.8 percent in 2016.

INSERT TABLE 3 ABOUT HERE

5 Committee representation of men and women in supervisory boards

The remuneration gender gap discussed above provides an overall measure of the function of women in supervisory boards (committee memberships, chairman or vice-chairman of the whole board, chairman or vice-chairman of the committees). In this section, we investigate the representation of women in committees in detail. Table 4 reports the results of linear probability regressions with the dependent variable equal to one if the person is a member of (at least) one committee within the firm (and zero otherwise). We start again by discussing the parameter estimates for shareholder representatives.

According to specification (1) in Table 4, among shareholder representatives being female reduces the chance of being a committee member *ceteris paribus* by 12.1 percentage points. The difference cannot be explained by a lower tenure of women on the current board, because this is controlled for. Indeed, each additional year of tenure increases the probability of committee membership by 1.2 percentage points. Not surprisingly, being a chairman has a large positive impact on committee membership. The effect of having an academic title, however, is literally zero. Being member of a larger board reduces the chance of being a committee member which indicates that the number of committees (respectively committee size) is not proportionally increasing with board size.

Interestingly, being simultaneously on a supervisory board of another company (within our sample) increases the probability to be a committee member by 5.4 percentage points. This may indicate the importance of network effects. Alternatively, the variable may pick up unobserved heterogeneity of the board members. Those who are more qualified (formal or informal) may be more likely to be a member of more than one supervisory board, while also be more likely to take up more important roles in each board they are serving on.

INSERT TABLE 4 ABOUT HERE

In specification (2) it is additionally controlled for age categories. This reduces the sample size by four percent in the shareholder specification and by about one third in the employee specification. The relationship between committee membership and age follows an inverse U-shape with those between 40 and 50 being the most likely to be a committee member. Controlling for age even increases the gender gap in committee membership.[9] Hence, we can conclude that a younger age is not the reason that female directors are less often committee members.[10] In specification (3) we include also firm dummies. It turns out that between (1) and (3) the results are remarkably robust.

We turn now to the equivalent specifications for employee representatives. On average, women are ceteris paribus again less likely to be a member of a committee, but the differentials are only about half of the size than those in the shareholder specifications. Apparently, the involvement of external representatives in committees is significantly lower. While the qualitative effects with respect to the remaining variables are the same as for shareholder representatives, the effects of tenure and the number of mandates are (almost) about double in size for the employee specification.

We have seen above that women are less likely to become committee members, in particular for shareholder representatives. Next, we investigate whether this result is robust for various subgroups. First, we distinguish between the six different committees (Figure 2): The presidential committee is in charge for the organization of the supervisory board meetings and the coordination of board work. The

[9] Taking the standard errors into account, the age variables are not significant at the 5 %level. Strictly speaking, however, one may ignore any confidence bands since we are analyzing the full population of firms affected by the gender quota.

[10] This interpretation does not change after re-estimating specification (1) with the restricted sample of (2). Results are available upon request.

audit committee has the responsibility to supervise the accounting process, the internal control system, risk management, internal auditing and external auditing (see section 107 Paragraph 3 German Stock Corporation Act). The nominating committee has the task of identifying suitable successors for shareholder representatives at the supervisory board if there is a vacant seat on the shareholder elected side of the board. The main responsibility of the compensation committee is setting executive compensation. The strategic committee prepares the ratification of important strategic decisions. The mediation committee has to be established by law for all publicly listed companies subject to the German Co-Determination Act (Sect 27 Para 3 German Co-Determination Act). Its function is the mediation of conflicts between shareholder and employee representatives on the supervisory board.

The top entry of Figure 2 resembles the coefficient estimate and the corresponding confidence interval from specification (3) in Table 4, while for the entries below the dependent variable has been replaced by the respective committee. The pattern between shareholder and employee representatives is strikingly similar. Both gender types are represented almost proportionally in the nominating committee. Against the background of the gender quota legislation, this does not seem surprising since women have probably their own networks and widen the variety of potential candidates. Women are underrepresented in all other committees. Consistent with the average effects, the gender gap is always larger for the shareholder representatives. In fact, the difference between men and women on the employee side is close to zero for the mediation committee. For both groups, the gender gap is largest for the audit committee. The bottom entry shows that even ceteris paribus the probability to become a chairman is about 7 percentage points lower if the person is a female board member.

INSERT FIGURE 2 ABOUT HERE

Interestingly, the results for German supervisory boards differ compared to a similar analysis using U.S. data. One main distinction is that women are underrepresented in audit committees in Germany, whereas Adams and Ferreira (2009) show with a similar approach that women are more often members of audit committees concluding that females are tougher monitors.[11]

[11] Note that it seems appropriate to compare female representation in the audit committees because US audit committees usually only consists of non-executives.

Next, we investigate whether female committee representation has changed through time. Figure 3 reports the coefficient estimates and confidences intervals of the female dummy interacted with year dummies. For shareholder representatives, there has been an increase in the gender gap between 2009 (when men were *ceteris paribus* 5 percentage points more likely to become committee members) to 2011 (16 percentage points). Hence, the sharp increase of female shareholder representatives between 2009 and 2011 (when the share almost doubled) was accompanied by a distinct widening of the gender gap in the committee assignment. By 2015, this gap had only fallen to 12.5 percentage points, but increased again in 2016 to 18 percentage points. For employee representatives, in 2009 and 2010 women were not disadvantaged in the selection of committee members. This changed from 2011 onwards. In 2016, the probability to become a committee member was as much as 13 percentage points higher for men. In sum, while the share of women within boards has been increasing since 2009, in 2016 the gap of women (as compared to men) to obtain a committee membership is larger than in 2009.

INSERT FIGURE 3 ABOUT HERE

Finally, we analyze whether the gender gap in committee membership differs by age. Figure 4 reports the coefficient estimates and confidences intervals of the female dummy interacted with age categories. For shareholder representatives, women are always less likely to be a committee member. This is also the case for employee representatives below 60, while for those above 60 years of age women are even about 8.7 percentage points more likely to be selected to a committee membership. However, there are only 47 female employee representatives in this age category.

INSERT FIGURE 4 ABOUT HERE

6 Conclusion

After several years of intensive public discussion in Germany about the low share of females in top positions, the German parliament passed a gender quota in 2015. Publicly quoted and fully codetermined companies have to comply with a supervisory board gender quota of 30 percent for both sexes. Most companies have already started to increase the number of female directors from 2010 onwards, probably in anticipation of the upcoming legislation or due to public pressure. This

observation raised the question whether the increase in female representation was accompanied by a change in average characteristics of female board members and by a change in the role of women on the supervisory boards. We have investigated this issue for the time interval between 2009 (i.e. the year in the period before the increase in the share of female board members started) until 2016 (the first year the law was in force), based on a hand-collected panel data set containing information on the supervisory directors of the 111 German publicly listed companies affected by the law.

We have obtained various relevant findings. First, looking at the characteristics of male and female board members, there is no evidence for the "Golden Skirts" phenomenon, i.e. that the increase in female representation has been achieved by the same women cumulating more memberships. In line with previous research, we find that females are in general younger than their male counterparts, and that this gap has been hardly reduced since 2009.

Second, after controlling for firm heterogeneity, the remuneration of male shareholder (employee) representatives is still 16 (9) percent higher than for females. We interpret this as an overall indication that women are even more underrepresented in important board positions. Indeed, women are less likely to become a chairman and are less often assigned to board committees, except for the nominating committee. Hence, female directors are equally often considered for proposing successors for vacant seats. This result is not surprising since the supervisory boards have to comply from 2016 onwards and women directors are likely to have own networks and are therefore helpful in recruiting further women. For future research, it will be interesting whether boards with strongly connected male directors are still less likely to appoint women (Oehmichen et al. (2010).

Third, between 2009 and 2016 the disadvantage of women (as compared to men) to obtain a committee membership has even become larger. This demonstrates that the rising share of women on supervisory boards did not go hand in hand with a rising female involvement in board work and that the gender quota alone is not sufficient to ensure (full) integration of women into the decision-making process of the boards. It will be interesting to observe whether this will change in the next years when the share of female board members will rise further.

The study is a seminal work in analyzing how task assignment is related to gender on German supervisory boards and how it has evolved since 2009. However, this is only a starting point in analyzing German supervisory boards. Further research should go deeper into the details. Little is known about differences in the attitudes of supervisory directors serving on German boards. Moreover, Adams and Funk (2012) show that female directors serving on Swedish boards are significantly less risk-averse. This issue may differ for Germany and should be investigated. Finally, little is known about the marital status and potential children of supervisory directors. This might be interesting for future attempts to establish gender equality on German supervisory boards.

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Table 1: Board member characteristics: means by representation, year and gender

		Shareholder represent.				Employee represent.			
		2009	2012	2015	2016	2009	2012	2015	2016
Number of current mandates	Total	1.48	1.44	1.36	1.33	1.10	1.11	1.12	1.14
	Male	1.48	1.46	1.38	1.38	1.11	1.14	1.14	1.15
	Female	1.47	1.28	1.26	1.21	1.05	1.03	1.08	1.12
Chairman (dummy)	Total	0.14	0.13	0.14	0.13	0.00	0.00	0.00	0.00
	Male	0.14	0.15	0.16	0.18	0.00	0.00	0.00	0.00
	Female	0.07	0.04	0.02	0.02	0.00	0.00	0.00	0.00
Committee member (dummy)	Total	0.68	0.70	0.72	0.70	0.59	0.62	0.63	0.64
	Male	0.69	0.73	0.75	0.77	0.59	0.64	0.65	0.68
	Female	0.63	0.56	0.58	0.52	0.60	0.54	0.55	0.51
Age in years	Total	59.88	59.97	59.78	59.72	51.80	53.13	53.67	53.77
	Male	60.32	61.01	61.42	61.69	52.18	53.58	54.19	54.43
	Female	52.62	52.64	53.56	53.97	49.62	51.20	52.05	51.99
Tenure in years	Total	9.58	8.78	6.51	5.63	9.44	8.53	6.67	5.84
	Male	9.58	9.11	7.06	6.46	9.53	8.79	7.01	6.35
	Female	9.58	6.52	4.42	3.37	9.02	7.54	5.67	4.57
Doctoral degree (dummy)	Total	0.52	0.48	0.43	0.42	0.04	0.05	0.06	0.06
	Male	0.53	0.51	0.47	0.46	0.05	0.05	0.06	0.06
	Female	0.40	0.34	0.30	0.30	0.02	0.05	0.06	0.06
Observations	Total	740	765	802	836	721	744	807	811
	Male	697	667	637	613	601	592	601	582
	Female	43	98	165	223	120	152	206	229

Number of current mandates denotes the number of (simultaneous) seats on supervisory boards within sampled firms. *Committee member* denotes whether person is a member of at least one board committe. Smaller number of observations for *Age in years* due to missing values. Number of firms in the years 2009 / 2012 / 2015 / 2016: 101 / 105 / 109 / 110.

Table 2: Determinants of remuneration for shareholder representatives (dependent variable: log of annual remuneration; OLS)

	(1)	(2)	(3)	(4)	(5)
Female (dummy)	-0.304***	-0.180***	-0.148***	-0.113***	
	(0.075)	(0.045)	(0.027)	(0.027)	
Board size		-0.050***	-0.020**	-0.013	-0.043***
		(0.007)	(0.008)	(0.009)	(0.010)
Chairman (dummy)		0.759***	0.732***	0.556***	
		(0.051)	(0.028)	(0.031)	
Committee member (dummy)		0.392***	0.436***		
		(0.035)	(0.023)		
Log. total assets		0.430***	0.269***	0.249***	0.269***
		(0.015)	(0.048)	(0.047)	(0.058)
ROA		0.022***	0.008***	0.008***	0.007***
		(0.003)	(0.002)	(0.002)	(0.002)
Presidential committee (dummy)				0.097***	
				(0.032)	
Audit committee (dummy)				0.325***	
				(0.017)	
Nominating committee (dummy)				0.121***	
				(0.023)	
Compensation committee (dummy)				0.121***	
				(0.026)	
Strategy committee (dummy)				0.110***	
				(0.030)	
Mediation committee (dummy)				0.081***	
				(0.025)	
Female * 2009 (dummy)					-0.178
					(0.120)
Female * 2010 (dummy)					-0.246***
					(0.090)
Female * 2011 (dummy)					-0.342***
					(0.068)
Female * 2012 (dummy)					-0.458***
					(0.087)
Female * 2013 (dummy)					-0.276***
					(0.072)
Female * 2014 (dummy)					-0.388***
					(0.078)
Female * 2015 (dummy)					-0.298***
					(0.065)
Female * 2016 (dummy)					-0.324***
					(0.050)
Observations	4492	4297	4297	4297	4297
Adjusted R^2	0.147	0.618	0.787	0.793	0.678
Year Dummies	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Sector	Sector	Firm	Firm	Firm

*** p<0.01; ** p<0.05; * p<0.10. Std. err. in parenthesis clustered at firm-director level.

Table 3: Determinants of remuneration for employee representatives (dependent variable: log of annual remuneration; OLS)

	(1)	(2)	(3)	(4)	(5)
Female (dummy)	-0.134**	-0.067*	-0.086***	-0.053**	
	(0.065)	(0.039)	(0.023)	(0.021)	
Board size		-0.056***	0.003	0.010	-0.003
		(0.006)	(0.011)	(0.011)	(0.012)
External representative (dummy)		0.039	0.041**	0.030*	
		(0.035)	(0.019)	(0.016)	
Committee member (dummy)		0.389***	0.426***		
		(0.031)	(0.019)		
Log. total assets		0.441***	0.080*	0.077*	0.082*
		(0.013)	(0.045)	(0.044)	(0.050)
ROA		0.023***	0.014***	0.014***	0.013***
		(0.002)	(0.002)	(0.002)	(0.002)
Presidential committee (dummy)				0.139***	
				(0.026)	
Audit committee (dummy)				0.276***	
				(0.015)	
Nominating committee (dummy)				-0.018	
				(0.068)	
Compensation committee (dummy)				0.207***	
				(0.021)	
Strategy committee (dummy)				0.111***	
				(0.031)	
Mediation committee (dummy)				0.162***	
				(0.022)	
Female * 2009 (dummy)					-0.125
					(0.077)
Female * 2010 (dummy)					-0.176**
					(0.082)
Female * 2011 (dummy)					-0.155***
					(0.053)
Female * 2012 (dummy)					-0.173***
					(0.049)
Female * 2013 (dummy)					-0.098**
					(0.045)
Female * 2014 (dummy)					-0.063
					(0.041)
Female * 2015 (dummy)					-0.038
					(0.054)
Female * 2016 (dummy)					-0.164***
					(0.052)
Observations	4532	4288	4288	4288	4288
Adjusted R^2	0.136	0.603	0.782	0.795	0.742
Year Dummies	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Sector	Sector	Firm	Firm	Firm

*** p<0.01; ** p<0.05; * p<0.10. Std. err. in parenthesis clustered at firm-director level.

Table 4: Determinants of committee membership (dependent variable: dummy equals 1 if supervisory director is committee member)

	Shareholder Specifications			Employee Specifications		
	(1)	(2)	(3)	(1)	(2)	(3)
Female (dummy)	-0.121***	-0.149***	-0.131***	-0.072**	-0.081*	-0.066*
	(0.037)	(0.039)	(0.033)	(0.035)	(0.044)	(0.038)
Board size	-0.019***	-0.019***	-0.020***	-0.004	-0.009	-0.022*
	(0.004)	(0.004)	(0.007)	(0.005)	(0.006)	(0.012)
Chairman (dummy)	0.250***	0.253***	0.237***			
	(0.020)	(0.021)	(0.025)			
External representative (Dummy)				-0.091***	-0.057	-0.078**
				(0.033)	(0.039)	(0.035)
Tenure in years	0.012***	0.013***	0.015***	0.019***	0.022***	0.029***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Doctoral degree (dummy)	-0.009	-0.006	-0.009	-0.001	0.020	0.058
	(0.025)	(0.026)	(0.025)	(0.063)	(0.073)	(0.060)
Number of current mandates	0.054***	0.058***	0.068***	0.108***	0.091***	0.130***
	(0.014)	(0.015)	(0.014)	(0.031)	(0.033)	(0.030)
Log. total assets	-0.014	-0.014	-0.034	-0.024**	-0.015	0.031
	(0.009)	(0.009)	(0.032)	(0.010)	(0.013)	(0.042)
ROA	-0.002	-0.001	-0.002*	0.001	0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)	(0.002)
Age ≤ 40 (dummy)		-0.071	-0.072		0.045	0.008
		(0.073)	(0.069)		(0.062)	(0.062)
$40 <$ Age ≤ 50 (dummy)		0.045	0.038		0.047	0.046
		(0.033)	(0.030)		(0.031)	(0.029)
Age > 60 (dummy)		-0.046*	-0.020		0.020	-0.019
		(0.027)	(0.025)		(0.041)	(0.039)
Observations	5222	4998	4998	5128	3539	3539
Adjusted R^2	0.149	0.155	0.285	0.076	0.095	0.278
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Sector	Sector	Firm	Sector	Sector	Firm

*** p<0.01; ** p<0.05; * p<0.10. Std. err. in parenthesis clustered at firm-director level. *Number of current mandates* denotes the number of (simultaneous) seats on supervisory boards within sampled firms. Reference category of age bands in specification (2) and (3) is $50 <$ age ≤ 60.

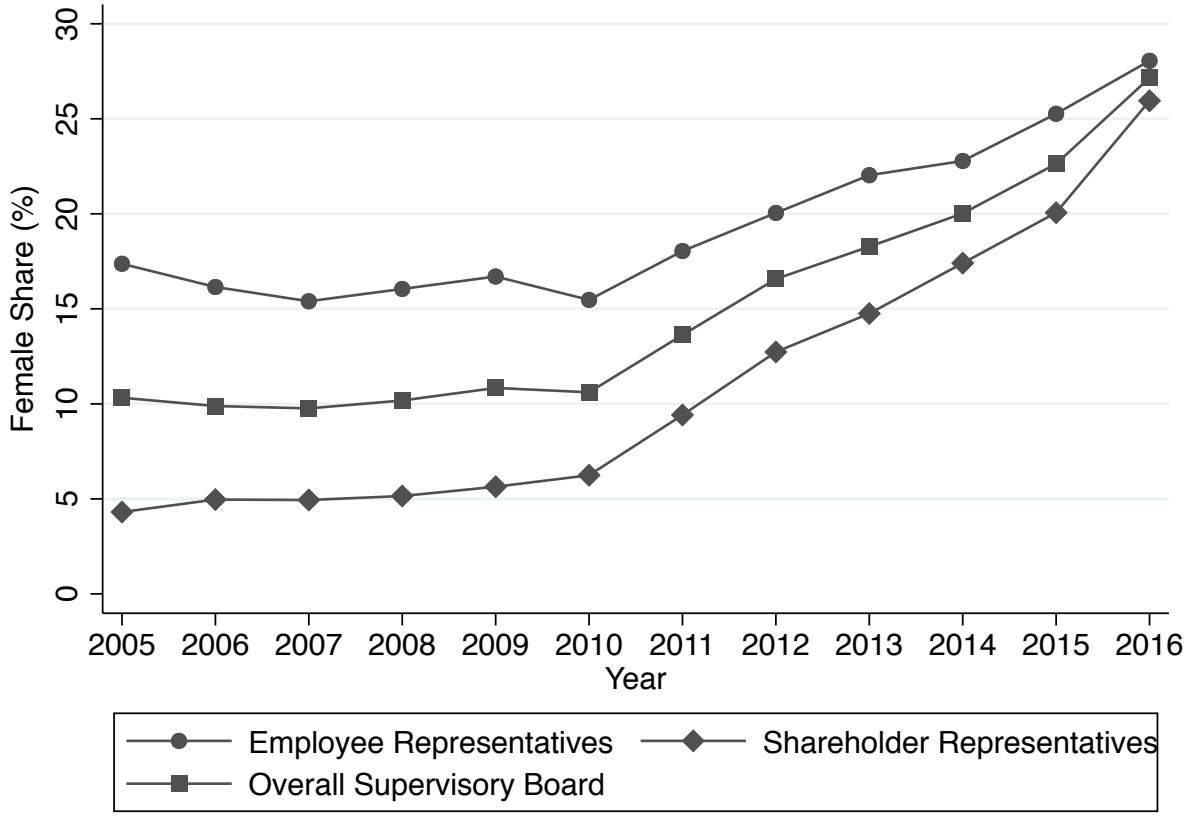

Figure 1: Female share on supervisory boards over time; firm-level; 111 firms affected by the law

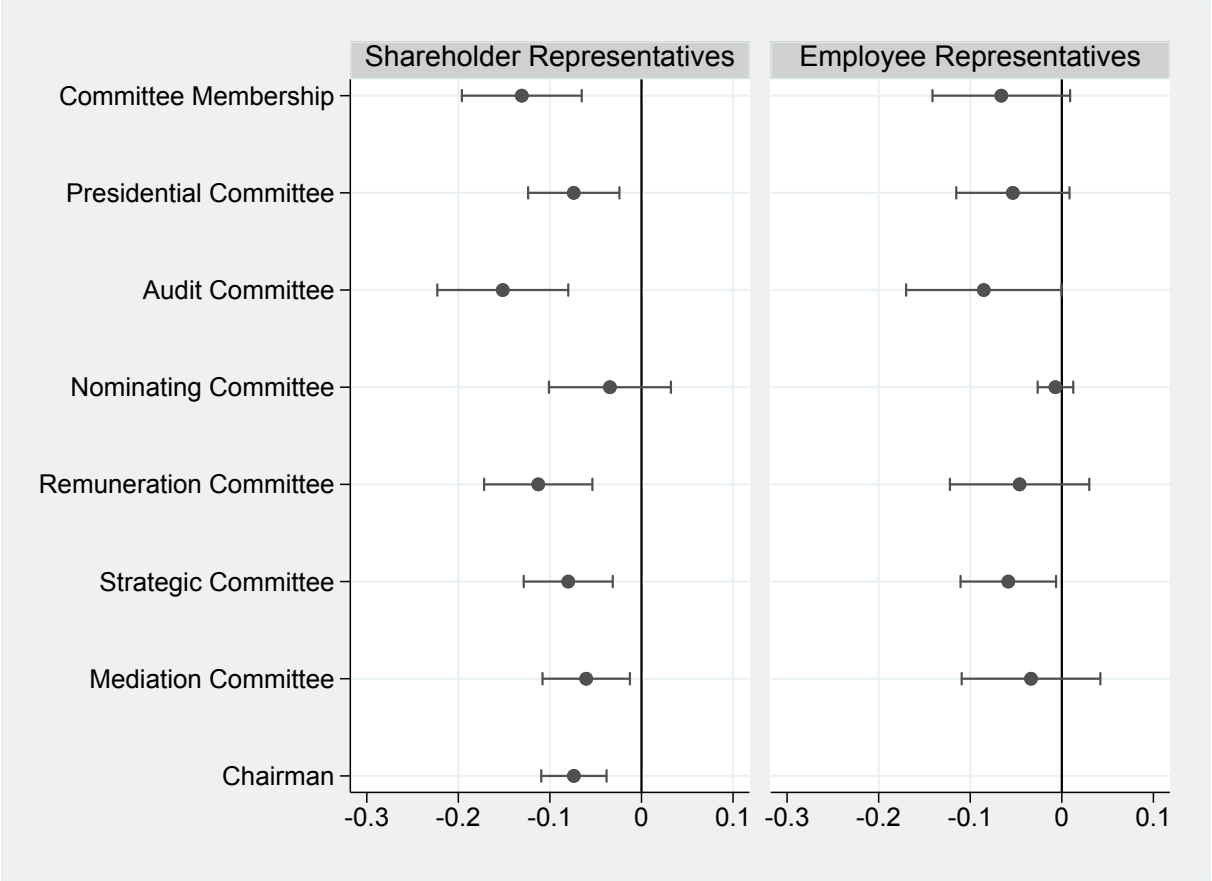

Figure 2: The effect of being female, separately for each committee, on the probabability of committee membership resp. on the probability of chairmanship. Coefficient estimates and 95% confidence intervals obtained from linear probability regressions, with the same covariates as in specification (3) of Table 4. Each dot is obtained from a separate regression.

Figure 3: The effect of being female, separately for each year, on the probabability of being a member of at least one committee. Coefficient estimates and 95% confidence intervals from linear probability regressions, with the same covariates as in specification (2) of Table 4. One regression for shareholder representatives (4,998 observations) and one regression for employee representatives (3,539 observations).

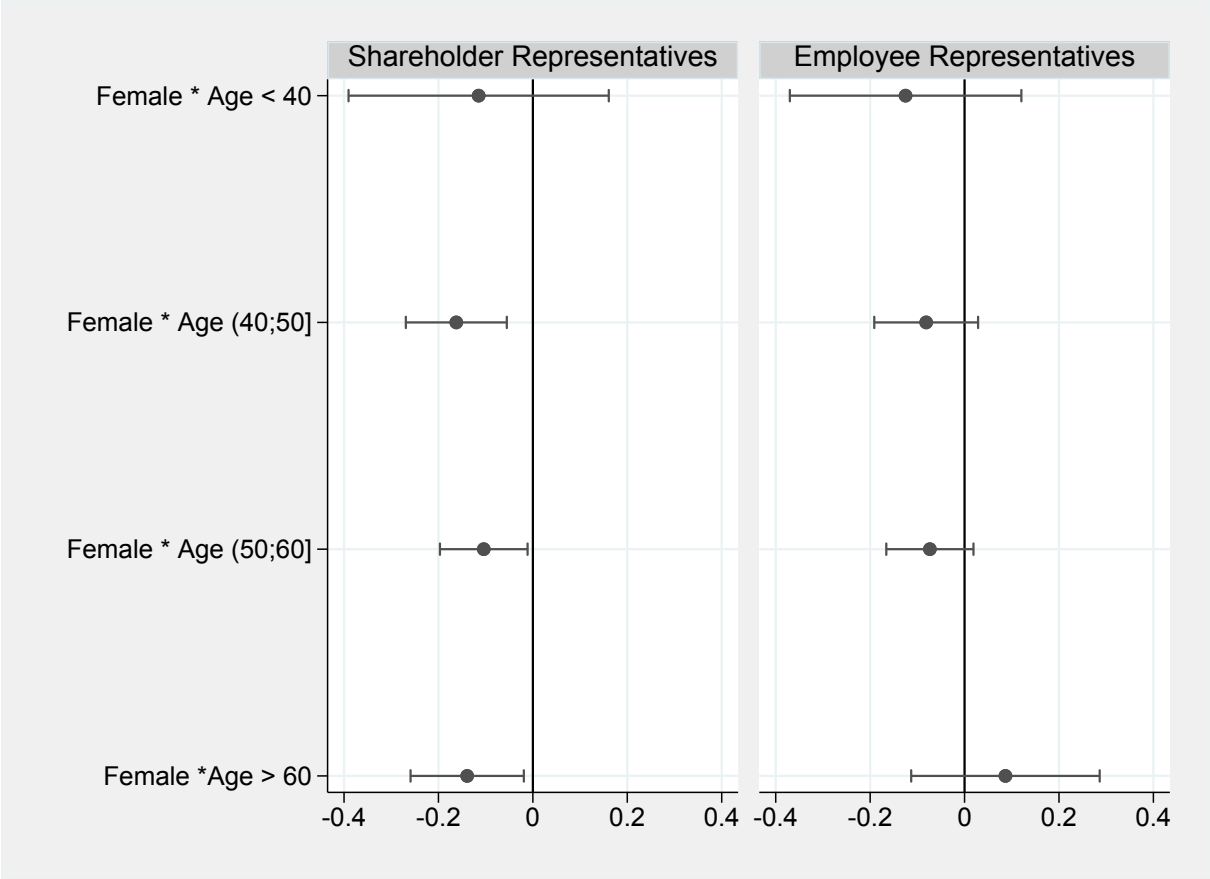

Figure 4: The effect of being female, separately for different age categories, on the probability of being a member of at least one committee. Coefficient estimates and 95% confidence intervals from linear probability regressions, with the same covariates as in specification (3) of Table 4. One regression for shareholder representatives (4,998 observations) and one regression for employee representatives (3,539 observations).

Table A1: Summary statistics

	Shareholder Representatives		Employee Representatives	
	Mean	(Std. Dev.)	Mean	(Std. Dev.)
Log. remuneration	11.21	(1.01)	11.11	(0.95)
Female	0.15		0.21	
Chairman	0.13		0.00	
External representative	0.00		0.29	
Committee member	0.72		0.62	
Presidential committee	0.20		0.18	
Audit committee	0.37		0.32	
Nominating committee	0.39		0.02	
Compensation committee	0.33		0.29	
Strategy committee	0.22		0.17	
Mediation committee	0.22		0.22	
Board size	15.86		16.04	
Log. total assets	23.19	(2.12)	23.25	(2.09)
ROA	4.47	(8.29)	4.38	(7.70)
2009	0.11		0.11	
2010	0.12		0.12	
2011	0.12		0.12	
2012	0.13		0.13	
2013	0.13		0.13	
2014	0.13		0.13	
2015	0.14		0.14	
2016	0.12		0.12	

4,297 (4,288) observations for shareholder (employee) representatives. Standard deviations of dummy variables not reported.