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Gender Discrimination? Evidence from the Belgian Public Accounting Profession*

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ABSTRACT

Prior research finds that women receive lower salaries than men. Similarly, we show that female audit partners in Belgium receive significantly lower compensation than male partners. However, there are alternative explanations for the pay gap other than gender discrimination. For example, the gap in compensation could reflect that men are paid more because they have higher levels of productivity. We provide new predictions and tests of gender discrimination by comparing the fees generated by audit partners (a measure of partner productivity) and the types of clients assigned to partners. Consistent with our prediction of female partners having to meet higher performance thresholds than male partners, we show that female partners generate larger fee premiums, but they are less likely to be assigned to prestigious clients. To test whether these patterns are attributable to gender discrimination, we examine whether the results are stronger in male-dominated offices, because this is where we would expect to find the most discrimination against women. We find the fee premiums generated by female partners are larger in male-dominated offices, while the negative association between prestigious clients and female partners is stronger in male-dominated offices. Collectively, our combined predictions and tests are consistent with female partners facing gender discrimination in audit offices that are dominated by male partners.

Keywords: gender discrimination, public accounting firms, female partners

Discrimination liée au sexe? Observations émanant de la profession d'expertise comptable en Belgique

RÉSUMÉ

Des recherches antérieures confirment que les salaires des femmes sont inférieurs à ceux des hommes. Dans le même ordre d'idées, les auteurs montrent que la rémunération des femmes associées d'audit en Belgique est sensiblement inférieure à celle de leurs homologues masculins. Cet écart pourrait toutefois s'expliquer par des facteurs autres que la discrimination liée au sexe — la supériorité du niveau de productivité des hommes, par exemple. Les auteurs proposent de nouvelles hypothèses et de nouveaux tests quant à la discrimination liée au sexe en comparant

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les honoraires générés par les associés d'audit (une mesure de la productivité des associés) et les types de clients dont les dossiers sont confiés aux associés. Conformément à l'hypothèse des auteurs quant à la nécessité pour les femmes associées d'atteindre des seuils de rendement plus élevés que ceux des hommes, les auteurs montrent que les femmes associées génèrent des suppléments d'honoraires plus importants, mais sont moins susceptibles de se voir confier les dossiers de clients prestigieux. Afin de vérifier si les profils observés sont attribuables à la discrimination liée au sexe, les auteurs se demandent si les résultats sont plus marqués dans les bureaux où les hommes sont supérieurs en nombre, puisqu'il est plausible d'y retrouver le plus de discrimination à l'endroit des femmes. Les auteurs constatent que les suppléments d'honoraires générés par les femmes associées sont plus importants dans les bureaux où les hommes sont supérieurs en nombre, alors que le lien négatif entre les clients prestigieux et les femmes associées est plus marqué dans les bureaux où les hommes sont supérieurs en nombre. Ces observations réunies issues de leur combinaison d'hypothèses et de tests confirment que les femmes associées sont exposées à la discrimination liée au sexe dans les bureaux d'audit où les hommes associés sont supérieurs en nombre.

Mots-clés : discrimination liée au sexe, cabinets d'expertise comptable, femmes associées

1. Introduction

There is a wealth of evidence that women are paid less than men. While this pay gap is consistent with gender discrimination, an alternative explanation is that men are paid more because they have higher levels of productivity (Oaxaca and Ransom 1994; Blau and Kahn 2000, 2017). In this study, we generate novel tests for gender discrimination by examining the public accounting profession, where a partner's productivity can be measured directly by examining the partner's ability to generate fee premiums for their employer.

In our first test, we compare the relative productivity of male and female partners (i.e., their ability to generate fee premiums). If accounting firms discriminate against women, we would expect firms to apply higher performance standards to women than to men. This would mean that the average female partner would have to be more productive than the average male partner to attain the position of audit partner. Therefore, we test whether female partners generate significantly larger fees compared with their male counterparts (Hypothesis 1a (H1a)). In our second test, we compare the types of clients assigned to male and female partners. If accounting firms discriminate against women, we would expect more prestigious clients to be assigned to male partners and less prestigious clients to be assigned to female partners (Hypothesis 2a (H2a)).

There could be alternative explanations for why male partners generate lower fees than female partners and why male partners are assigned to more prestigious clients. For instance, it could be argued that female partners generate higher fees because they are more productive, whereas female partners are less likely to be assigned to prestigious clients because such clients prefer their partners to be men. To address these alternative explanations, we combine our predictions in H1a and H2a with a set of cross-sectional tests based on the gender composition of individual accounting offices. Survey-based research suggests that discrimination against women is more likely to occur in work environments dominated by men (Hultin and Szulkin 1999; Gorman 2005; Cohen and Huffman 2007; Kurtulus and Tomaskovic-Devey 2012; Dalton et al. 2014). Therefore, if gender discrimination explains why female partners generate larger fee premiums than male partners (H1a), we would expect this result to be stronger in the offices that have relatively more male partners. This leads to the prediction that the fee premium to female partners is significantly larger in offices dominated by male partners (Hypothesis 1b (H1b)). Similarly, if gender discrimination explains the tendency of female partners to be assigned to less prestigious clients (H2a), we would expect this result to be stronger in male-dominated offices. Therefore, we hypothesize that the tendency for less prestigious clients to be assigned to female partners is significantly stronger in offices with a higher percentage of male partners (Hypothesis 2b (H2b)).

We test these four predictions (H1a, H1b, H2a, and H2b) using a panel data set of 94,882 private and public company audits over the period 2008–2014. We examine Belgium rather than the United States for two reasons. First, we have a longitudinal panel of data on audit partners in Belgium whereas the US data on audit partners have only been available since 2017. Second, the Belgian setting provides data on both public and private company audits. This is helpful for our study because small private companies are less prestigious than large publicly traded companies, and we expect nonprestigious clients to be assigned to female partners (H2a) particularly in the offices dominated by male partners (H2b). These hypotheses cannot be easily tested in the US setting due to the lack of data on private company audits. Our sample comprises 94,882 client-year observations, 656 unique partners (100 female and 556 male partners), and 199 audit offices. The proportion of male partners in each office ranges from 0% to 100%, implying meaningful variation in the representation of male and female partners. The mean (median) proportion of male partners in each office is 88% (92%), reflecting that offices generally have more male than female partners.

We begin by testing whether female partners are more productive than their male counterparts (H1a). We test this by comparing the fees generated by female and male partners. After controlling for client characteristics, audit partner characteristics, audit firm characteristics, city fixed effects, year fixed effects, and industry fixed effects, we find a statistically significant fee premium to female partners (H1a). More importantly, the fee premium to female partners is found to be significantly larger in offices with a higher percentage of male partners (H1b), which is where we would expect the most discrimination. We estimate that the fee premium to female partners increases from 3.4% in offices with the 25th percentile value of the male partner percentage to 11.1% in offices with the 75th percentile value of the male partner percentage.[1] When we aggregate the fee premiums across all 9,907 audits of the female partners, we find that the total premium ranges from 4.5 million euros in offices with the 25th percentile value of the male partner percentage to 14.7 million euros in offices with the 75th percentile value.

Next, we test our prediction that prestigious clients tend to be assigned to male rather than female partners. Consistent with this prediction, we find that publicly traded or large companies are typically assigned to male partners, whereas private or small companies are usually assigned to female partners (H2a). More importantly, we show that this client assignment pattern is significantly stronger in offices with relatively more male partners (H2b). In other words, female partners fare worse in client assignment decisions when they work in male-dominated offices despite that the female partners in these offices perform particularly well in terms of generating larger fee premiums.

Overall, our four sets of results are consistent with women experiencing significant discrimination when they work in offices dominated by male partners. We argue that it is difficult to attribute these results to intrinsic differences between men and women or differences in labor market conditions across the country. Moreover, our results continue to hold when we match the clients of female and male partners using propensity scores and when we match female partners to male partners based on partners' observable characteristics (e.g., partner experience and specializations).[2]

In a supplementary analysis, we examine the propensity of female partners to attract new clients to the audit firm. We find that 12.3% of new clients are audited by female partners whereas

1. Our primary analysis focuses on audit fees rather than nonaudit fees because audit partners are primarily responsible for negotiating audit fees. However, audit partners sometimes refer their clients to nonaudit partners which helps to generate additional nonaudit fees for the firm. In a supplementary analysis, we find similar results using total fees (i.e., audit and nonaudit fees).

2. We do not claim that there is more gender discrimination in public accounting than other professional occupations. Madsen (2013) finds that women are not underrepresented in public accounting when compared to other professional occupations, such as physicians, dentists, lawyers, clergy, financial managers, architects, engineers, chemists, veterinarians, and pilots.

10.4% of existing clients are audited by female partners, which suggests female partners perform particularly well in terms of attracting new clients to the audit firm. We also examine how incumbent clients are reassigned following audit partner rotations. Among the prestigious clients whose former partner was female, we find that 100% of clients are subsequently transferred to a male partner. Among the nonprestigious clients whose former partner was male, we find that 16 percent are subsequently transferred to a female partner. Therefore, when partners are rotated, the evidence suggests that prestigious clients tend to gravitate toward male partners whereas nonprestigious clients gravitate more toward female partners. Nevertheless, we are cautious in drawing strong inferences from these results because there are relatively few prestigious clients that experience a change in the gender of the assigned partner (i.e., most prestigious clients are transferred from one male partner to another male partner).

In Belgium, compensation data are available for nearly half of the audit partners in our sample. To the extent that discrimination exists, we would expect female partners to receive lower compensation than male partners despite that female partners perform better in terms of generating higher fee premiums. We therefore compare the pay of male and female partners. The results provide strong evidence that female partners receive significantly lower pay than male partners. Specifically, the average compensation of male partners is 91,226 euros higher than those of female partners, whose average compensation is 140,916 euros. On its own, the evidence that female partners receive lower compensation does not necessarily mean that female partners are experiencing discrimination. Nevertheless, the results on the pay gap are more compelling when considered in tandem with our evidence that female partners perform better than male partners in terms of generating larger fee premiums for their audit firms. In other words, our findings suggest that female partners are paid less despite being more productive than male partners.

This study makes four contributions to the literature. First, we take a novel approach to testing gender discrimination by comparing the fees generated by male and female partners and their work assignments. This approach is different from the prior literature which tends to focus on the pay gap. We argue that it is crucial to compare the differences in productivity between men and women, not just their compensation. Our finding that female partners generate larger audit fees suggests that female partners have higher productivity (H1a). Importantly, this result is found to be stronger when female partners work in male-dominated offices (H1b). In addition, female partners tend to be assigned to less prestigious clients (H2a) despite that female partners generate larger fee premiums (H1b). Moreover, the tendency for female partners to be assigned to less prestigious clients is particularly strong in male-dominated offices (H2b), where female partners are especially productive in terms of generating higher fees for their firms (H1b). Altogether, the combined findings for partner compensation, partner productivity, and client assignments are difficult to reconcile with other (nondiscriminatory) theories relating to intrinsic differences between men and women.

Second, our study contributes to the literature by examining whether discrimination is attributable to employers (i.e., accounting firms) or their customers (i.e., clients). It could be argued that accounting firms do not want to discriminate against female partners but they do so because clients prefer male partners. Contrary to this argument, we show that clients pay fee premiums to female partners. Moreover, this result is more pronounced in offices with more male partners, which is where we would expect to observe the most discrimination. Together, these findings suggest that clients value female partners more than male partners, particularly when female partners work in male-dominated offices.

Third, prior studies rely on survey evidence to assess whether the public accounting profession suffers from gender discrimination (Stillabower 1985; Trapp et al. 1989; Anderson et al. 1994; Barker and Monks 1998; Komori 2008; Dalton et al. 2014). A limitation of the survey approach is that the reported perceptions of male and female accountants are very different. Men typically see little or no discrimination against women, whereas many women state that discrimination does exist (Stillabower 1985; Trapp et al. 1989). Instead of using survey data to test

for discrimination, our study provides novel tests using large-sample archival data on audit fees, client assignments, and partner compensation. Overall, our results are consistent with the perceptions of female accountants who report that there is significant discrimination in male-dominated offices.

Fourth, our study offers an alternative explanation for the differences between male and female partners documented in the extant literature. Prior research finds that female partners are associated with higher audit fees and higher audit quality (Ittonen and Peni 2012; Ittonen et al. 2013; Hardies et al. 2015; Hardies et al. 2016). Researchers have inferred from this evidence that female accountants possess intrinsic advantages that make them superior to male accountants; for example, women are more diligent, more conservative, and less overconfident than men (Reuben et al. 2012).[3] Consistent with these studies, we find that female partners are associated with larger fee premiums.[4] However, our explanation is different because we argue that the fee premiums are attributable to gender discrimination. The argument of prior studies that women are intrinsically better than men is inconsistent with our evidence that prestigious clients are usually assigned to male partners. Moreover, it is inconsistent with our evidence that male partners receive higher compensation. If women were inherently better, we would expect prestigious clients to be assigned to female partners and we would expect female partners to be paid more. However, we find the opposite. Moreover, our cross-sectional results for male-dominated offices lend additional support to our gender discrimination story.

A limitation of our study is that the analyses are confined to one service profession (accounting) in one country (Belgium). We believe that additional studies are necessary, particularly in countries with stronger legal protections for women (e.g., the United States). An important advantage of examining gender discrimination in the accounting profession (or other professional services such as law firms) is that it is relatively straightforward to compare productivity differences between male and female partners using publicly available fee data. Section 2 discusses the prior literature on gender discrimination and develops the hypotheses. Section 3 describes the research design, while section 4 explains the data sources and provides descriptive statistics. Section 5 presents the results and section 6 concludes.

2. Literature review

What is discrimination?

Gender discrimination can take various different forms. Taste-based discrimination arises when men and women are treated differently because of individual preferences. For example, a male-dominated firm may indulge its preference for male employees by hiring fewer women or promoting women less often (Becker 1957). Another form of gender discrimination—statistical discrimination—occurs when the perceptions of male and female workers are based on gender stereotypes rather than individual characteristics (Phelps 1972). For example, an employer may choose not to promote a woman to a senior position because the employer believes that women are, on average, more interested in raising a family. The third type of discrimination—implicit discrimination—refers to the situation in which discrimination is unintentional (Bertrand et al. 2005). For example, a male boss may unconsciously treat a female subordinate differently than a male subordinate.

All three forms of discrimination (i.e., taste-based, statistical, implicit) are illegal in the workplace because they can result in unfair treatment. As discussed in the next two sections, prior studies attempt to test for gender discrimination by testing whether there are male-female disparities in compensation and job promotions. However, the results of these studies have alternative

3. In an untabulated analysis, we find statistically insignificant associations between accruals and the partner's gender.
4. Recent studies for the United States also find that female partners are associated with significant fee premiums (Burke et al. 2019; Lee et al. 2019).

explanations that are not necessarily based on discrimination. Our goal is to distinguish between these alternative explanations by examining how audit fees (a measure of partner productivity) and client assignments differ between male and female partners. More importantly, we examine how the findings vary across offices with relatively high (low) percentages of male partners. These cross-sectional office tests are important for our analysis because we expect that discrimination against women is more pronounced in offices that are more heavily dominated by male partners.

Male-female wage disparities

There is considerable evidence that women are paid less than men and women are less likely to occupy the top positions at their firms (Matsa and Miller 2011; Gayle et al. 2012; Fernandez-Mateo and Fernandez 2016). The IMA 2012 Salary Survey reports that female accountants are paid only 78% of an average male accountant's salary (Schiffel et al. 2013). Schaefer and Zimmer (1995) show that the salary difference between male and female accountants is not fully explained by observable characteristics such as industry, location, education, and work experience. Expert testimony from an economist in the *Kassman v. KPMG* (2011) lawsuit alleges that the compensation of male senior audit managers is approximately $53,000 higher than their female counterparts. In Belgium, the pay gap between men and women is 8% in the legal and accounting sector, which is slightly less than the 10% pay gap in other occupations (Institute for the Equality of Women and Men 2013).[5]

While lower pay is consistent with gender discrimination, other explanations are possible. For example, the salary differential might be due to hidden productivity differences between men and women (Oaxaca and Ransom 1994; Blau and Kahn 2000, 2017). An important limitation of wage regressions is that the coefficient on the gender variable could capture unobserved differences in productivity rather than the effects of discrimination. To the extent that male workers are more productive than women in ways that are unobservable to the researcher, a wage regression will tend to ascribe the lower wages of women to discrimination rather than lower productivity. Therefore, in this study, we consider not only the compensation differences between male and female partners, but also the differences in their productivity. We test for productivity differences by examining whether male and female partners differ in their ability to generate fees for their audit firms.

Male-female disparities in top jobs

In the United States, 23% of partners are female whereas women have represented approximately 50% of all new hires by public accounting firms since the mid-1980s (AICPA 2019). Similar statistics have been reported in France (Dambrin and Lambert 2008), the Netherlands (de Accountant 2010), Sweden (Jonnergård et al. 2010), Canada (CPA Canada 2016), the United Kingdom (FRC 2017), and Australia and New Zealand (Whiting et al. 2015). However, these statistics do not necessarily imply that women are suffering from discrimination given that alternative explanations are possible.

Niederle and Vesterlund (2007) suggest that women are less likely to occupy the top jobs because women shy away from highly competitive environments. The study argues that women are less competitive due to nurture (i.e., boys and girls are raised differently) and nature (i.e., men are more competitive due to the effects of human evolution). The lower incidence of women in the top jobs may also be attributable to women being more likely to take time out of the labor market due to motherhood or to raise a family (Lazear and Rosen 1990; Bertrand et al. 2010). Consistent with family responsibilities explaining the different career paths of men and women, Bertrand et al. (2010) show that female MBA graduates fall behind their male counterparts due to

5. The Belgian Institute for the Equality of Women and Men reports the pay gaps across various economic sectors but it does not distinguish between law firms and accounting firms.

the conflicts between pursuing a career versus raising a family. Such conflicts are common in high-powered corporate jobs due to the long hours and heavy travel commitments that such positions demand (Goldin and Katz 2008; Bertrand et al. 2010). Long hours and heavy travel commitments are particularly important in public accounting, where employees are often required to work 60 to 80 hours per week during the busy season (Dalton et al. 1997; Gallhofer et al. 2011). Such commitments can put significant pressure on female accountants with primary family obligations. Consistent with motherhood being an important career impediment for female accountants, survey research finds that women are more likely than men to leave public accounting for family reasons (Dalton et al. 1997; Anderson-Gough et al. 2005).

In summary, a low incidence of female partners does not, in and of itself, provide compelling evidence of discrimination. Given the alternative explanations offered above, it is necessary to provide more rigorous evidence that women really do experience gender discrimination.

Anecdotal cases of alleged gender discrimination in public accounting

Employee lawsuits provide anecdotal examples of accounting firms being accused of discrimination (*Price Waterhouse v. Hopkins* 1989; *Page v. PricewaterhouseCoopers* 2004; *Kassman v. KPMG* 2011). Although the human resource practices of accounting firms have established gender diversity programs, female plaintiffs have alleged that such programs can hurt rather than help their promotion prospects (Anderson-Gough et al. 2005; Kornberger et al. 2010). For instance, in *Page v. PricewaterhouseCoopers* (2004), it was noted that the accounting firm had established a mentoring partnership program that was compulsory for women but not for men. The program was established to help women move up the career ladder, but plaintiffs argued that it simply added another level of scrutiny and opportunity for rejection that did not exist for their male colleagues.[6]

Many accounting firms offer reduced hours and flexible work schedules to help working mothers (Gallhofer et al. 2011). However, these arrangements can have unintended consequences because when a woman takes a reduced or flexible schedule, it can be perceived by her male counterparts as signaling the woman's lack of commitment to the firm.[7] Such perceptions are apparent in the lawsuit of *Kassman v. KPMG* (2011, 7), where a male partner allegedly told a female plaintiff that "part time women work exactly their *x* hours and not a minute over" and "you know they're not going to get anywhere." Accountants on the partner track need to spend a lot of time socializing and networking with clients and fellow partners (Kumra and Vinnicombe 2008). However, female accountants can find themselves excluded when social events are designed to suit the tastes of men rather than women (Anderson-Gough et al. 2005; Kumra and Vinnicombe 2008). For example, in *Page v. PricewaterhouseCoopers* (2004, 11), it was alleged that the firm had

6. Class action lawsuits are not permitted in Belgium. Therefore, we discuss the evidence from class action lawsuits in the United States instead.

7. Plaintiffs in Kassman v. KPMG (2011, 7–8) claimed that "Although KPMG touts its flexible work schedule as proving it supports working mothers, the reality is that working mothers are often forced to take a so-called 'reduced' schedule for less pay—but are still expected to shoulder the same responsibilities as their full-time counterparts. Many of KPMG's female employees feel pressured to move to a flexible plan after having children due to the Company's stereotype that working mothers with young children are less effective employees and less committed to their careers. These mothers do not accept reduced pay by choice, but to avoid heightened scrutiny and termination. . . . KPMG discriminates against its female employees by assuming they are less committed to their careers—a gender stereotype that the Company's male employees do not have to overcome." This allegation was supported by several female plaintiffs having their employments terminated by KPMG on their first day back from maternity leave. Female accountants can find ways to signal their long-term commitment despite motherhood. In Kassman v. KPMG (2011, 20–21), it was further alleged that the firm had "frequently touted a Partner in the Atlanta office, Tammy Hunter, as a role model for other working mothers because she called the Company to discuss work matters on her way to the delivery room to give birth to her child. The Company apparently viewed this as a level of dedication to which other working mothers should aspire."

> excluded the [female] Plaintiff from social events, golf outings, and other network opportunities designed to allow employees to develop and enhance relationships with clients and partners, while males were routinely allowed and encouraged to participate in such events. For example, even on accounts where Plaintiff held major responsibility, her male coworkers were invited to poker parties, Las Vegas trips, and golf outings, but Plaintiff was excluded. On the rare occasion when Plaintiff was invited, the invitation was extended in a way that was not sincere. For example, Plaintiff was told "fifteen guys are going to Las Vegas—do you really want to go?" Additionally, PwC events were tailored toward male preferences such as golf and sporting events.

Hypotheses development for audit fees: H1a and H1b

In this study, we compare the productivity of male and female partners using the fees that partners generate for their audit firms. In most occupational settings, productivity differences between men and women are difficult to measure. Public accounting is an advantageous setting because the fees generated by partners are publicly disclosed for every audit client.

There is anecdotal evidence that accounting firms sometimes discriminate against women by promoting men who exhibit inferior productivity. For instance, in *Price Waterhouse v. Hopkins* (1989), the Supreme Court concluded that the firm had denied the only woman considered for partnership even though she had generated higher fees than the other 88 male candidates.[8] In *Page v. PricewaterhouseCoopers* (2004), it was alleged that the accounting firm had favored two male candidates over the female plaintiff, despite the men working fewer hours, generating lower fees, and receiving inferior performance evaluations compared to the female candidate.

We argue that gender discrimination is likely to cause differences in the observed performance of male and female partners. To see why, consider Figure 1, where men and women are assumed to have the same ability distributions but the threshold for promotion to the partner level is set higher for women. Figure 1 shows that the women who are promoted to partner perform better than the men who are promoted to partner because women have to meet a higher performance threshold in order to be promoted.

Given the higher performance threshold for female partners relative to male partners, we hypothesize that female partners generate higher audit fees than male partners (H1a).

HYPOTHESIS 1a (H1a). *Female partners are associated with higher fees than male partners.*

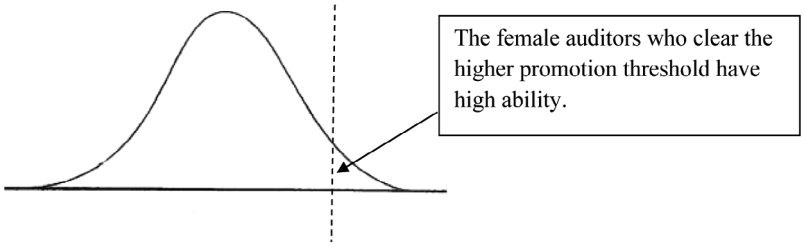
A limitation of H1a is that female partners may generate higher fees for reasons unrelated to discrimination. For example, women may have intrinsic characteristics that make them better accountants than males: women may be more risk-averse, more conscientious, and more conservative than men (Mueller and Plug 2006; Croson and Gneezy 2009; Reuben et al. 2012; Hardies et al. 2015). To assess whether the fee differential between male and female partners is really due to gender discrimination, we examine whether the differential is larger in offices with a higher proportion of male partners.

Prior research suggests that discrimination is related to the gender composition of the workplace. For example, Hultin and Szulkin (1999) find that women in Sweden earn less than men if they work in a company with more male managers. Gorman (2005) shows that male recruiters

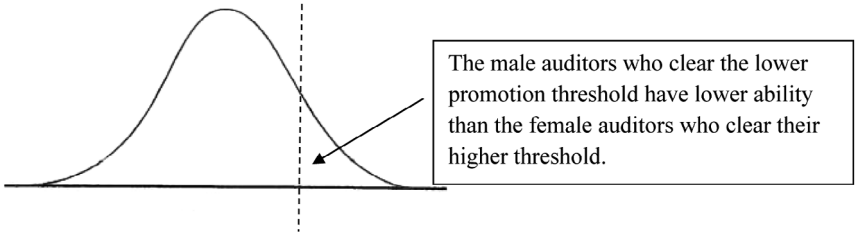
8. Male colleagues had described the female plaintiff as "overbearing, macho and abrasive and said she would have a better chance of making partner if she would wear makeup and jewelry, and walk, talk, and dress more femininely" (Levin 1990). The Supreme Court concluded that the firm had "permitted negative sexually stereotyped comments to influence partner selection" (Levin 1990).

Figure 1 The effect of gender discrimination on the observed abilities of female and male partners

Panel A: Female ability distribution and a higher promotion threshold for female partners



Panel B: Male ability distribution and a lower promotion threshold for male partners



are less likely than female recruiters to hire female job candidates in US law firms. Similarly, Kurtulus and Tomaskovic-Devey (2012) find that an increase in the percentage of male top managers is associated with fewer female middle managers being hired. In public accounting, Dalton et al. (2014) show that female accountants perceive more discrimination in offices that have a higher percentage of male partners. Therefore, if the fee differential between male and female partners is attributable to gender discrimination, we would expect the differential to be more pronounced in offices with relatively more male partners.

HYPOTHESIS 1b (H1b). *The positive association between audit fees and female partners is significantly larger in offices with a higher percentage of male partners.*

Hypotheses development for client assignments: H2a and H2b

A partner can have a more rewarding career when the partner works on more prestigious audit engagements (Knechel et al. 2013). Therefore, if female partners encounter discrimination, we would expect prestigious clients to be assigned to male partners with nonprestigious clients being assigned to female partners. There is anecdotal evidence consistent with this idea. In *Page v. PricewaterhouseCoopers* (2004, 10), it was alleged that the firm had "enhanced Wall's [a male candidate's] potential for partnership by assigning him to one of [the female] plaintiff's most lucrative clients. This particular client was one of the largest in the Chicago office and was brought to the firm by [the female] plaintiff." To the extent that partner-client assignments serve to discriminate against female partners, we would expect prestigious clients to be assigned to male rather than female partners. This leads to our next hypothesis.

HYPOTHESIS 2a (H2a). *Prestigious clients are less likely to be assigned to female partners than male partners.*

A limitation of H2a is that male partners may be assigned to prestigious clients for other reasons. For example, prestigious clients may require the attention of a full-time partner working long uninterrupted hours (Kornberger et al. 2010). To the extent that female partners are more likely to face family disruptions, this could mean that female partners are less suitable for working on the accounts of prestigious clients. Another possibility is that prestigious companies prefer to be audited by male rather than female partners (Lee et al. 2019), or female partners may prefer to work with less demanding clients.

To determine whether our H2a results are really attributable to gender discrimination, we examine whether the difference in client assignment patterns is more pronounced in the offices that have a higher percentage of male partners. Prior research suggests that women are likely to face more discrimination when they work in male-dominated environments (Hultin and Szulkin 1999; Gorman 2005; Cohen and Huffman 2007; Kurtulus and Tomaskovic-Devey 2012; Dalton et al. 2014). It follows that, if the client assignment patterns predicted in H2a are attributable to gender discrimination, those patterns would be more evident in the offices that have relatively more male partners. This leads to our final hypothesis:

HYPOTHESIS 2b (H2b). *The negative association between the assignment of prestigious clients and female partners is significantly stronger in offices that have a higher percentage of male partners.*

Alternative arguments

Forces other than gender discrimination could potentially drive different outcomes for male and female partners. We discuss these other forces and explain how they generate predictions that differ from one or more of our predictions in H1a, H2a, H1b, and H2b.

Client preferences

One possibility is that clients prefer to be audited by male rather than female partners. If so, we would expect clients to pay higher fees to male partners. This would be opposite to our prediction in H1a that clients pay higher fees to female partners.[9] Another possibility is that prestigious clients have a stronger preference for male partners, or that female partners prefer to be assigned to less prestigious clients. This would be consistent with our prediction in H2a that prestigious clients are more likely to be assigned to male partners. However, it would not generate the prediction in H2b that this pattern is stronger in the male-dominated offices. Therefore, the client preferences hypothesis makes predictions that are inconsistent with our predictions in H1a and H2b.

Superior intrinsic ability of male accountants

Another argument is that male partners are intrinsically better than female partners because men are more competitive, or have fewer family commitments, or are less likely to take a career break (Niederle and Vesterlund 2007; Sutter and Glätzle-Rützler 2015; Saccardo et al. 2018). If men really perform better than women, we would expect male partners to be more productive. This would be opposite to our predictions in H1a that female partners generate larger fees for their firms. Moreover, it would not generate results supporting our predictions in H1b and H2b which are predicated on the gender discrimination argument.

Superior intrinsic ability of female accountants

An opposite argument is that female partners are intrinsically better than male partners because women are more diligent, more conservative, and less overconfident (Ittonen et al. 2013; Hardies

9. Contrary to the client preferences hypothesis, there is survey evidence that female and male partners are equally acceptable to audit clients (Trapp et al. 1989).

et al. 2015). If female partners are truly superior, we would expect prestigious clients to be assigned to female partners, which is opposite to our prediction in H2a. Moreover, it would not generate results supporting our predictions in H1b and H2b, which are predicated on the gender discrimination argument. Furthermore, if female partners are truly superior, we would not expect them to be paid less than male partners.

Differences in labor supply

It is plausible that an office will have more male partners when the office is located in an area that has a more plentiful supply of talented males. According to this argument, the male partners in male-dominated offices would be more talented and therefore associated with higher fees. However, this is opposite to our prediction in H1b that the lower fees generated by male partners are more pronounced in male-dominated offices. Moreover, it would not generate results supporting our predictions in H1a and H2a.

Self-selection

The women who choose to work in male-dominated offices may have intrinsic characteristics that are more similar to those of men (Nekby et al. 2008). According to this self-selection argument, the fee differentials between men and women would be smaller in male-dominated offices because the men and women in male-dominated offices would be more similar. This is opposite to our prediction in H1b that the fee differences between male and female partners are larger in male-dominated offices. Similarly, the association between prestigious clients and gender would be smaller in male-dominated offices if the men and women in these offices are more similar. Again, this is opposite to our prediction in H2b that the tendency for prestigious clients to be assigned to male partners is stronger in male-dominated offices.

Affirmative action

An office may follow a policy of affirmative action by setting a lower performance threshold for female partners (i.e., the opposite to Figure 1). A lower performance threshold would result in less productive women being promoted to the partner level, which would be opposite to our prediction in H1a that female partners generate higher fees. The affirmative action story would also result in male-dominated offices having smaller fee differentials between male and female partners because affirmative action should make it less likely that offices are dominated by less productive men. This would be opposite to our prediction in H1b that the fee differential between male and female partners is larger in male-dominated offices.

In summary, the above six arguments—client preferences, greater male productivity, greater female productivity, differences in labor supply, self-selection, and affirmative action—generate predictions that are different from our hypotheses (see Table 1 for a summary). Therefore, if our results collectively support H1a, H1b, H2a, and H2b, the findings are unlikely to be explained by any of these alternative arguments, but are instead more consistent with gender discrimination.

3. Research design

We test H1a by estimating the following model of audit fees:

$$LAF = \alpha_0 + \alpha_1 FEMALE + Controls + u. \quad (1a)$$

The dependent variable is the log of audit fees (*LAF*). The *FEMALE* variable equals one if the audit partner is a woman, and zero if a man. Under H1a, we expect female partners generate higher audit fees. Therefore, we predict a positive coefficient on *FEMALE* (i.e., $\alpha_1 > 0$).

Following prior studies on the determinants of audit fees (Hay et al. 2006), our control variables include client size, an indicator for whether the company is publicly traded, and various proxies for the company's financial health (e.g., profitability, leverage, and liquidity).

TABLE 1
Summary of gender discrimination hypotheses and alternative theories

Theory	Effect of partner gender on fees and client assignments (H1a and H2a)	How do the effects differ in offices that have more male partners? (H1b and H2b)
Gender discrimination	H1a: Female partners are associated with fee premiums. H2a: Prestigious clients are assigned to male partners.	H1b: Female fee premiums are larger in male-dominated offices. H2b: The association between prestigious clients and gender is larger in male-dominated offices.
1. Client preferences Clients, especially prestigious clients, prefer male partners.	Male partners are associated with fee premiums (opposite to H1a). Prestigious clients are assigned to male partners (consistent with H2a).	Male fee premiums are larger in male-dominated offices (opposite to H1b). The association between prestigious clients and gender is larger in male-dominated offices (consistent with H2b).
2. Superior intrinsic ability of male accountants	Male partners are associated with fee premiums (opposite to H1a). Prestigious clients are assigned to male partners (consistent with H2a).	No effect is expected (opposite to H1b and H2b).
3. Superior intrinsic ability of female accountants	Female partners are associated with fee premiums (consistent with H1a). Prestigious clients are assigned to female partners (opposite to H2a).	No effect is expected (opposite to H1b and H2b).
4. Labor supply Offices have more males when there is a larger supply of talented males.	No effect is expected (opposite to H1a and H2a).	Male fee premiums are larger in male-dominated offices (opposite to H1b). The association between prestigious clients and gender is larger in male-dominated offices (consistent with H2b).
5. Self-selection Male-dominated offices attract women with similar characteristics to men.	Unclear how this would affect H1a and H2a.	The association between fees and gender is smaller in male-dominated offices (opposite to H1b). The association between prestigious clients and gender is smaller in male-dominated offices (opposite to H2b).
6. Affirmative action Offices have more female partners when they discriminate in favor of women.	Male partners are associated with fee premiums (opposite to H1a). Prestigious clients are assigned to male partners (consistent with H2a).	Fee differentials between males and females are larger in gender-balanced offices (opposite to H1b). The association between prestigious clients and gender is larger in male-dominated offices (consistent with H2b).

We control for the size of the audit firm, whether the audit firm is an industry specialist, whether the partner is an industry specialist, whether the partner specializes in serving public companies, the length of the partner's career, the number of clients served by the partner, the partner's audit opinion, and whether the partner works in a French-speaking area of Belgium. The variables are defined in the Appendix. We also control for city fixed effects, year fixed effects, and industry fixed effects.

To test H1b, we measure the percentage of male partners in each office (*OMALE%*). A higher value of *OMALE%* corresponds to an office that has relatively more male partners. We augment equation (1a) by including *OMALE%* and its interaction with the gender of the audit engagement partner (*FEMALE*):

$$LAF = \beta_0 + \beta_1 FEMALE + \beta_2 OMALE\% + \beta_3 FEMALE \times OMALE\% + Controls + u. \quad (1b)$$

Under H1b, the fee premiums of female partners are significantly larger in offices with more male partners. We therefore predict a positive coefficient on the *FEMALE*×*OMALE%* interaction variable in equation (1b) (i.e., $\beta_3 > 0$).[10]

We test H2a and H2b by estimating models that explain the assignments of prestigious and nonprestigious clients to male and female partners. Because auditor-client assignments are determined through a matching process, it is unclear whether the dependent variable should capture the gender of the partner or the prestige of the client. On the one hand, if the partner is chosen for a specific client, the dependent variable should be the partner's gender (*FEMALE*). On the other hand, if the client is chosen for a specific partner, the dependent variable should be *PRESTIGE*. To address this issue, we test H2a and H2b using both dependent variables as alternatives:

$$FEMALE = \delta_0 + \delta_1 PRESTIGE + Controls + v, \quad (2a)$$

$$PRESTIGE = \theta_0 + \theta_1 FEMALE + Controls + v. \quad (2b)$$

The *PRESTIGE* variable equals one if the client is publicly traded, a subsidiary of a publicly traded company, or the client is in the top 10% of the office's largest clients (measured using total assets), and equals zero otherwise.[11] Under H2a, we expect prestigious clients less likely to be assigned to female partners. We therefore predict a negative coefficient for *PRESTIGE* in equation (2a) (i.e., $\delta_1 < 0$) and a negative coefficient for *FEMALE* in equation (2b) (i.e., $\theta_1 < 0$).

Equation (2a) controls for client characteristics that could affect whether the client is assigned to a male or female partner. These include the company's financial health (e.g., profitability, leverage, and liquidity), the provision of nonaudit services, and the size of the accounting firm. Equation (2b) controls for partner characteristics that could determine whether the partner is assigned to a prestigious client. These include whether the partner is an industry specialist, whether the partner specializes in serving public companies, the length of the partner's career, the partner's number of clients, and whether the partner works in a French-speaking area of Belgium. In each equation, we also control for city fixed effects, year fixed effects, and industry fixed effects.

To test H2b, we augment equations (2a) and (2b) by adding interactions with the office gender variable (*OMALE%*):

10. The β_1 coefficient in (1b) captures the effect of *FEMALE* in offices with zero male partners (i.e., when *OMALE%* = 0). We do not make a prediction for the sign of β_1 because, in our sample, there are very few female-only offices. Instead, we interpret the economic magnitude of the *FEMALE* coefficient as we vary the value of *OMALE%* from the 25th percentile value to the 75th percentile value.

11. Although the 10 percent threshold is somewhat arbitrary, we obtain similar inferences using alternative thresholds (e.g., 20 percent) and/or using sales rather than assets to measure client prestige.

$$FEMALE = \lambda_0 + \delta_1 PRESTIGE + \delta_2 OMALE\% + \delta_3 PRESTIGE \times OMALE\% + Controls + v, \quad (2c)$$

$$PRESTIGE = \theta_0 + \theta_1 FEMALE + \theta_2 OMALE\% + \theta_3 FEMALE \times OMALE\% + Controls + v. \quad (2d)$$

Under H2b, the tendency for prestigious clients to be assigned to male partners is significantly stronger in offices with a higher percentage of male partners. Therefore, we predict a negative coefficient on *PRESTIGE*×*OMALE%* in equation (2c) (i.e., $\delta_3 < 0$) and a negative coefficient on *FEMALE*×*OMALE%* in equation (2d) (i.e., $\theta_3 < 0$).[12]

4. Institutional setting, sample, and descriptive statistics

Institutional setting

Belgium's accounting and auditing regulations are very similar to other EU countries (Vanstraelen and Willekens 2008; Hardies et al. 2018). All public and "large" private companies are legally required to publish full audited financial statements.[13] The use of IFRS is obligatory for the consolidated accounts of publicly listed companies, and optional for the consolidated accounts of all other companies. Audit firm appointments are made for three years, and can be renewed for additional three-year periods (Vanstraelen and Willekens 2008). Partner rotation is required after six years for public interest entities (Directive 2006/43/EU), with a two-year cooling-off period before the partner is permitted to rotate back onto the engagement.

In 2002, Belgium created an Institute for Equal Opportunities between Women and Men (IGVM) in order to help address gender discrimination. A law against gender discrimination was adopted in 2007 and amended in 2018. However, Belgium is a low-litigation environment (Vanstraelen and Willekens 2008; Hardies et al. 2018), and lawsuits alleging discrimination are rare. Therefore, firms in Belgium have weak litigation-based incentives to not discriminate against female employees. The influx of women in accounting has been relatively slow in Belgium. In the 1990s, the number of female CPAs in Belgium was barely above 10%, so the Belgian accounting profession has been male-dominated until relatively recently. Currently, the proportion of female CPAs in public accounting is lower in Belgium than in the United States (approximately 25% vs. 50%). Furthermore, only 15% of Belgian partners are women, whereas 23% of partners are women in the United States (AICPA 2019).

Sample

Our sample starts with every audited company over the period 2008–2014. The data are from the Bel-First database, Graydon Belgium, and the Belgian National Bank, which maintains financial statements for public and private companies. Partner names are from Graydon Belgium and manually verified against the names shown in audit reports to ensure their accuracy. For partners whose gender could not be determined from the first name, we checked several sources to identify the partner's gender (e.g., LinkedIn and the Institute of Registered Auditors).

As shown in Table 2, our sample starts with 127,076 client-year observations in 2008–2014. We drop 4,641 observations with joint audit firms and we drop 11,288 sole proprietorship observations because a sole proprietor is unlikely to face discrimination from her own firm. We lose 5,953 observations due to missing data on audit fees. We drop 10,128 observations for

12. Again, we do not make predictions for δ_1 or θ_1 because there are very few female-only offices in our sample. Instead, we examine how the assignments of prestigious clients to male and female partners change as the value of *OMALE%* increases from the 25th percentile to the 75th percentile.

13. During our sample period (2008–2014), companies were considered "large" if they exceeded at least two of the following size thresholds: (i) revenues (excluding VAT) >7,300,000 euros; (ii) total assets >3,650,000 euros; and (iii) number of employees >50. These criteria had to be considered on a consolidated basis if the company belonged to a group or was a holding or listed company. Additionally, companies were always considered "large" if they were listed or had more than 100 employees.

TABLE 2
Derivation of sample

Description	
Firm-year observations 2008–2014	127,076
Less observations with more than one auditor (joint-audits)	(4,641)
Less observations from sole practitioners	(11,288)
Less observations with missing data for audit fees[a]	(5,953)
Less financial institutions and public administrative institutions[b]	(10,128)
Less observations with missing data for control variables	(184)
Firm-year observations for the final sample	94,882

Notes: [a]These data are missing despite the fact that companies are required by law to disclose audit fees in the notes to their financial statements. [b]Financial institutions are excluded because of their specific accounting requirements, which differ substantially from those of industrial and commercial firms. Public administrative institutions are excluded because of their specific nature.

financial institutions and public administrative institutions because their accounting and auditing requirements are different. We lose 184 observations due to missing information for the control variables. This leaves a final sample of 94,882 company-year observations. The final sample has 656 unique partners of which 100 (15.0%) are women.[14] There are 112 unique accounting firms and a total of 199 offices. On average, each office has 85 clients, of which 11 are classified as prestigious, and each office has an average of three audit partners.

Descriptive statistics

Panel A of Table 3 reports descriptive statistics for the clients of male and female partners. Consistent with H1a, we find that female partners are associated with significantly higher audit fees (*LAF*) (*t*-stat. = 6.39) despite that their clients are significantly smaller (*LTA*) (*t*-stat. = −3.84). Consistent with H1a, these findings suggest that female partners are associated with higher audit fees. Consistent with H2a, we find that only 10.6% of female partner clients are prestigious, whereas 13.3% of male partner clients are prestigious.

Panel B of Table 3 reports descriptive statistics after partitioning the sample into male-dominated offices ($0.750 \leq OMALE\% \leq 1.000$; $N = 79{,}974$) and offices with a more diverse gender balance ($0.000 \leq OMALE\% < 0.750$; $N = 14{,}908$). We find that audit fees are on average significantly higher in the male-dominated offices. However, this could also reflect a clientele effect because the clients in male-majority offices are more prestigious and tend to be larger (in terms of assets and sales). Table 4 provides a correlation matrix for the variables. All of the correlations are below 0.5 and we find no evidence of multicollinearity problems in our regressions based on the variance-inflation factors.

5. Results

Audit fee regressions (H1a and H1b)

Table 5 begins by reporting regression results for the models of audit fees. In models 1 and 2, the coefficients on *FEMALE* are positive and significant (*t*-stats. = 2.96, 2.41). In economic terms, these coefficients translate into fee premiums of 3.98% and 3.25%, respectively, for female partners. This supports the prediction in H1a that female partners generate higher audit fees than male partners.

14. The Hardies et al. (2015) study has 692 unique partners of which 93 are women. There are fewer partners in our study because we exclude the sole proprietors.

TABLE 3
Descriptive statistics

Panel A: Descriptive statistics for the clients of female and male partners (N = 94,882 audit engagements)

	Total sample (N = 94,882 engagements)			(1) Female partners (n = 9,907)			(2) Male partners (n = 84,975)			
Variable	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median	t-stat. (1)–(2)
LAF	8.867	1.032	8.780	8.930	1.011	8.868	8.860	1.034	8.774	6.39***
PRESTIGE	0.130	0.337	0.000	0.106	0.308	0.000	0.133	0.340	0.000	−7.46***
LTA	15.715	2.040	15.752	15.641	1.927	15.725	15.724	2.052	15.755	−3.84***
LNSALES	13.921	5.298	15.653	14.021	5.107	15.675	13.910	5.320	15.652	1.98**
LEV	0.717	0.958	0.628	0.755	1.043	0.634	0.712	0.947	0.627	4.24***
ROA	0.043	0.227	0.046	0.042	0.236	0.045	0.044	0.225	0.046	−0.61
CATA	0.675	0.328	0.798	0.699	0.323	0.834	0.673	0.329	0.793	7.26***
QUICK	23.412	146.963	1.208	15.975	112.723	1.190	24.279	150.425	1.210	−5.32***
QUICK_RANK	47,294	27,389	47,295	47,162	26,937	46,464	47,310	27,441	47,393	−0.51
IRISK	0.508	0.325	0.538	0.532	0.328	0.571	0.505	0.324	0.533	7.74***
LOSS	0.296	0.456	0.000	0.307	0.461	0.000	0.295	0.456	0.000	2.49***
PROBF	0.553	0.071	0.564	0.552	0.073	0.563	0.553	0.071	0.564	−2.02**
LIST	0.006	0.078	0.000	0.005	0.073	0.000	0.006	0.079	0.000	−1.12
LNAS	2.383	3.860	0.000	2.221	3.750	0.000	2.402	3.872	0.000	−4.43***
BUSY	0.849	0.358	1.000	0.809	0.393	1.000	0.854	0.353	1.000	−11.95***
OPINION	0.251	0.434	0.000	0.262	0.440	0.000	0.250	0.433	0.000	−2.75***
BIG4	0.519	0.500	1.000	0.549	0.498	1.000	0.515	0.500	1.000	6.40***
SPECF	0.283	0.450	0.000	0.282	0.450	0.000	0.283	0.450	0.000	−0.01
SPECAP	0.044	0.205	0.000	0.022	0.146	0.000	0.046	0.210	0.000	−11.29***
PUBSPEC	0.043	0.202	0.000	0.027	0.162	0.000	0.044	0.206	0.000	−8.18***
CAREER	17.073	7.085	17.000	14.986	5.777	15.000	17.316	7.183	17.000	−31.14***
LNCAREER	2.801	0.469	2.890	2.691	0.435	2.773	2.814	0.471	2.890	−24.79***
CLIENTS	76.737	55.285	64.000	63.717	40.973	55.000	78.255	56.524	65.000	−24.85***
LNCLIENTS	4.047	0.849	4.159	3.867	0.870	4.007	4.068	0.844	4.174	−22.41***
LANG	0.264	0.441	0.000	0.308	0.462	0.000	0.258	0.438	0.000	10.62***

(The table is continued on the next page.)

TABLE 3 (continued)

Panel B: Descriptive statistics sorted by *OMALE%* (*N* = 94,882 audit engagements)

	0.000 ≤ *OMALE%* < 0.750 (*n* = 14,908) (1) Offices with a more diverse gender balance			0.750 ≤ *OMALE%* ≤ 1.000 (*n* = 79,974) (2) Male-dominated offices			
Variable	Mean	SD	Median	Mean	SD	Median	*t*-stat. (1)–(2)
LAF	8.832	0.949	8.743	8.874	1.046	8.780	−4.51***
PRESTIGE	0.122	0.327	0.000	0.132	0.338	0.000	−3.22***
LTA	15.750	1.931	15.808	15.709	2.059	15.741	2.25**
LNSALES	14.250	4.963	15.799	13.860	5.356	15.627	8.25***
LEV	0.704	0.908	0.625	0.719	0.967	0.628	−1.85*
ROA	0.043	0.219	0.044	0.043	0.228	0.046	0.06
CATA	0.678	0.321	0.796	0.675	0.329	0.799	1.05
QUICK	21.224	140.544	1.185	23.820	148.126	1.213	−1.98**
QUICK_RANK	46,933	26,734	46,365	47,536	27,510	47,659	−2.47***
IRISK	0.515	0.320	0.546	0.507	0.325	0.536	2.80***
LOSS	0.290	0.454	0.000	0.297	0.457	0.000	−1.59
PROBF	0.554	0.070	0.564	0.553	0.071	0.564	2.05**
LIST	0.005	0.072	0.000	0.006	0.080	0.000	−1.62
LNAS	2.108	3.674	0.000	2.434	3.892	0.000	−9.47***
BUSY	0.839	0.368	1.000	0.851	0.356	1.000	−4.04***
OPINION	0.240	0.427	0.000	0.253	0.435	0.000	−3.21***
BIG4	0.382	0.486	0.000	0.544	0.498	1.000	−36.73***
SPECF	0.188	0.391	0.000	0.300	0.458	0.000	−28.08***
SPECAP	0.030	0.169	0.000	0.047	0.211	0.000	−9.37***
PUBSPEC	0.041	0.198	0.000	0.043	0.203	0.000	−1.11
LNCAREER	2.856	0.464	2.944	2.790	0.469	2.890	−15.66***
LNCLIENTS	3.847	0.822	3.951	4.085	0.849	4.190	−31.62***
LANG	0.318	0.466	0.000	0.253	0.435	0.000	−16.56***

Notes: *, **, and *** indicate $p < 0.10$, 0.05, and 0.01, respectively (two-tailed tests). All variables are defined in the Appendix.

TABLE 4
Correlation matrix (N = 94,882)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) *FEMALE*	1											
(2) *OMALE%*	**−0.465**	1										
(3) *LAF*	**0.021**	**−0.049**	1									
(4) *PRESTIGE*	**−0.024**	−0.005	**0.271**	1								
(5) *LTA*	**−0.013**	**−0.026**	**0.581**	**0.491**	1							
(6) *LNSALES*	**0.006**	**−0.011**	**0.478**	**0.073**	**0.399**	1						
(7) *LEV*	**0.014**	−0.000	**−0.065**	**−0.056**	**−0.336**	**−0.138**	1					
(8) *ROA*	−0.002	0.005	**0.059**	**0.010**	**0.197**	**0.174**	**−0.386**	1				
(9) *CATA*	**0.024**	**−0.013**	**0.034**	**−0.168**	**−0.244**	**−0.099**	**0.056**	**0.057**	1			
(10) *QUICK*	**−0.017**	−0.002	**−0.134**	**0.021**	**−0.030**	**−0.284**	**−0.094**	**−0.014**	**0.045**	1		
(11) *IRISK*	**0.025**	−0.004	**0.076**	**−0.118**	**−0.092**	**0.185**	0.002	**0.070**	**0.759**	**−0.007**	1	
(12) *LOSS*	**0.008**	−0.003	**−0.071**	**−0.044**	**−0.180**	**−0.230**	**0.233**	**−0.513**	**−0.121**	**−0.008**	**−0.108**	1
(13) *PROBF*	**−0.007**	**0.087**	**0.087**	**0.016**	**0.249**	**0.348**	**−0.510**	**0.659**	**0.016**	**−0.016**	**−0.021**	**−0.609**
(14) *LIST*	−0.004	0.003	**0.138**	**0.204**	**0.100**	**0.013**	**−0.016**	**−0.009**	**−0.070**	**−0.011**	**−0.057**	**0.007**
(15) *LNAS*	**−0.014**	**0.023**	**0.365**	**0.149**	**0.250**	**0.153**	**−0.027**	**0.008**	**−0.043**	**−0.044**	**−0.020**	**−0.010**
(16) *BUSY*	**−0.039**	**0.034**	**−0.072**	**0.024**	**−0.024**	**−0.034**	**−0.007**	**−0.013**	**−0.040**	0.001	**−0.023**	**0.028**
(17) *OPINION*	**0.009**	−0.004	**−0.051**	**−0.049**	**−0.143**	**−0.090**	**0.249**	**−0.262**	**−0.023**	**−0.024**	−0.006	**0.343**
(18) *BIG4*	**0.021**	**−0.010**	**0.273**	**0.010**	**0.072**	**−0.091**	**0.029**	**−0.025**	**0.016**	**0.052**	**−0.010**	**0.056**
(19) *SPECF*	−0.000	**0.018**	**0.180**	**0.056**	**0.088**	**−0.051**	**0.008**	**−0.011**	−0.006	**0.038**	**−0.026**	**0.034**
(20) *SPECAP*	**−0.037**	**0.028**	**0.092**	**0.131**	**0.131**	**−0.015**	0.006	**−0.017**	**−0.082**	**0.027**	**−0.066**	**0.029**
(21) *PUBSPEC*	**−0.027**	**−0.007**	**0.008**	**0.092**	**0.032**	**−0.044**	**0.012**	**−0.013**	**−0.050**	**0.017**	**−0.042**	**0.029**
(22) *LNCAREER*	**−0.080**	**−0.014**	**−0.078**	**0.010**	**0.009**	**0.017**	**−0.014**	**0.011**	**−0.023**	**−0.017**	**0.025**	**0.008**
(23) *LNCLIENTS*	**−0.073**	**0.091**	−0.002	**−0.018**	**−0.019**	**−0.066**	**0.027**	**−0.015**	−0.001	**0.010**	**0.017**	**0.038**
(24) *LANG*	**0.034**	**−0.051**	**0.013**	**0.024**	**0.008**	**−0.038**	**0.028**	**−0.015**	**−0.040**	0.003	**−0.039**	**0.028**

(The table is continued on the next page.)

TABLE 4 (continued)

	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
(13) *PROBF*	1											
(14) *LIST*	**−0.015**	1										
(15) *LNAS*	**0.016**	**0.111**	1									
(16) *BUSY*	**−0.025**	**0.013**	**−0.023**	1								
(17) *OPINION*	**−0.375**	−0.005	**−0.017**	**−0.009**	1							
(18) *BIG4*	**−0.053**	0.006	**0.077**	**−0.007**	**−0.013**	1						
(19) *SPECF*	**−0.033**	**0.025**	**0.072**	−0.001	−0.005	**0.554**	1					
(20) *SPECAP*	**−0.025**	**0.044**	**0.051**	**0.026**	−0.001	**0.126**	**0.254**	1				
(21) *PUBSPEC*	**−0.034**	**0.111**	−0.000	**0.030**	−0.005	**0.008**	**0.015**	**0.032**	1			
(22) *LNCAREER*	**−0.007**	−0.004	**−0.014**	**−0.039**	**−0.009**	**0.021**	**−0.137**	**−0.012**	**−0.027**	1		
(23) *LNCLIENTS*	**−0.035**	**−0.011**	**−0.018**	**0.025**	**0.045**	**0.394**	**0.221**	**0.089**	**0.060**	**−0.073**	1	
(24) *LANG*	**−0.041**	**0.018**	**−0.053**	**0.030**	**−0.020**	**−0.053**	**−0.039**	**0.039**	**0.075**	**−0.035**	**−0.023**	1

Notes: Correlations that are statistically significant at the 95% level (two-tailed) are highlighted in bold. All variables are defined in the Appendix.

TABLE 5
Audit fees, partner gender, and the gender composition of the partner's office (H1a and H1b)

Dependent variable = *LAF* (log of audit fees)

	Model 1		Model 2		Model 3		Model 4	
	Coeff.	*t*-stat.	Coeff.	*t*-stat.	Coeff.	*t*-stat.	Coeff.	*t*-stat.
FEMALE	0.039	2.96***	0.032	2.41**	−0.352	−8.32***	−0.260	−5.61***
FEMALE×OMALE%					0.491	8.71***	0.371	5.95***
OMALE%					−0.295	−9.58***	−0.232	−7.03***
LTA	0.238	64.26***	0.237	64.20***	0.237	64.11***	0.236	64.13***
LNSALES	0.053	43.62***	0.054	44.14***	0.053	43.73***	0.054	44.17***
LEV	0.087	12.94***	0.087	12.99***	0.086	12.88***	0.086	12.93***
ROA	0.041	1.74*	0.033	1.39	0.041	1.73*	0.032	1.37
CATA	0.418	16.37***	0.394	15.52***	0.414	16.29***	0.394	15.55***
QUICK_RANK	0.000	0.04	−0.000	−0.10	−0.000	−0.01	−0.000	−0.16
IRISK	−0.194	−9.00***	−0.185	−8.65***	−0.192	−8.94***	−0.185	−8.65***
LOSS	0.058	6.65***	0.055	6.29***	0.058	6.67***	0.055	6.31***
PROBF	−1.128	−10.56***	−1.087	−10.24***	−1.122	−10.54***	−1.087	−10.26***
LIST	0.892	13.47***	0.890	13.31***	0.893	13.36***	0.891	13.25***
LNAS	0.046	42.62***	0.044	41.23***	0.046	42.86***	0.044	41.39***
BUSY	−0.095	−7.64***	−0.094	−7.64***	−0.093	−7.47***	−0.093	−7.56***
OPINION	−0.001	−0.14	−0.013	−1.47	−0.004	−0.42	−0.014	−1.60
BIG4	0.547	49.03***	0.476	40.50***	0.533	47.72***	0.471	39.92***
SPECF	0.004	0.35	−0.001	−0.07	0.004	0.38	−0.001	−0.01
SPECAP	0.004	0.17	0.002	0.07	0.006	0.26	0.003	0.11
PUBSPEC	0.050	2.65***	0.035	1.87*	0.050	2.64***	0.041	2.18**
LNCAREER	−0.024	2.92***	−0.037	−4.41***	−0.028	−3.36***	−0.039	−4.61***
LNCLIENTS	−0.082	−15.60***	−0.073	−13.29***	−0.078	−14.76***	−0.071	−12.97***
LANG	0.077	7.61***	0.024	1.59	0.071	7.04***	0.019	1.28
Observations	94,882		94,882		94,882		94,882	
Year fixed effects	Yes		Yes		Yes		Yes	

(The table is continued on the next page.)

TABLE 5 (continued)

Dependent variable = *LAF* (log of audit fees)				
	Model 1	Model 2	Model 3	Model 4
Industry fixed effects	Yes	Yes	Yes	Yes
City fixed effects	No	Yes	No	Yes
Adjusted R^2	0.60	0.60	0.60	0.60

Notes: *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively. All tests are two-tailed. Standard errors are adjusted for heteroscedasticity and clustered on each company. All variables are defined in the Appendix.

Models 3 and 4 test H1b by including the gender composition of the office (*OMALE%*) and its interaction with the gender of the audit engagement partner (*FEMALE)*. The interaction variable (*FEMALE×OMALE%*) has significant positive coefficients (*t*-stats. = 8.71, 5.95, respectively). This strongly supports the prediction in H1b that the fee premiums to female partners are significantly larger in male-dominated offices. To assess the economic significance of these results, we examine how the fee premium to female partners varies between offices with the 25th and 75th percentile values of *OMALE%*. Over this range and using the coefficient estimates from model 4, we calculate that the average fee premiums to female partners increase from 3.3% to 11.1%. Therefore, the office gender variable (*OMALE%*) has an economically significant effect on the fee differential between male and female partners. We conclude that the fee premiums to female partners are significantly larger in male-dominated offices.

Results for the control variables are consistent with prior research (Hay et al. 2006). The coefficients on *LTA*, *LNSALES*, and *LIST* show that large companies and publicly traded companies pay higher audit fees. Fees are larger when companies are more highly leveraged (*LEV*), loss-making (*LOSS*), have more current assets (*CATA*), and more nonaudit services (*LNAS*). In addition, audit fees are higher when the audit partner is a public company specialist (*PUBSPEC*), the partner became a CPA more recently (*LNCAREER*), the partner is from a Big 4 firm (*BIG4*), and the partner has fewer clients (*LNCLIENTS*).

Aggregate abnormal audit fees for each partner-year (H1a and H1b)

It could be argued that our analyses should be conducted at the partner-year level rather than the audit engagement level. We examine the implications of moving the analysis to the partner-year level in the following three steps. First, we estimate abnormal audit fees for each engagement using the residuals from the audit fee model in column (2) of Table 5 (but without the *FEMALE* variable). Next, we cumulate the values of abnormal audit fees across all engagements of a given partner-year (3,468 partner-years in total). Finally, we test whether aggregate abnormal audit fees at the partner-year level are larger for female partners than male partners (H1a) and we test whether this positive association is driven by male-dominated offices (H1b).

The univariate results are shown in panel A of Table 6. In the male-dominated offices ($0.750 \leq OMALE\% \leq 1.000$), we find that aggregate abnormal audit fees are significantly larger for female partners than male partners (*t*-stat. = 4.38).[15] In contrast, aggregate abnormal audit fees are not significantly different between female and male partners in offices with a more diverse gender balance ($0.000 \leq OMALE\% < 0.750$). The regression results are reported in panel B of Table 6.[16] Consistent with H1a, models 1 and 2 show that aggregate abnormal audit fees are significantly larger for female partners (*t*-stats. = 3.17, 3.10, respectively). Consistent with H1b, models 3 and 4 show that the positive association between aggregate abnormal audit fees and female partners is significantly larger in offices that have a higher proportion of male partners. We conclude that our findings for H1a and H1b continue to hold when we conduct the analyses at the individual partner level rather than the audit engagement level.

The annual compensation of male and female partners

In Belgium, close to half of the audit partners are compensated by their audit firms through their own individual management companies. These management companies are required to file annual

15. In an untabulated test, we drop the offices with zero females and we continue to find that aggregate abnormal audit fees are significantly larger for female partners in the male-dominated offices (i.e., where $(0.750 \leq OMALE\% < 1.000)$.

16. In Table 6 regressions, we control for characteristics of an audit partner's client portfolio that could affect their ability to generate abnormal audit fees. Specifically, we control for office size (*OFFICE_SIZE*), the mean of the natural log of total assets for partner *i*'s clients in year *t* (*MEAN_LTA*), the mean ratio of liabilities to assets for partner *i*'s clients in year *t* (*MEAN_LEV*), and the mean return on assets for partner *i*'s clients in year *t* (*MEAN_ROA*).

TABLE 6
Aggregated abnormal audit fees of female and male partners (N = 3,468 partner-year observations)

Panel A: Univariate results (the mean values represent aggregated abnormal audit fees)

Offices with a more diverse gender balance 0.000 ≤ *OMALE%* < 0.750		Male-dominated offices 0.750 ≤ *OMALE%* ≤ 1.000	
Male partner-years (n = 382)	Female partner-years (n = 279)	Male partner-years (n = 2,626)	Female partner-years (n = 181)
1.090	0.618	0.055	2.913
t-stat. = −0.61		t-stat. = 4.38	

Panel B: Regression results: Dependent variable = *ABFEE*

	Model 1		Model 2		Model 3		Model 4	
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
FEMALE	1.622	3.17***	1.589	3.10**	−7.079	−3.95***	−5.524	−3.04***
FEMALE×OMALE%					10.938	4.61***	9.074	3.75***
OMALE%					−7.090	−5.12***	−5.928	−4.12***
BIG4	0.829	1.13	1.321	1.79*	0.585	0.80	1.142	1.55
N_SPECF	−0.169	−11.61***	−0.168	−11.82**	−0.161	−11.09***	−0.162	−11.43***
N_SPECAP	0.088	2.01*	0.105	2.46**	0.095	2.18**	0.109	2.56**
PUBSPEC	1.023	0.88	1.375	1.22	1.237	1.07	1.594	1.41
LNCAREER	−0.234	−0.77	−0.323	−1.07	−0.214	−0.71	−0.293	−0.97
LNCLIENTS	0.816	4.81***	1.045	6.13***	0.770	4.56***	0.993	5.82***
LANG	−0.220	−0.61	−2.292	−4.24***	−0.332	−0.92	−2.374	−4.40***
OFFICE_SIZE	−0.000	−0.02	−0.005	−4.89***	−0.001	−0.66	−0.005	−5.20***
MEAN_LTA	0.842	5.41***	0.743	4.85***	0.814	5.25***	0.738	4.82***
MEAN_LEV	0.000	3.27***	0.000	2.95***	0.000	3.24***	0.000	2.94**
MEAN_ROA	−0.001	−3.01***	−0.001	−3.00***	−0.001	−3.09***	−0.001	−3.06***
Observations	3,468		3,468		3,468		3,468	
Year fixed effects	Yes		Yes		Yes		Yes	
City fixed effects	No		Yes		No		Yes	
Adjusted R^2	0.06		0.11		0.06		0.12	

Notes: *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively. All tests are two-tailed. Standard errors are adjusted for heteroscedasticity and clustered on each company. Aggregated abnormal audit fees are calculated as the residuals from the engagement-level audit fee regression and the residuals are then aggregated for each partner-year observation. All variables are defined in the Appendix.

financial statements with the National Bank of Belgium, which means we are able to obtain information on individual partner incomes. Following Vandenhaute et al. (2020), we use the incomes of audit partners' individual management companies as a proxy for their compensation. We obtain the compensation data for 1,343 of the 3,468 partner-year observations in our sample. This sample comprises 178 female partner-years and 1,165 male partner-years. Our expectation is that female partners are paid less than male partners despite that female partners generate higher fees for their audit firms.

Panel A of Table 7 reports the univariate differences in male and female partner compensation. The average compensation of male partners is 232,142 euros whereas the average compensation of female partners is only 140,916 euros and the difference is highly significant (*t*-stat. = −4.93).[17] The difference in pay remains significant when we use a log transformation for compensation (*t*-stat. = −4.89). Panel B of Table 7 reports the results of regression models that control for the same partner characteristics as Table 6. Models 1 and 2 confirm that female partners earn significantly less than male partners (*t*-stats. = −2.81, −3.50, respectively). On its own, the fact that female partners are paid less does not necessarily imply gender discrimination. However, the compensation evidence is more compelling when considered in conjunction with our evidence that female partners generate significantly larger fees for their audit firms. In other words, female partners are paid less despite being more productive in terms of generating higher fees.

From Tables 5 and 6, we find that the difference in male-female productivity is especially pronounced in male-dominated offices (H1b). To the extent that the female partners in male-dominated offices are rewarded for their greater productivity, we would expect the female pay discount to be significantly smaller in male-dominated offices. On the other hand, it is plausible that the female pay discount might be larger in the male-dominated offices given that these are the offices where discrimination is most apparent. Accordingly, we do not make a signed prediction for the *FEMALE×OMALE%* interaction variable in the compensation regressions. In models 3 and 4, we find significant positive coefficients on the *FEMALE×OMALE%* interaction (*t*-stats. = 1.72, 3.59, respectively). Therefore, the female partners in male-dominated offices are paid more than the female partners in other offices.

Client assignments (H2a and H2b)

Table 8 reports tests of H2a and H2b using the logit models of client assignments. The dependent variable is *FEMALE* in panel A and *PRESTIGE* in panel B. In model 1 (panel A), the coefficient on *PRESTIGE* is negative and significant (*z*-stat. = −3.14). In model 1 (panel B), the coefficient on *FEMALE* is negative and significant (*z*-stat. = −3.69). These results strongly support the prediction in H2a that prestigious clients are less likely to be assigned to female partners. We test H2b by adding the interactions with the office variable (*OMALE%*). In model 2 (panel A), the coefficient on *PRESTIGE×OMALE%* is negative and significant (*z*-stat. = −2.44). In model 2 (panel B), the coefficient on *FEMALE×OMALE%* is negative and significant (*z*-stat. = −2.69). These findings support the prediction in H2b that the tendency for firms to assign nonprestigious clients to female partners is stronger in the offices that have relatively more male partners.

We assess the economic significance of these H2b results by calculating how the probability of a prestigious client being assigned to a male partner increases as the value of *OMALE%* increases from the 25th percentile value (79%) to the 75th percentile (100%). Over this range and using the coefficient estimates in model 2 (panel A), the predicted probability of a prestigious

17. In an untabulated test, we find that partner compensation is generally higher at the Big 4 firms than at the non-Big 4 firms but female partners in Big 4 and non-Big 4 firms tend to earn lower compensation than their male counterparts. In Big 4 firms, the average compensation of male partners is 384,989 euros, whereas the average compensation of female partners is 213,397 euros and the difference is highly significant (*t*-stat. = −4.98). In non-Big 4 firms, the average compensation of male partners is 111,881 euros, whereas the average compensation of female partners is 96,109 euros and this difference is also significant (*t*-stat. = −2.08).

TABLE 7
Annual compensation of male and female audit partners (1,343 partner-years)

Panel A: Univariate comparisons of raw and logged compensation for male and female partners

	Male partners (n = 1,165)		Female partners (n = 178)
COMP (euros)	232,142		140,916
Female vs. male		t-stat. = −4.93	
Ln*(COMP)*	11.83		11.40
Female vs. male		t-stat. = −4.89	

Panel B: Compensation regressions: Dependent variable = Ln*(COMP)*

	Model 1		Model 2		Model 3		Model 4	
	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.	Coeff.	t-stat.
FEMALE	−0.192	−2.81***	−0.252	−3.50***	−0.617	−2.60***	−1.151	−4.44***
FEMALE×OMALE%					0.535	1.72*	1.227	3.59***
OMALE%					−0.353	−1.84*	−0.533	−2.45**
BIG4	0.350	3.62***	0.369	3.73***	0.338	3.49***	0.334	3.36***
N_SPECF	−0.002	−1.08	−0.000	−0.12	−0.001	−0.88	−0.000	−0.19
N_SPECAP	0.005	0.90	0.007	1.16	0.006	0.94	0.007	1.24
PUBSPEC	0.069	0.54	−0.011	−0.08	0.085	0.66	−0.014	−0.11
LNCAREER	0.197	3.97***	0.240	4.79***	0.200	4.03***	0.255	5.09***
LNCLIENTS	−0.014	−0.29	−0.051	−0.99	−0.013	−0.26	−0.060	−1.18
LANG	−0.017	−0.34	−0.077	−1.12	−0.032	−0.64	−0.099	−1.43
FEES_PARTNER	0.259	5.95***	0.265	5.85***	0.255	5.84***	0.266	5.89***
OFFICE_SIZE	0.001	5.37***	0.000	3.07***	0.000	5.24***	0.000	3.09**
MEAN_LTA	0.023	0.96	0.030	1.24	0.022	0.89	0.029	1.19
MEAN_LEV	0.000	1.13	0.000	0.97	0.000	1.12	0.000	0.88
MEAN_ROA	0.000	0.23	0.000	0.12	0.000	0.17	0.000	0.09
Observations	1,343		1,343		1,343		1,343	
Year fixed effects	Yes		Yes		Yes		Yes	
City fixed effects	No		Yes		No		Yes	
Adjusted R^2	0.43		0.46		0.43		0.46	

Notes: *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively. All tests are two-tailed. Standard errors are adjusted for heteroscedasticity and clustered on each company. All variables are defined in the Appendix.

TABLE 8
Gender of the audit engagement partner, client prestige, and the gender composition of the office (H2a and H2b)

Panel A: Dependent variable = *FEMALE*

	Model 1		Model 2	
	Coeff.	*z*-stat.	Coeff.	*z*-stat.
PRESTIGE	−0.223	−3.14***	0.597	2.68***
PRESTIGE×OMALE%			−1.159	−2.44**
OMALE%			−8.394	−48.86***
LEV	0.046	2.04**	0.064	2.61**
ROA	0.081	0.89	0.090	0.92
CATA	0.004	0.04	−0.030	−0.24
QUICK_RANK	−0.000	−0.99	−0.000	−0.61
IRISK	0.283	2.93***	0.351	3.23***
LOSS	0.114	2.62***	0.118	2.35**
PROBF	0.484	1.22	0.382	0.88
LNAS	−0.013	−2.54**	−0.001	−0.25
BIG4	−0.052	−1.08	0.610	9.61***
Observations	94,882		94,882	
Year fixed effects	Yes		Yes	
Industry fixed effects	Yes		Yes	
City fixed effects	Yes		Yes	
Area under the ROC	0.75		0.87	
Pseudo R^2	0.13		0.30	

Panel B: Dependent variable = *PRESTIGE*

	Model 1		Model 2	
	Coeff.	*z*-stat.	Coeff.	*z*-stat.
FEMALE	−0.264	−3.69***	0.555	2.94***
FEMALE×OMALE%			−0.360	−2.69***
OMALE%			0.268	1.62
SPECAP	1.491	19.67***	1.492	19.69***
PUBSPEC	0.895	13.16***	0.902	13.25***
LNCAREER	0.059	1.46	0.057	1.42
LNCLIENTS	−0.107	−4.49***	−0.107	−4.47***
LANG	0.130	1.92*	0.127	1.88*
Observations	94,882		94,882	
Year fixed effects	Yes		Yes	
Industry fixed effects	Yes		Yes	
City fixed effects	Yes		Yes	
Area under the ROC	0.69		0.69	
Pseudo R^2	0.08		0.08	

Notes: *, **, and *** represent significance levels of 0.10, 0.05, and 0.01, respectively. All tests are two-tailed. Standard errors are adjusted for heteroscedasticity and clustered on each company. All variables are defined in the Appendix. The models are estimated using logit.

client being assigned to a male partner is found to increase from 96.0% to 99.3%. We conclude that the influence of *OMALE%* on the assignments of prestigious clients to female and male partners is economically significant as well as statistically significant.

Female partners attracting new clients and losing prestigious clients

We examine whether male and female partners differ in their ability to attract new clients to the audit firm. For this analysis, we assume the partner who brings the client to the audit firm is the partner who works with the client during the first year of the engagement, given that we cannot directly observe which partner is actually responsible for bringing clients to the audit firm. Out of 72,762 firm-year observations for which there is prior year information, we observe 5,336 audit firm changes (i.e., new clients for the audit firm). Of these, we find that 654 (12.3%) are audited by female partners. This figure is higher than the 10.4% of retained clients audited by female partners, which suggests that female partners spend relatively more time attracting new clients to the audit firm rather than auditing existing clients.

Next, we examine instances of audit partner rotations to see which types of clients are rotated between female and male partners. After dropping the 5,336 partner changes that occur due to a change of audit firm, we find 4,911 audit partner rotations involving the same audit firm. Next, we split the 4,911 partner rotations between those involving prestigious and nonprestigious clients. Out of 815 prestigious clients that switch audit partners, we find 63 cases in which the initial audit partner was female. In all 63 cases, we find the prestigious client is subsequently rotated to a male partner. Out of 752 prestigious clients that initially had a male partner, we find that 87% rotate to another male partner while only 13% rotate to a female partner. In contrast, we find that female partners are more likely to be rotated onto the engagements of nonprestigious clients. There are 4,096 nonprestigious clients that switch audit partner. Out of 3,751 partner changes where the initial partner was male, 16% switch to a female partner and out of 345 partner changes where the initial audit partner was female, 13% switch to another female partner.

Overall, these findings suggest that female partners are more likely to be rotated onto the engagements of nonprestigious clients (16% and 13%), whereas female partners are less likely to be rotated onto the engagements of prestigious clients (0% and 13%). This is consistent with recent evidence in Dodgson et al. (2020) that client assignments during partner rotations are nonrandom. Nevertheless, we are cautious with these findings given the relatively small number of rotations that involve both female partners and prestigious clients.

Propensity score matching

A potential concern is that the clients of male partners may be different from the clients of female partners. Another concern is that there could be systematic differences between male and female partners (e.g., industry expertise, number of clients, and years of experience). Although we control for client characteristics, partner characteristics, and audit firm characteristics in the regressions, there could still be a concern that the assumed functional form for the effects of the control variables may be incorrect.

To address these concerns, we match the clients of female partners to the clients of male partners based on clients' and auditors' observable characteristics. Matching allows us to avoid making any assumptions about the appropriate functional forms (Shipman et al. 2017). We first estimate a client assignment model for the full sample in which the dependent variable is *FEMALE*. The model is estimated using both client characteristics (*LTA*, *LNSALES*, *LIST*, *LEV*, *ROA*, *CATA*, *QUICK*, *IRISK*, *LOSS*, *PROBF*, *LNAS*, *BUSY*, *OPINION*), audit firm characteristics (*BIG4*, *SPECF*), and audit partner characteristics (*SPECAP*, *PUBSPEC*, *LNCAREER*, and *LANG*). We use one-to-one matching without replacement and with a caliper of 0.2.[18]

18. We find similar results when we match with replacement or when we use alternative calipers.

The propensity-matched sample comprises 19,814 observations. Next, we reestimate the audit fee regressions using the matched sample. We find that the untabulated matched sample results are very similar to our tabulated analyses.

Offices with a mix of both male and female partners (0% < OMALE% < 100%)

In our sample, 42,688 observations (44.99%) belong to all-male offices (*OMALE%* = 100%) and 952 observations (1.00%) belong to all-female offices (*OMALE%* = 0%). It is not obvious that these observations should be included in our tests. On the one hand, it can be argued that they should be included because the male partners in male-only offices may have been promoted to the partner level despite being less productive than women. We would expect this to show up in abnormally large fee discounts for the male partners in male-only offices. On the other hand, client assignments may be decided at the office level rather than at the firm level, in which case there would be no opportunity for male-only offices to discriminate against female partners when making client assignment decisions.

To assess whether our results are robust, we reestimate the fee and client assignment models after restricting the sample to offices with a mix of both male and female partners (N = 51,242). In the audit fee model, we continue to find (results untabulated) a significant positive coefficient on *FEMALE×OMALE%* (t-stat. = 2.97). This supports our conclusion that female partners generate larger fees when they work in male-dominated offices. In the client assignment models, we continue to find (results untabulated) significant negative coefficients on *PRESTIGE×OMALE%* and *FEMALE×OMALE%* (z-stats. = −2.89, −3.00). Therefore, the tendency for nonprestigious clients to be assigned to female partners is significantly stronger in male-dominated offices.

Fees from nonaudit services

Our analysis has focused on audit fees because nonaudit fees are usually negotiated by nonaudit partners rather than audit partners. Nevertheless, audit firms can receive nonaudit fee income when audit partners refer their clients to advisory partners. We therefore integrate the fees from nonaudit services into our analysis of partner productivity. We calculate a new fee variable that equals the client's total fee for audit and nonaudit services. We then reestimate the fee models after replacing the dependent variable (*LAF*) with the log of total fees. We find very similar results (untabulated) in this alternative specification. The coefficient on *FEMALE×OMALE%* is positive and significant (t-stat. = 3.32), indicating that the fee premiums to female partners are significantly larger in the male-dominated offices.

6. Conclusion

Prior research reports that women are paid less than men and women are less likely to be promoted to the top jobs. Although this evidence is consistent with discrimination, there are other explanations which emphasize the intrinsic differences between men and women, including differences in their performance, preferences, and career interruptions (Lazear and Rosen 1990; Oaxaca and Ransom 1994; Dalton et al. 1997; Blau and Kahn 2000, 2017; Anderson-Gough et al. 2005; Niederle and Vesterlund 2007; Bertrand et al. 2010). We address these identification issues by taking a new approach to testing for gender discrimination using the public accounting industry as our setting.

If accounting firms discriminate against women in partner promotion decisions, we would expect female partners to perform better than male partners. We test this by comparing the fee differential between male and female partners. We find that female partners generate significantly higher fees than male partners. Importantly, this result is found to be stronger in offices with a higher proportion of men, which is where we would expect to find the most discrimination. Furthermore, we find that prestigious clients are less likely to be assigned to female partners and that this result is stronger in offices with a higher proportion of males. Overall, we argue that these results are consistent with gender discrimination.

We emphasize that we cannot directly observe gender discrimination and our most important tests depend on an assumption that discrimination (if it exists) is more likely to be present in offices with a higher representation of male partners. Collectively, we argue that it is difficult to attribute our results to other explanations, such as client preferences, differences in the intrinsic abilities of male and female accountants, differences in the supply of male and female accountants, self-selection of employee types to different types of offices, and affirmative action policies. Nevertheless, we cannot rule out the possibility that other unexplored gender differences might account for our results.

A limitation of our analysis is that it relies on data from just one country (Belgium). We acknowledge that our results may not generalize to other countries, where it is easier for women to sue their employers (e.g., the United States). Moreover, there is circumstantial evidence that discrimination may be more severe in Belgium than in other developed countries. In Belgium, only 15% of partners are women, whereas in the United States 23% of partners are women (AICPA 2019). Moreover, only 11.0% of board positions are occupied by women in Belgium compared to 14.0% in other European countries. Given these statistics, it remains an open question whether our findings are generalizable to other countries.

Appendix

Variable definitions

Variable	Definition
FEMALE	One if the audit engagement partner is female; zero if male
OMALE%	Percentage of male audit partners within the audit office
LAF	Natural logarithm of audit fees
PRESTIGE	One if the company is publicly traded, or the subsidiary of a publicly traded company, or in the top 10% of the office's largest clients (measured by total assets); zero otherwise
LTA	Natural logarithm of total assets
LNSALES	Natural logarithm of sales
LIST	One if the company is publicly traded; zero otherwise
LEV	Total liabilities divided by total assets
ROA	Net income divided by total assets
CATA	Current assets divided by total assets
QUICK	Current assets (less inventories) divided by current liabilities
QUICK_RANK	Rank-transformed value of *QUICK*
IRISK	Inventory and receivables divided by total assets
LOSS	One if the company reports a loss; zero otherwise
PROBF	Bankruptcy score, where lower values indicate that the company is at greater risk of bankruptcy (Ooghe and Spaenjers 2005)
LNAS	Natural logarithm of nonaudit fees
BUSY	One if the company has a December year-end; zero otherwise
OPINION	One if the company receives a modified audit opinion; zero otherwise
BIG4	One if the company is audited by a Big 4 firm; zero otherwise
SPECF	One if the company's audit firm is an industry specialist; zero otherwise. Audit firms are classified as specialists if they have the largest or second-largest market share, by total assets, in the industry (NACE 2-digit codes)
SPECAP	One if the audit engagement partner is an industry specialist; zero otherwise. Audit partners are classified as specialists if they have the largest or second-largest market share, by total assets, in the industry (NACE 2-digit codes)

(The table is continued on the next page.)

(continued)

Variable	Definition
PUBSPEC	One if the audit engagement partner is a public company specialist; zero otherwise. Audit partners are classified as public company specialists if they audit three or more publicly traded clients during the year (Ittonen et al. 2015)
LNCAREER	Natural logarithm of the number of years since the auditor's certification date
LNCLIENTS	Natural logarithm of the number of clients of an engagement partner
LANG	One if the audit engagement partner has a French-speaking affiliation; zero otherwise
ABFEE	Aggregated abnormal audit fees at the partner-year level. Calculated as the residuals from an engagement-level audit fee regression (column (2) of Table 5 but without the *FEMALE* variable), where the residuals are then aggregated for each partner-year observation
N_SPECF	Total number of clients in audit partner *i*'s portfolio for which the audit firm was classified as an industry specialist in year *t*
N_SPECAP	Total number of clients in audit partner *i*'s portfolio for which the audit partner was classified as an industry specialist in year *t*
OFFICE_SIZE	Size of the local audit office as measured by the number of clients
MEAN_LTA	The mean of the natural log of total assets for partner *i*'s clients in year *t*
MEAN_LEV	The mean ratio of liabilities to assets for partner *i*'s clients in year *t*
MEAN_ROA	The mean return on assets for partner *i*'s clients in year *t*
FEES_PARTNER	Sum of audit fees of all partner *i*'s clients in year *t*
Ln*(COMP)*	Natural logarithm of audit partner compensation

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